



# Certifications, Sustainable Practices and Eco-labels in Fisheries Sector - A Bibliography



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ENVIS Resource Partner  
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**Shri Praful Amin**  
Chairman, CERC

**Shri Uday Mawani**  
Chief Executive Officer and Board Secretary,  
CERC

**Dr. Ashoka Ghosh**  
Member of Advisory Committee, CERC-ENVIS

ENVIS Team

**Ms. Anindita Mehta**  
Project Coordinator & CGM CERC

**Ms. Divya Namboothiri**  
Programme Officer

**Ms. Apeksha Sharma**  
Information Officer

**Ms. Mayuri Tank**  
IT Officer



Design & Graphics

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**Consumer Education and Research Centre,  
Ahmedabad**

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## PREFACE

According to the Food and Agriculture Organization (FAO) fish is an important single source of high-quality protein, providing 16% of the animal protein consumed by the world's population.

Fish also has substantial social and economic importance. The FAO states that between one-third and 40% of all fish produced is now traded internationally. This makes fish and fisheries products one of the most traded food commodities in the world. Due to high demand there is an increase in per capita consumption. Data suggests that around the world fish consumption has grown from 10 kg per person per year to 22 kg per person per year. To meet the ever-increasing demand for fish, aquaculture has expanded very rapidly and is now the fastest growing food-producing industry in the world. FAO estimates that by 2030, over half of the fish consumed by the world's people will be produced by aquaculture. Rapid growth of aquaculture has led, in some cases, to environmental problems and conflicts over limited resources.

Today, fish is the only important food source primarily gathered from sea. Capture fisheries have not been able to keep pace with growing demand and many marine fisheries have already been over-fished. According to the FAO, 47% of main fish stocks or species groups are fully exploited, 18% are overexploited, and 10% are significantly depleted or are recovering from depletion and are far less productive than they used to be, or than they could be if management can return them to the higher abundance levels commensurate with their pre-depletion catch levels.

The Code of Conduct for Responsible Fisheries of the FAO has been the leading policy document influencing fisheries and aquaculture sustainability principles across the world. There is a whole range of mandatory standards and voluntary certification schemes which aim to ensure products meet minimum levels of stipulated criteria. Certification is the procedure through which recognized (or accredited) certification bodies provide written or equivalent assurance that a product conforms to certain principles, criteria or standards. Ecolabelling, traceability and related certification schemes are becoming significant features of international fish trade and marketing. Ecolabels are "seals of approval" given to products that have lesser negative impacts on the environment than functionally or competitively similar products. It helps consumers to make informed choices about the seafood they purchase and consume and encourage products which are produced in an ecologically sustainable manner.

Many institutes, research scientists, NGOs, international and national organizations have undertaken study to identify, measure, practice, implement, and evaluate whether these certifications are enhancing sustainability or not. Research articles focus on measuring and evaluating the impacts of these certifications on aquaculture sustainability through better ecological, social, or economic processes.

In order to fill the information gap on the subject "Certifications, Sustainable Practices and Eco-labels of Fishing Industry" the CERC-ENVIS Resource Partner has collected information from secondary sources. It is bringing out in an annotated bibliography. This bibliography will be useful as background information in research projects, as reference tools and information tools. It will make readers aware of recent research on the subject to facilitate the writing of reports or publications.

It will be a good collection for libraries. It will make librarians or information officers aware of existing material on the subject. It covers the research articles, peer reviewed research papers, general articles and books indexed from 1999 to 2021. We welcome comments and suggestions from users to enable us to improve.





2021

## **Ecolabels can improve public perception and farm profits for shellfish aquaculture**

Matthew W Gray<sup>1</sup>, Nicole Barbour<sup>2</sup>, Brendan Campbell<sup>1</sup>, Alexander Robillard<sup>2</sup>, Alana Todd-Rodriguez<sup>3</sup>, Huanhuan Xiao<sup>4</sup> and Louis Valentine Plough<sup>1</sup>

1. University of Maryland Center for Environmental Science, Horn Point Laboratory, 2020 Horns Point Rd., Cambridge, MD 21613, USA
2. University of Maryland Center for Environmental Science, Chesapeake Biological Laboratory, 146 Williams St, Solomons, MD 20688, USA
3. Marine-Estuarine and Environmental Sciences, University of Maryland, College Park, MD 20742, USA
4. Department of Biochemistry and Molecular Biology, Institute of Marine and Environmental Technology, University of Maryland School of Medicine, 701 East Pratt Street, Baltimore, MD 21202, USA

Aquaculture Environment Interactions, Volume 13, January 2021, 13-20p.

