
**FISHERIES CERTIFICATION IN LATIN AMERICA: RECENT ISSUES
AND PERSPECTIVES**

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SUMMARY

This paper describes the Marine Stewardship Council fisheries certification experiences in Latin America. The Council certification program is a market-based incentive that recognizes and rewards sustainable fishing. It is currently the most widespread eco-labeling program worldwide, with 69 certified fisheries, including two in Latin America. This region represents an opportunity for the program in its attempt to certify more fisheries in developing countries. Latin American fisheries present specific features for participation in the program, for which post-certification

benefits are different. It is found that, at least for Mexican fisheries, this certification does not function as a market incentive. In most cases, costs associated with the certification process are not fully assumed by the fishing companies. However, indirect non-economic benefits are an important incentive. It is proposed that market/political/social reality and lack of sufficient scientific knowledge will prove the key considerations for a more intense participation of Latin American fisheries in the certification initiative.

Introduction

Declining fisheries and their impacts on the ecosystems (Pauly *et al.*, 2002, 2005) have been an international concern for several decades and create a demand for ways to improve management practices. As an alternative to command and control regulations, market-based approaches relying on economic incentives and property rights have become increasingly popular in the past

two decades (Mansfield, 2006). Fisheries certification is an instrument that recognizes desirable fisheries practices, while eco-labeling provides information to the consumer about the environmental impact caused by the product (Wessells *et al.*, 2001). Together, labeling aims to create market incentives for improved fisheries management (Ward and Phillips, 2008a).

The Marine Stewardship Council (MSC) is currently

the best-known, globally-distributed certification program (Figure 1) with 69 certified fisheries worldwide. It was created in 1996 as an initiative of the World Wildlife Fund (WWF) and Unilever and became an independent, non-governmental and non-profit agency in 1997 (Constance and Bonanno, 2000). The MSC program is designed to be voluntary and meet the guidelines issued by the Food and Agriculture

Organization of the United Nations (FAO, 2005) and be international in scope.

The program is based on three principles: 1) fishing operations should be conducted in a way that prevents overfishing or depletion of exploited populations and, when overexploitation occurs, recovery must be demonstrated; 2) fishing operations must maintain the structure, productivity, function, and diversity of eco-

KEYWORDS / Developing countries / Latin America / Marine Stewardship Council Certification / Seafood Eco-labeling / Well-managed Fisheries /

Received: 05/20/2010. Modified: 09/27/2010. Accepted: 10/07/2010.

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CERTIFICACIÓN DE PESQUERÍAS EN AMÉRICA LATINA: TÓPICOS RECIENTES Y PERSPECTIVAS

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RESUMEN

Se describen las experiencias de certificación MSC (Marine Stewardship Council) de pesquerías en América Latina. El programa de certificación MSC es un incentivo basado en el mercado que reconoce y premia la pesca sustentable. Es actualmente el programa de etiquetado ecológico más difundido en el mundo, con 69 pesquerías certificadas, incluyendo dos en América Latina. Esta región representa una oportunidad para el programa en su intento de certificar más pesquerías en países en desarrollo. Las pesquerías latinoamericanas presentan características específicas para su participación en el programa, y

para ellas los beneficios post-certificación son diferentes. Se encontró que, al menos para las pesquerías mexicanas, esta certificación no opera como un incentivo de mercado. En la mayoría de los casos los costos asociados al proceso de certificación no son totalmente asumidos por las empresas pesqueras. Sin embargo, los beneficios indirectos no económicos son un incentivo importante. Se propone que la realidad sociopolítica y del mercado, y la falta de suficientes conocimientos científicos, serán las consideraciones clave para lograr una mayor participación de pesquerías latinoamericanas en esta iniciativa de certificación.