**ISSN: 1869-215X**

Ecolabels are increasingly being used to notify consumers that the labeled product imposes minimal harm to the environment or other natural resources. A growing number of studies have signaled that consumers respond to these labels, which can promote environmentally friendly production of consumable goods and incentivize growers to produce sustainably sourced goods. Shellfish are noticeably absent among these labeled products, but they are arguably the most sustainable source of animal protein. Additionally, while in the water, oysters and other shellfish provide numerous ecosystem services that improve environmental quality. We argue that shellfish aquaculture is uniquely positioned to take advantage of ecolabeling to improve public perception and steer consumers towards a highly sustainable source of animal protein. However, we also argue more research is needed to better understand how ecosystem services vary among different production modes of oyster aquaculture to ensure products are correctly labeled and inspire consumer confidence.

**Key words:** Ecolabel, Ecosystem services, Oyster, Shellfish, Sustainability, Ecolabelling

## **The Ability of Fish Ecolabels to Promote a Change in the Sustainability Awareness**

Marcella Giacomarra<sup>1</sup>, Maria Crescimanno<sup>1</sup>, Demetris Vrontis<sup>2</sup>, Lluís Miret Pastor<sup>3</sup> and Antonino Galati<sup>4</sup>

1. Department of Agricultural, Food and Forest Sciences, Università degli Studi di Palermo, Viale delle Scienze, Building 4, 90128 Palermo, Italy
2. Department of Marketing, University of Nicosia, Seven Stars Tower, 6th Floor, 603a, Cyprus
3. Research Institute for Integrated Management of Coastal Areas, Universitat Politècnica de València, Avda Paraniñf, 1, 46730 Gandia, València, Spain
4. Università degli Studi di Palermo, Viale delle Scienze, Building 4, 90128 Palermo, Italy



Marine Policy, Volume 123, January 2021, 1042902

**ISSN: 0308-597X**

Researchers, environmentalists, as well as fisheries and retailers, have been focusing their attention on the design, use and effects that fish ecolabels have on sustainability. The fish processing industry and large retailers have rapidly adopted several market-based standards, with consequences for two major stakeholders: fishermen and consumers. Although the standards have shown rather positive results, from the perspectives of marine biodiversity conservation, the fish industry and trade, it is not clear how they are able to support a change in people's awareness about sustainability. For this reason, the present work reviews and analyses the literature, produced in the last ten years, regarding two international, private and voluntary ecolabels in the fish industry: FOS and MSC. The results confirm the relevant role these ecolabels are playing in promoting awareness about sustainable fish, describing the terms of this ongoing change and also proposing new insights from the literature to further reinforce this process. In particular, a multi-stakeholder approach is suggested for the production side so as to better exploit the sustainable potential of the system inaugurated by the ecolabel, while, for the consumption side to further spread knowledge about marine stock status and ecolabels' meaning and scope, which would accelerate the ongoing process.

**Keywords:** Fish, Friend Of The Sea, Marine Stewardship Council, Systematic Review, Sustainability Awareness, Ecolabelling, Certification, Ecolabel

### **How Do Investors Value Firms' Decisions on Obtaining an Eco-label? Evidence from the Fishing Industry**

Manuel Luna, Myriam García-Olalla, and José L. Fernández Sánchez

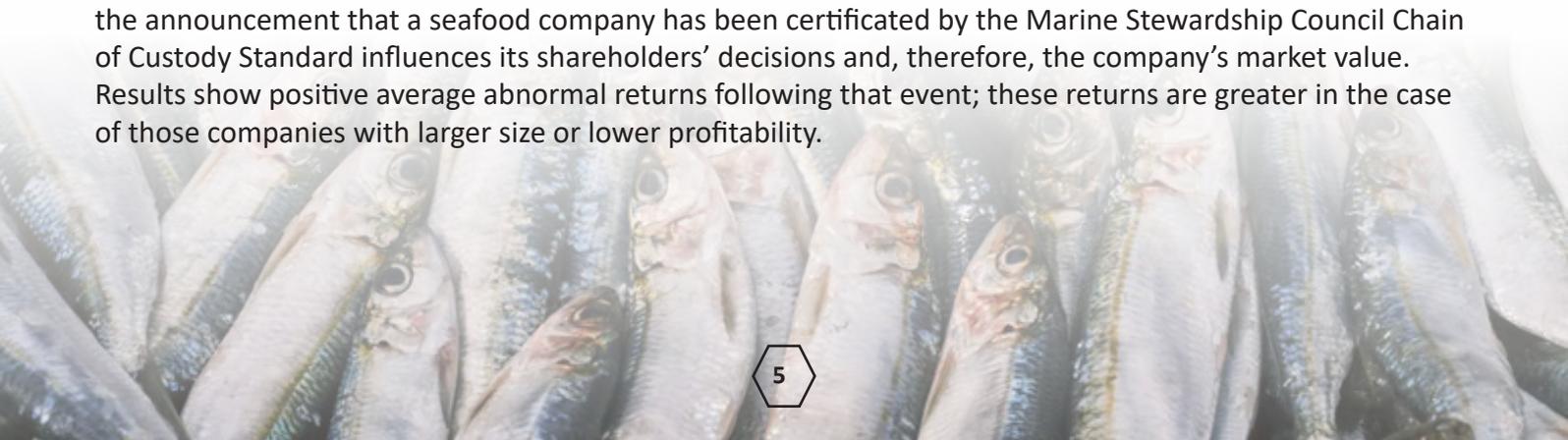
University of Cantabria

Av. de los Castros, s/n, 39005 Santander,  
Cantabria, Spain

Marine Resource Economics, Volume 36, Number 3, July 2021, 211–228p.

**ISSN: 0738-1360|2334-5985**

In a context of a pressing need for more sustainable practices, the fishing industry still has doubts about whether the benefits resulting from adopting them outweigh the associated costs. With the aim of providing insights to answer that question, this study presents an analysis of the "it pays to be green" hypothesis by measuring the stock market reaction to the public announcements of compliance with voluntary environmental standards. To this end, an event study has been carried out to investigate whether the announcement that a seafood company has been certificated by the Marine Stewardship Council Chain of Custody Standard influences its shareholders' decisions and, therefore, the company's market value. Results show positive average abnormal returns following that event; these returns are greater in the case of those companies with larger size or lower profitability.





## **Drawing the line between sustainable and unsustainable fish: product differentiation that supports sustainable development through trade measures**

Urs Baumgartner<sup>1</sup> and Elisabeth Bürgi Bonanomi<sup>2</sup>

1. Ekolibrum, Hohrainstrasse 5, 3256, Bangerten, Switzerland
2. Centre for Development and Environment (CDE), University of Bern, Mittelstrasse 43, 3012, Bern, Switzerland

Environmental Sciences Europe, Volume 33, Article Number: 113, 2021,

**ISSN: 2190-4715 | 2190-4707**

Unsustainable production practices and increased demand for fish have aggravated negative social, ecological, and environmental impacts in fisheries and aquaculture. Measures to correct bad practices have mainly been introduced by private actors. However, there is increased demand for state intervention, particularly regarding trade regulations for fish and other agricultural products. Building on discussions about product differentiation through trade measures that favour sustainable products, this study looked at how sustainable and unsustainable fish has been distinguished in Switzerland. In interviewing experts in the fish trade and sales business in Switzerland, the research aimed at understanding the actors and forces that shape the concept of sustainable fish in the country.