CERTIFICAÇÃO DE PESQUEIRAS NA AMÉRICA LATINA: QUESTÕES RECENTES E PERSPECTIVAS

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RESUMO

Descrevem-se as experiências de certificação MSC (Marine Stewardship Council) de pesqueiras na América Latina. O programa de certificação MSC é um incentivo baseado no mercado que reconhece e premia a pescaria sustentável. É atualmente o programa de etiquetado ecológico mais difundido no mundo, com 69 pesqueiras certificadas, incluindo duas na América Latina. Esta região representa uma oportunidade para o programa na tentativa de certificar mais pesqueiras em países em desenvolvimento. As pesqueiras latinoamericanas apresentam características específicas para sua participação no programa, e para

elas os benefícios pós-certificação são diferentes. Encontrou-se que, pelo menos para as pesqueiras mexicanas, esta certificação não opera como um incentivo de mercado. Na maioria dos casos os custos associados ao processo de certificação não são totalmente assumidos pelas empresas pesqueiras. No entanto, os benefícios indiretos não econômicos são um incentivo importante. Propõem-se que a realidade sociopolítica e do mercado, e a falta de suficientes conhecimentos científicos, serão as considerações chave para conseguir uma maior participação de pesqueiras latinoamericanas nesta iniciativa de certificação.

systems on which the fishery depends; and 3) a management system that respects fishery laws and national and international standards (MSC, 2002). Each principle includes criteria that are evaluated, based on a scoring system. The certification process consists of two phases, a confidential pre-assessment phase when the potential for certification is evaluated based on fishery characteristics and availability of information, and a second phase when the fishery is formally evaluated under the MSC principles and criteria (MSC full assessment) and the results are open for public consultation. Both phases are carried out by a third-party body, independent of the industry and the certifier. The financial cost linked to this process is covered by the clients, which could be fishing organizations or

companies, government agencies, or non-governmental organizations (NGOs). Fisheries meeting the MSC standard become certified for five years and are subject to annual audits. After the five-year period, the fishery enters a recertification process.

Recently, the MSC approved a new assessment test methodology (trial assessment) that uses risk analysis to assess cases with insufficient data (MSC, 2007). Even though MSC certification initiatives are rapidly increasing, the MSC presence in Latin America can be considered minor, with only eight cases: one is certified, one is in re-certification, four are being assessed, and two are in the trial assessment phase. We describe these cases and address the situation observed in the MSC program in the region.

Latin American fisheries overview

After World War II, Latin American marine fisheries gradually joined the global production system. With the establishment of exclusive economic zones (EEZ), implementation of neoliberal fishing policies, and introduction of incentives to encourage local fishers, a rapid increase in catch and size of local fleets took place, with increased presence of fish products in domestic and export markets. Today, Latin America is a major player in the international fish trade. The top producing countries are Peru, Chile, Mexico, and Argentina (Table I), mostly based on pelagic species (anchovy in Peru, jack mackerel in Chile, and yellowfin tuna in Mexico and Venezuela).

Latin American fishing exports are sensitive to international markets, particularly to

East Asia. Market reduction occurs when reduced purchasing power in East Asia occurs, and is reflected in reduced imports from Latin America and market displacement when Asian fish products become competitive (Thorpe and Bennett, 2001). The seafood trade requires product quality standards that have become evermore paramount. The most common global standard is the hazard analysis critical control point (HACCP) program, which seeks to eliminate microbiological hazards at various points in the food processing chain. In Latin America, Peru, Chile, Mexico, Argentina, Brazil, Venezuela, Ecuador, Cuba, and Uruguay have all implemented such procedures (Cato, 1998).

Expanding fishing operations in Latin America, as in the rest of the world, could result in reduction of commercial stocks (Thorpe *et al.*, 2000). To promote sustainable fishing, sev-

eral Latin American countries have implemented fisheries legislation and management plans.