**Keywords:** Fish Market Regulation, Sustainability Practices, Sustainable Production, International Trade, Ecolabels, Trade Policy, Switzerland, European Market

## **‘Sustainable’ seafood certification boosts company share prices: study**

Robin Hicks  
Associate editor  
Eco-Business

Sept. 15, 2021

A new study reveals that certification by Marine Stewardship Council leads to higher share prices for seafood companies. But the eco label overlooks an increasingly important factor for ‘sustainable’ seafood: how marine animals are treated before they’re eaten. The share prices of seafood companies may increase if they are certified by eco labels, a new study published in Marine Resource Economics has suggested. This article studies how a company’s share price increases by an average 2.6 per cent 20 days after certification by the Marine Stewardship Council (MSC), a sustainable seafood certifier, found a study by Spain’s University of Cantabria. The share price rise was higher in companies with lower profitability and sales, as investors anticipated that certification could result in an increase in their sales and profits, according to the study’s authors. MSC’s chain of custody standard tracks and separates certified seafood fish from non-certified seafood during the journey from fishery to shop. The MSC label is distinguishable



by a blue tick, and is world's largest fisheries certification programme. A fish may be caught 'sustainably', but they can still be treated horrifically. However, there is increasing scrutiny over sustainability claims from eco labels such as MSC, particularly since a documentary, *Seaspiracy*, highlighted the impact of unabated overfishing and challenged the notion of sustainable seafood.

**Keywords:** Eco-labeling, Aquaculture, Consumer, Sustainability, Marine Stewardship Council, Ecolabel, Seafood, Certification

### **Sustainability as a label has become important in seafood industry**

Dr Sunil Mohamed

Retired Principal Scientist & Head of Division,  
Central Marine Fisheries Research Institute and Chair,  
Sustainable Seafood Network of India (SSNI)

India Business & Trade, November 1, 2021

Author observes that there is a question of ethical choice when consumers buy seafood. Since the concept of sustainability can no longer be separated from the seafood industry, the Indian marine sector must gear up for this challenge if it wants to establish its hold in global seafood exports. A careful analysis of data suggests that around the world fish consumption has grown from 10 kg per person per year to 22 kg per person per year. About 17% of the animal protein comes from fish. Globally, there are several factors impacting seafood trade. These include sustainability, traceability, WTO negotiations around subsidies, protection of marine mammals, & value added products. These are also impacting India. One trend that the Indian seafood industry must watch out for is sustainability. When it comes to sustainability, it is evident that overfished stocks constitute 36.3%, while the sustainable produce comprises 34.1%. This is a huge concern for India since exports are linked to sustainability. There is a question of ethical choice when consumers buy seafood. In other words, sustainability as a label has become important in seafood trade. Given the global consensus around the need to conserve marine biodiversity, eco-labelling schemes are increasingly being adopted to maintain the productivity and economic value of fisheries, while providing incentives for improved fisheries management and the conservation of marine biodiversity.

**Keywords:** Eco-labeling, Aquaculture, Consumer, Sustainability, Aqua Farming, Ecolabel, Seafood, Certification, WTO





## Confidence in Certified Seafood

Marine Eco-Label Japan Council  
Japan Fisheries Association  
November 22, 2021, 268p.

The report gives the complete information on Marine Eco-Label Japan (MEL) V2 certification. Marine Eco-Label Japan (MEL) Council have developed a certification standard for fisheries management to promote sustainable and responsible fisheries production by confirming the important aspects, such as the protection of natural stocks, the conservation of environment, and the improvement of consumer's trust. Fishers must satisfy this standard to become MEL certified fisheries. The Global Sustainable Seafood Initiative (GSSI) has provided formal recognition of the Marine Eco-Label Japan (MEL) V2 scheme for the scope of Aquaculture and Fisheries. GSSI's recognition shows that their Aquaculture Management Standard (Version 1.0, 2018) and Fisheries Management Standard (Version 2.0, 2018) are in alignment with all applicable Essential Components of the GSSI Global Benchmark Tool (version 1.0, 8 October 2015). Products certified by these standards can be recognized by a special logo including the V2 mark.

The Tool is underpinned by the FAO Ecolabelling Guidelines and the FAO Technical Guidelines for Aquaculture Certification. It consists of performance areas related to scheme governance, operational management (including chain of custody) and applied aquaculture farm and wild-capture fisheries audit standards.

**Keywords:** Eco-labeling, Sustainability, Ecolabel, Seafood, Fisheries, Stakeholders, Aquaculture, Global Sustainable Seafood Initiative, Marine Eco-Label Japan, FAO Ecolabelling

## Determinants affecting consumers' attention to fish eco-labels in purchase decisions: a cross-country study

Antonino Galati<sup>1</sup>, Lluís Miret-Pastor<sup>2</sup>, Dario Siggia<sup>3</sup>, Maria Crescimanno<sup>4</sup> and Mariantonietta Fiore<sup>5</sup>

1. Agricultural, Food and Forest Sciences, University of Palermo, Palermo, Italy
2. Universitat Politècnica de València, Valencia, Spain
3. Department of Agricultural and Forest Sciences, Università degli Studi di Palermo, Palermo, Italy European Parliament Brussels, Brussels, Belgium
4. Agricultural, Food and Forest Sciences, University of Palermo, Palermo, Italy
5. Economics, University of Foggia, Foggia, Italy

British Food Journal, 23 November 2021

**ISSN: 0007-070X**



The purpose of this study was to investigate the role of consumer altruism and other socio-cultural factors in predicting how much attention consumers pay to seafood eco-labels. The empirical investigation was



carried out by administering an online questionnaire to a sample of Italian and Spanish people from December 2019 to April 2020. After carrying out the principal component analysis procedure, the work made use of an ordinal logistic regression.

Both Italian and Spanish consumers with an altruistic attitude, who feel that food produced in a sustainable way can protect the environment and workers, appear more likely to take an eco-label into account. In addition, in both countries, consumers with a higher level of education and in the older age range are more likely to read eco-labels before buying fish products.

The first limitation is mainly related to the sampling procedure, which is not probabilistic and does not allow for generalisation of the results. Furthermore, some indicators related to COVID-19 were not included as the planning stage of the research methodology occurred before the pandemic. A better understanding of the main determinants predicting consumers' attention to seafood eco-labels could be crucial to promote effective marketing strategies aimed at increasing consumer interest and awareness in sustainable seafood and eco-labels. Exploring the role of consumers' altruism in how much attention is paid to seafood eco-labels appears to be a new approach that emphasises the role of altruism as a variable capable of bridging the "value-action gap".

**Keywords:** Sustainable Seafoods, Seafoods, Sustainability, Voluntary Certification, Ecolabel, Label Information, Consumer Behaviour, Altruism Construct, Labelling

### **Enhancing Sustainable Consumption in China: A Seafood Example**

Juan He

Associate Professor, KoGuan School of Law,  
Shanghai Jiao Tong University  
Shanghai China

Chinese Journal of Environmental Law, Volume 5, Issue 2, 07 Dec, 2021, 172-198p.

**ISSN: 2468-6042 | 2468-6034**

In recent years, market surveys on sustainable seafood consumption have analysed Chinese people's willingness to purchase ecolabelled seafood produced and imported into China. Endogenous and exogenous determinants are thereby unveiled to explore Chinese consumers' sustainability consciousness, purchasing decisions, and the means of bridging the divide. This article builds upon and adds to these empirical findings with a market-based and information lens. It draws inspiration from analysing the growing interest of younger and middle-class consumers in acquiring seafood information; integrative sourcing and marketing strategies of intermediary businesses to deliver such information; and awakening of public regulators to the imperative of realizing the right to information of less-informed parties. Instead of segregating these stakeholders along a linear supply chain, the study emphasizes the deepening of a



consumer-centric information network underpinned by supply chain transparency and traceability. It thus aims to inform a steady shift from a production-oriented to a consumer-oriented seafood management paradigm through systematic reforms of China's consumer law. To encourage and empower sustainable consumption, the 'consumer' notion needs proper broadening and consumers' right to know should be recognized as a judicial and self-contained legal entitlement with enforcement safeguards.

**Keywords:** Certification, Environmental Governance, Label, Non-governmental Organization, Consumer, Sustainability

### **A 20-year retrospective review of global aquaculture**

Rosamond L. Naylor<sup>1, 2</sup>, Ronald W. Hardy<sup>3</sup>, Alejandro H. Buschmann<sup>4</sup>, Simon R. Bush<sup>5</sup>, Ling Cao<sup>6</sup>, Dane H. Klinger<sup>7, 8</sup>, David C. Little<sup>9</sup>, Jane Lubchenco<sup>10</sup>, Sandra E. Shumway<sup>11</sup> and Max Troell<sup>12, 13</sup>.