MSC certification in Latin America

Baja California red rock lobster, Mexico

The red rock lobster (*Panulirus interruptus* Randall 1840) fishery of Baja California was certified by the MSC for 2004 through 2009. It is consigned to the Regional Federation of Cooperative Societies of Baja California (FEDECOOP), an organization that integrates nine cooperatives (~500 fishermen) and they catch ~80% of the lobsters along the coast of the Baja California Peninsula (Figure 2). The management structure is based on a Mexican law that gives general guidelines for regulating fisheries: the General Law of Ecology and Environmental Protection (*Ley General del Equilibrio Ecológico y la Protección al Ambiente*), which provides guidelines for species protection, and on the Mexican Official Standards (*Norma Oficial Mexicana*; NOM) that regulates fishing gear, mesh sizes, and fishing restrictions. The NOM includes minimal legal size, closed seasons, protection of female resources, and controlled fishing effort. Red rock lobsters are fished with simple traps. The FEDECOOP catch is ~1300t per year, 90% of the total is sold in Asian markets and 10% in Mexico (Phillips *et al.*, 2008).

The red rock lobster was the first community-based fishery certified by the MSC in Latin America. This positively impacted not only



Symbol	Name and promoting organization	Target specie(s)	Description
●	MSC certification Marine Stewardship Council (MSC)	All the fishing species	Promoting and rewarding well-managed and sustainable fisheries, against three principles. Third party certification.
▲	Ecolabel Dolphin safe Inter-American Tropical Tuna Commission (IATTC)	Dolphin	Ecolabel to mark tuna products that were caught by countries and vessels members of the IATTC. It signs reduction dolphin by-catch tuna fishing operations.
▼	Ecolabel Dolphin safe National Marine Fisheries Service, USA	Dolphin	Provides support to the mandatory dolphin-safe requirements of all canned tuna products sold in the USA.
☾	Clean Green Certification Southern Rock lobster Limited (SRL), Australia	Rock lobster	Auditing of environmental management, food quality, and work place safety. Third party certification.
■	KRAV Certification Association for Control of Organic Production, Sweden and Norway	Herring, cod, shrimp, haddock	Addresses the environmental impacts in the whole life cycle of the fishery products, against twelve criteria. Third party certification.

Figure 1. Fishery certification and eco-labeling programs.

TABLE I
LARGEST FISHERY PRODUCERS IN LATIN AMERICA

Country	World rank*	Average production 1997-2006 (tonnes)*	Production in 2008 (tonnes)**	Principal fisheries**
Peru	2	8 014 600	7 178 700	Peruvian anchovy, chub mackerel
Chile	6	4 353 500	4 937 000	Chilean jack mackerel, chub mackerel, Peruvian anchovy
Mexico	17	1 326 000	1 745 400	Yellowfin tuna, shrimp, sardine
Argentina	19	1 044 400	933 900	South Pacific and Patagonian hake, Patagonian grenadier
Brazil	25	699 600	NA	Hake
Venezuela	36	458 400	NA	Yellowfin tuna, round sardine
Ecuador	37	445 300	NA	Chub mackerel
Total		16 341 900		
World total		92 870 600		

* FAO (2006). ** National information: Peru (INEI 2010), Chile (CPPS 2010), Mexico (INEGI 2010), Argentina (INDEC 2010). NA: non available.

FEDECOOP's international prestige (Agnew *et al.*, 2006), but also promoted recognition of fishery policy and govern-

ment institutions in Mexico. The argument is that certification status continues with appropriate management and

support from the federal fishing authorities (Phillips *et al.*, 2008). Furthermore, the certification enabled FEDECOOP to obtain direct support from the government for the communities engaged in the fishery, to facilitate constant negotiation for quotas between managers and users, to achieve easier communication between stakeholders (particularly NGOs and users), and to increase the likelihood of maintaining exclusive rights and renewal of the concession. The red rock lobster fishery is currently being assessed for re-certification. Evaluation of the concession by the Government will take place in 2012.