Department of Earth System Science, Stanford University, Stanford, CA, USA

1. Center on Food Security and the Environment, Stanford University, Stanford, CA, USA
2. Aquaculture Research Institute, University of Idaho, Moscow, ID, USA
3. Centro i-mar & CeBiB, Universidad de Los Lagos, Puerto Montt, Chile
4. Environmental Policy Group, Wageningen University, Wageningen, The Netherlands
5. School of Oceanography, Shanghai Jiao Tong University, Shanghai, China
6. Center for Oceans, Conservation International, Arlington, VA, USA
7. Department of Nutrition, Harvard T. H. Chan School of Public Health, Boston, MA, USA
8. Institute of Aquaculture, University of Stirling, Stirling, UK
9. Department of Integrative Biology, Oregon State University, Corvallis, OR, USA
10. Department of Marine Sciences, University of Connecticut, Groton, CT, USA
11. Beijer Institute, Royal Swedish Academy of Sciences, Stockholm, Sweden
12. Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden
13. Nature, Volume 591, 2021, 551–563p.

**ISSN: 1476-4687 | 0028-0836**

The sustainability of aquaculture has been debated intensely since 2000, when a review on the net contribution of aquaculture to world fish supplies was published in Nature. This paper reviews the developments in global aquaculture from 1997 to 2017, incorporating all industry sub-sectors and highlighting the integration of aquaculture in the global food system. Inland aquaculture—especially in Asia—has contributed the most to global production volumes and food security. Major gains have also occurred in aquaculture feed efficiency and fish nutrition, lowering the fish-in–fish-out ratio for all fed species, although the dependence on marine ingredients persists and reliance on terrestrial ingredients has increased. The culture of both molluscs and seaweed is increasingly recognized for its ecosystem services; however, the quantification, valuation, and market development of these services remain rare. The potential for molluscs and seaweed to support global nutritional security is underexploited. Management of pathogens, parasites, and pests remains a sustainability challenge industry-wide, and the effects of



climate change on aquaculture remain uncertain and difficult to validate. Pressure on the aquaculture industry to embrace comprehensive sustainability measures during this 20-year period have improved the governance, technology, siting, and management in many cases.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability





2020

## Effective fisheries management instrumental in improving fish stock status

Ray Hilborn and others

School of Aquatic and Fishery Sciences, University of Washington, Seattle, WA 98195;

PNAS, Volume 117, Number 4, January 13, 2020

ISSN: 0369-8211

Marine fish stocks are an important part of the world food system and are particularly important for many of the poorest people of the world. Most existing analyses suggest overfishing is increasing, and there is widespread concern that fish stocks are decreasing throughout most of the world. We assembled trends in abundance and harvest rate of stocks that are scientifically assessed, constituting half of the reported global marine fish catch. For these stocks, on average, abundance is increasing and is at proposed target levels. Compared with regions that are intensively managed, regions with less-developed fisheries management have, on average, 3-fold greater harvest rates and half the abundance as assessed stocks. Available evidence suggests that the regions without assessments of abundance have little fisheries management, and stocks are in poor shape. Increased application of area-appropriate fisheries science recommendations and management tools are still needed for sustaining fisheries in places where they are lacking.

**Keywords:** Aquaculture, Marine fish Industry, Eco-labeling, Fisheries, Ecolabel, Seafood, Sustainability

## Shifting focus: The impacts of sustainable seafood certification

Ingrid van Putten<sup>1, 2</sup>, Catherine Longo<sup>3</sup>, Ashleigh Arton<sup>4</sup>, Matt Watson<sup>5</sup>, Christopher M. Anderson<sup>6</sup>, Amber Himes-Cornell<sup>7</sup>, Clara Obregón<sup>8</sup>, Lucy Robinson<sup>9</sup> and Tatiana van Steveninck<sup>10</sup>