Patagonian scallop, Argentina

The Patagonian scallop (*Zygochlamys patagonica* King and Broderip 1832) is collected by Glaciar Pesquera. This company is a subsidiary of Clearwater (an important Canadian seafood processing firm) and one of the two companies authorized to fish for scallops in this region. This fishery was certified in 2006 (Figure 2). Commercial fishing started in 1996. Fishery management is based on regulations issued of the Federal Fishery Council (*Consejo Federal Pesquero*), established by the National Fishing Law (*Ley Federal de Pesca*). The Sub-secretary of Fisheries and Aquaculture (*Sub-secretaría de Pesca y Acuicultura*) administers the program. There is a management plan for this fishery that established two fishing areas, minimal legal size, protection of parental stock, and fishing ef-

fort (each authorized company has two ocean-going factory vessels) using trawl nets. The annual catch for both companies is estimated at 42000t. Glacier Pesquera became interested in the certification program as a strategy to differentiate its product and gain a preferential position in its main market area: France (Pottinger *et al.*, 2006).

This was the first scallop fishery to be certified by MSC in the world. The company consolidated its market position, but the net role of certification is unknown since several factors might have interacted (Enrique Morsan, personal communication). Among these factors are market dynamics (supply and demand), consumer preferences, and availability of the product. Non-economic benefits associated with the MSC certification process were the catalyst for investigations by the Argentine authorities and improvements in the monitoring system. Some observers believed that the MSC certification would bring greater stability to scallop fishery management, and bring internal changes initiated by the Argentine authorities without an increase in fishing effort (Mario Lasta, personal communication). This was possible because the management plan for this fishery has been maintained since its inception in 1996 but has not been enacted into law.

Latin American fisheries undergoing assessment

Pacific sardine in the Gulf of California, Mexico. The Pacific sardine (*Sardinops sagax* Jenyns 1842) is fished by large companies affiliated with the National Fisheries Chamber

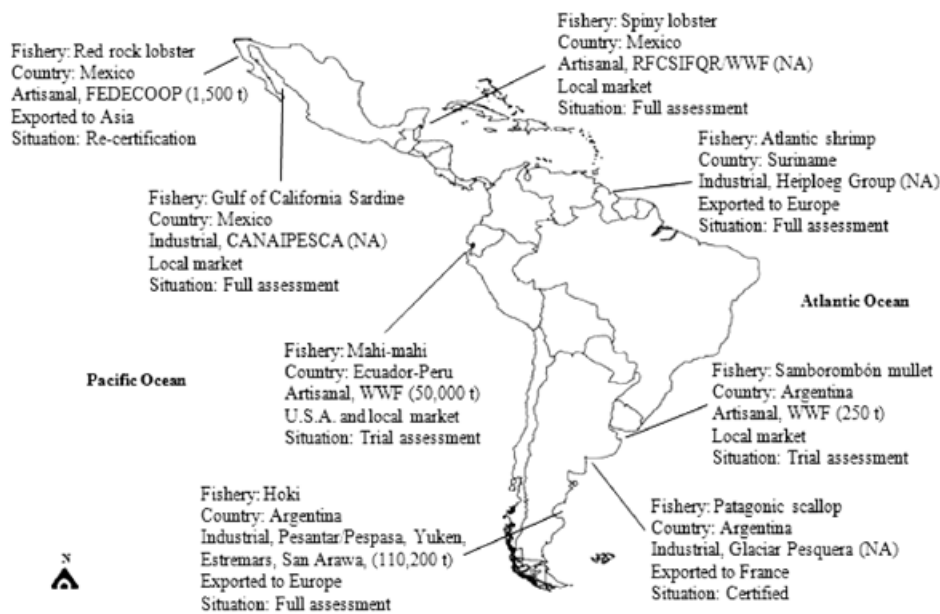


Figure 2. Latin American fisheries involved in the MSC certification program. NA: non available.