1. CSIRO, Oceans and Atmosphere, Hobart, Tasmania, Australia,
2. Centre for Marine Socioecology, University of Tasmania, Hobart, Tasmania, Australia,
3. Marine Stewardship Council (MSC), Snow Hill, London, United Kingdom,
4. Marine Stewardship Council (MSC), Marine Terrace, Fremantle, WA, Australia,
5. University of Washington, School of Aquatic and Fishery Sciences, Seattle, WA, United States of America,
6. Food and Agriculture Organization of the United Nations, Rome, Italy,
7. College of Science, Health, Engineering and Education, Harry Butler Institute, Centre for Sustainable Aquatic Ecosystems, Murdoch University, Murdoch, Australia
8. CSIRO, Oceans & Atmosphere, Perth, Western Australia, Australia,
9. Oceans Graduate School, University of Western Australia, Perth, Western Australia, Australia
10. Leiden University, Science Based Business, Leiden, The Netherlands

PLOS ONE, Volume 15, Issue 5, May 20, 2020, 24p.

Alongside government driven management initiatives to achieve sustainable fisheries management, there



remains a role for market-based mechanisms to improve fisheries outcomes. Market-based mechanisms are intended to create positive economic incentives that improve the status and management of fisheries. Research to understand consumer demand for certified fish is central but needs to be mirrored by supply side understanding including why fisheries decide to gain or retain certification and the impact of certification on them and other stakeholders involved. We apply semi-structured interviews in seven different Marine Stewardship Council (MSC) certified fisheries that operate in (or from) Western Australia with the aim of better understanding fisheries sector participation in certification schemes (the supply side) and the impacts and unintended benefits and costs of certification. Authors find that any positive economic impacts of certification were only realised in a limited number of MSC fisheries in Western Australia, which may be explained by the fact that only a small proportion of Western Australian state-managed fisheries are sold with the MSC label and ex-vessel or consumer market price premiums are therefore mostly not obtained. Positive impacts of certification in these Western Australian fisheries are more of a social and institutional nature, for example, greater social acceptability and increased efficiency in the governance process respectively. However, opinion is divided on whether the combined non-monetary and monetary benefits outweigh the costs.

**Keywords:** Eco-certification, Aquaculture, Seafood, Sustainability, MSC, Environmental impacts, Ecolabeling, Ecolabel, Certification, Marine Stewardship Council