(*Cámara Nacional de la Industria Pesquera*; CANAIPESCA). The fishery has been under MSC assessment since January 2008. The Pacific sardine is regulated by Mexican law and NOM regulations dealing with mesh sizes, types of fishing gear, area restrictions, and fishing effort. Technical standards also apply and include closed seasons, minimum sizes, and closed areas for protecting juveniles and spawning biomass. Fish are caught with purse seines. Total catch in the area is estimated at 100000t per year, of which 85% is processed into fishmeal, mostly used for animal feed, and the rest is canned and sold commercially in the domestic market. Sardine is a cheap product in Mexico (~1USD for a 200g can). CANAIPESCA is now looking for post-certification economic benefits. The sardine fishery is seeking independent confirmation of sustainable fishing practices. If it obtains the MSC certification, CANAIPESCA and the Mexican government could receive international recognition for their fishery management. Sardine could be the first feed-grade fishery in the world to meet

the MSC standard and this could push the MSC program to new horizons.

Spiny lobster in the Sian Ka'an and Banco Chinchorro Biosphere Reserves, Mexico. The Caribbean spiny lobster (*Panulirus argus* Latreille 1804) is captured by members of the Regional Federation of Cooperative Societies of Industrial Fisheries of Quintana Roo (RFCSIFQR). The fishery has been under MSC assessment since January 2009. As in the case of the Baja California red rock lobster fishery, management of the spiny lobster is based on Mexican law. However, NOM regulations for minimal legal size, closed season, protection of females, and fishing effort are different. The lobsters are caught in simple traps called *casitas cubanas*. The annual catch in the state of Quintana Roo is ~220t. Most of the lobster products are marketed in the Mexican Caribbean tourist zone, and a small percentage is marketed across Mexico. The local lobster fisheries in Mexico are important because of its high economic value. MSC assessment is financially supported by the RFCSIFQR and WWF (Figure 2). If the RFCSIFQR

obtains the MSC certification, it would obtain national recognition for its fishery management program and differentiate the product from other lobster cooperatives. Moreover, the two major lobster fisheries in Mexico would benefit from international recognition for sustainable management. This could promote the MSC program as achievable in terms of cost and time for local fisheries in developing nations.

Atlantic seabob shrimp, Suriname. The Atlantic seabob shrimp (*Xiphopenaeus kroyeri* Heller

1862) fishery (Figure 2) is under assessment since September 2009. MSC certification is promoted by the Heiploeg Group, the largest supplier of shrimp in Europe. Seabob shrimp is managed by the Fisheries Department of the Suriname Government and applies the Seabob Fishery Management Plan that deals with fishing effort. The boats are twin-rigged otter trawlers. The total catch is sold in North American and European markets (MSC, 2010a).

The Argentine hoki (*Macrurus novaezelandiae magellanicus* Davies 1950) fishery has been in assessment since January 2010. Hoki is fished in the Argentine Sea (continental shelf off southeastern Argentina) by six companies (Estremars, Pesantar/Pespasa, San Arawa, Yuken, and Grupo Valastro; MSC, 2010b) that captures >50% of the annual national catch. The fishery is managed by the Sub-secretary of Fisheries and Aquaculture and the Federal Fishery Council through the Hoki Management Plan. The fishery uses industrial bottom trawl nets and industrial semi-pelagic trawl nets. Annual production is ~110000t (MSC, 2010b). Most of this production is ex-

ported as imitation crab (suri-mi). Since these two fisheries recently entered full assessment, there is little information currently available. Third parties are gathering available information related to the fisheries. In the future, information could be consulted on the MSC website. It is possible that both fisheries are seeking market benefits after certification (see below).

Fisheries under trial assessment. Fisheries of dolphinfish (*Coryphaena hippurus* Linnaeus 1758; mahi-mahi) in Ecuador and Peru, and South Atlantic mullet (*Mugil platanus* Günther 1880) in Bahía Samborombón, Argentina, are seeking MSC certification since April 2008 (MSC, 2010a). The dolphinfish catch in Ecuador is ~12000t and ~40000t in Peru. One half of this is exported to the United States. The fish are caught with long lines. The mullet fishery in Argentina operates in a Ramsar Convention site and its annual catch is of 250t. The fleet consists of local fishermen who use net guns or set gillnets. Total catch is sold locally. These fisheries are managed by their national governments through specific fishery legislation. It is possible that these fisheries seek MSC certification for recognition of their administrations. Particularly, the goal for the dolphinfish fishery would be to maintain access to markets in the USA through MSC eco-labeling. The mullet fishery would continue its activities in a protected area to demonstrate that it meets sustainability standards. Trial assessments are being carried out with economic support from an NGO (Figure 2).

MSC certification in developing countries

Most of the MSC-certified fisheries are in developed countries. This is related to the economic power of the companies using the resources plus the relatively sophisticated and comprehensive scientific and technical information

available to the management. Additionally, current certification requirements favor industrial fisheries because these can afford the costs and have the means to participate in the assessment process (Gulbrandsen, 2009). Kaiser and Edwards-Jones (2006) note that the property rights to the fishery are a prerequisite for participation in the MSC program and an impediment to increase its global presence, since most world fisheries have open access (Kaplan and McCay, 2004).

Limited participation in the MSC program of fishery administrations in developing countries is related to the inability to pay the costs for assessments and expenditures to meet the standards, such as technical improvements (Ponte, 2008). Additionally, the market is usually local for most small-scale fisheries or international for large-scale consumers where there is little interest in the MSC eco-label; East Asian nations consume two-thirds of the world's seafood, and very few Asian consumers are interested in buying eco-labeled products (Jacquet and Pauly, 2007). Similar market conditions take place in other developing nations (Potts and Harward, 2007). Several authors (Wessells *et al.*, 1999; Johnston *et al.*, 2001; Jaffry *et al.*, 2004) recommend consumer education regarding the MSC certification program, its participants, and fishery products derived from them, to promote markets for certified products and motivate fishery administrations in both developed and developing countries to participate in the MSC program. Nunes and Riyanto (2005) mention that eco-labeling and the certified fishery market crucially depends on the flow of information across supply-and-demand forces, and that consumer awareness may take many years to develop.

Weak demand for MSC eco-labeled fishery products is also common in developed countries, mainly the European Union and the USA (Roheim, 2003). The MSC eco-label can

provide economic incentives to certified fisheries administrations when there are consumers interested in purchasing their products. The Alaska (walleye) pollock (*Theragra chalcogramma* Pallas 1814) is administered by the At-Sea Processors Association and received MSC certification in 2005; sales of 4% to Unilever in 2004 rose to 46% in 2005 (Gilmore, 2008). However, commercial benefits expected with the MSC certification did not materialize for the hake fishery in South Africa (Ponte, 2008). Thus, potential economic incentives for MSC certification depend on the consumer popularity of the fishery product, local or export target market, and marketing by direct distribution or through intermediaries.

In Latin America, there is concern that the MSC standard will become a trade barrier. This is based on the experience of eco-labeling of "dolphin-safe" tuna that was a marketing ploy to restrict market access without this eco-label (Brown, 2005). The buyers of MSC products are usually intermediaries with corporate policies of social responsibility and environmental concern in addition to consumer demand. In recent years, the number of retailers that sell MSC products has grown. These retailers recognize the MSC eco-label as a marketing tool and as a benefit to ensure the supply of fishery products (Ward and Phillips, 2008b), and validate its corporate commitment to society and environment by supporting sustainable exploitation of resources (Sutton and Wimpee, 2008). Retailers play an important role in creating demand for eco-labeled products because they can select products based on acceptable environmental policies and provide ample quantities to their consumers (Lankester, 2004). For example, in 2010, the Wal-Mart retail chain in Latin America announced that it will supply fish products only from MSC or similar certification schemes (Wal-Mart, 2006). Thus, MSC certification

could become a requirement for several commercial fisheries. Chile, Peru, and Mexico, exporting mainly to markets in Asia and the USA generally do not have the same diversification. Latin American fisheries probably will choose to participate in the MSC program rather than change its distribution channels.

It is possible that fishery administrations in Latin America and other regions will become interested in the MSC certification once the world market for certified products is established. This could be the case of Argentina's hake (*Merluccius hubbsi* Marini 1933) under the jurisdiction of the Province of Río Negro, which announced its participation in the MSC program for market expansion and improvements to its management system (González *et al.*, 2007) After that, the hake fisheries from Chile, Peru, and Russia have expressed interest in seeking the certification. Peterman (2002) believes that the MSC certification process is frequency dependent; that is, its success will be greater when increasing numbers of fishery administrations have certified products. However, the probability that all fisheries that capture the same product, such as hake, are certified by the MSC as relatively low in terms of its handling characteristics, which may or may not meet the principles of MSC, of the differences in their markets, and their ability to defray the costs of the certification process.

These examples of certification show that Latin American fishery administrations have particular reasons for obtaining MSC certification. Economic benefits are not expected for Mexican fisheries because of market characteristics. Product differentiation in the market is sought for Atlantic seabob shrimp and Argentine hoki fisheries as happened with Patagonian scallop products. Open access to markets through MSC eco-labeling is the goal of the dolphinfish fishery.

Worldwide recognition of some advantages for receiving MSC certification has led other fishery managers to engage in the process (Ward and Phillips, 2008b). This recognition is a non-economic benefit that may confer bargaining power at the regional and national level. The Alaska salmon fishery, where the state government applied and paid for the MSC certification and the Alaska Department of Fish and Game administers the well-managed fishery (Chaffee, 2003) has been widely recognized. The New Zealand hoki (Short, 2003), where the certification process was considered controversial, improved its image and obtained credibility as a well-managed fishery once it was certified. Other examples would illustrate the advantages of MSC certification. It has become a political tool for bargaining for the Western Australian rock lobster industry (Rogers *et al.*, 2003; Sutton, 2003), the zander (pike perch) fishery in Lake Hjälmaren, Sweden (Lopuch, 2008), and the South African hake industry (Ponte, 2007).

Conclusion

With globalization of fishery products trade, developing countries can participate in the certified products markets; however, market incentives might not be enough or might not represent the main reason for these fisheries to get certification from the MSC. Today, only two fisheries in Latin America, two in South Africa, and one in Vietnam are MSC certified. The factors behind low participation of developing countries in the MSC program are the lack of information about the fisheries, lack of fishing property rights, market characteristics, costs generated by the process of certification, and lack of local market interests to pay for certified products.

A key point of the certification program and MSC eco-labeling is to develop

markets where consumer participation is the agent of change. Because fishing industries do not always receive financial benefits from the MSC eco-label, indirect benefits related to prestige (concessions, permits, quota negotiation, etc.) might continue to motivate fisheries seeking certification. Another motivation in the near future might result from intermediary distributors limiting access to certified fisheries, seeking to reduce uncertainty of supply. This measure lies closer to the command control system (market punishment) than to the market incentive (extra income), which results in a system where responsibilities, attributions, and benefits will be even fuzzier than they are today. In other words, who should pay for the certification costs if neither the consumer nor the producer has a choice? We believe that market-based incentives, as a way to promote sustainable fishing practices, represent an excellent idea, but is by no means the ultimate solution for every case.

ACKNOWLEDGMENTS

The authors thank Mario Lasta and Enrique Morsan for helpful comments, Ira Fogel provided many useful editorial comments and corrections. This research was supported by the Packard Fund. M.P.R. received a student fellowship grant from the Consejo Nacional de Ciencia y Tecnología (CONACYT) of Mexico.

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