### **Aquaculture: Challenges on the road to sustainability**

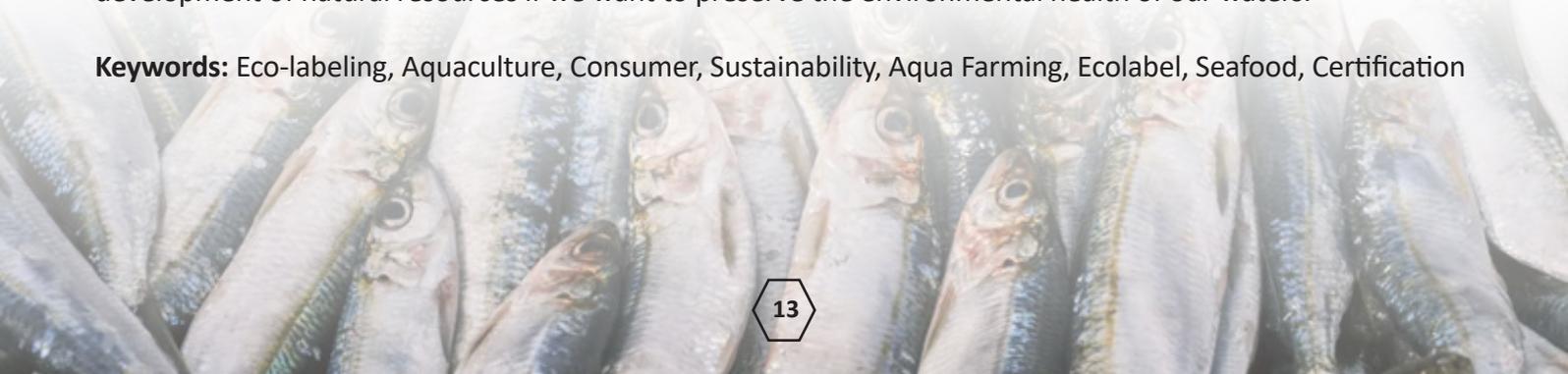
Silvia Gómez

Marine Scientist, Valparaíso, Chile

Hydroheart, September 13, 2020

This article defines what aquaculture is and what threats from the high increase in aquaculture production are. Aquaculture farming implies individual or corporate ownership of the cultivated stock and involves the enclosure of the species in a secure system. The culture of aquatic organism farming experienced a continuous expansion to different regions of the world, but it was in the 1970s that its large-scale industrial intensification reached its peak. Today, almost 600 aquatic species are cultivated throughout the world. With over 114 million tons produced in 2018, aquaculture has become the most developed food industry in recent decades, surpassing fishing in 2016. The intensification and industrialization of aquaculture has increased the threats to aquatic environments. Today, many aquaculture production systems and technologies are moving towards a sustainable development by considering the right balance between the environment, the social and the economic sphere. Organic aquaculture favors the use of renewable resources, the respect for natural mechanisms for controlling pests and diseases and the management of the generated waste products. It focuses on animal welfare and the use of natural foods. It must be strongly regulated and aim at a sustainable development of natural resources if we want to preserve the environmental health of our waters.

**Keywords:** Eco-labeling, Aquaculture, Consumer, Sustainability, Aqua Farming, Ecolabel, Seafood, Certification





## What do we know about the impacts of the Marine Stewardship Council seafood ecolabelling program? A systematic map

Ashleigh Arton<sup>1</sup>, Anthony Leiman<sup>2</sup>, Gillian Petrokofsky<sup>3</sup>, Hilde Toonen<sup>4</sup> and Catherine S. Longo<sup>1</sup>

1. Science and Standards, Marine Stewardship Council, London, UK
2. School of Economics, University of Cape Town, Cape Town, South Africa
3. Department of Zoology, Long-term Ecology and Resource Stewardship Laboratory, Biodiversity Institute, University of Oxford, Oxford, UK
4. Environmental Policy Group, Wageningen University and Research Centre, Wageningen, The Netherlands

Environmental Evidence, Volume 9, Article Number 6, 2020

**ISSN: 2047-2382**

Voluntary Sustainability Standards and ecolabels are market-based mechanisms used to encourage producers and consumers toward environmental sustainability. The Marine Stewardship Council (MSC) aims to improve ocean health and promote a sustainable seafood market. There is growing interest in the program's impacts (direct and indirect) from changes to fisheries management and consumer awareness to market access and the reputation of fisheries. To better understand what is known about the program's impacts and the quality of evidence available, this map collates and describes articles on the environmental, social, institutional and economic effects of the MSC, identifying the methods used to determine impacts, and highlighting knowledge gaps and clusters.

Research interest in the MSC has grown over the last two decades, however, little research uses study designs and evidence that can robustly detect or attribute change to the MSC. Greater focus on conducting robust quasi-experimental designs would help to better understand the program effects. Comparing areas of interest in the general literature (which, for example, shows greater focus on the governance aspects of the programme than found in literature using comparators) suggests that this is partly due to lack of resources, data access and the challenge of obtaining counterfactuals. Nevertheless, some topics were absent in all areas, such as the social and economic dynamics that link harvesters and supply chain actors. It is important to fill the identified knowledge gaps as the behaviours of certified harvesters, supply chain actors and other stakeholders are the key through which the public influence sustainability, market inclusion/exclusion operates, and inequality is generated. Understanding these processes can have wider relevance in the field, informing the design of other sustainability interventions.

**Keywords:** Sustainable Aquaculture, Environmental Assessment, Marine Stewardship Council, MSC, Environmental Impact, Sustainability, Labelling, Certification, Ecolabelling, Seafood





## Sustainable Seafood & Healthier Oceans

Serena Lomonico

<https://dirt-to-dinner.com/purchasing-sustainable-seafood-supports-healthier-oceans/>, November 12, 2020

This article gives the information on Every time we eat fish, it can directly impact the health of our oceans. As a growing global population leads to increasing demand for protein, how can wild-caught seafood meet demand while keeping a healthy aquatic environment? And how can we make better choices for ourselves and the oceans when shopping for seafood? Globally, wild-capture fisheries are unbelievably unique in that no other large-scale food sector continuously removes a comparable sheer volume of wild animals from any natural habitat on earth. This demonstrates the incredible capacity of our oceans to regenerate so future generations may reap its benefits. Recent research supports this good news for well-managed global fisheries. Research examined the status of 882 global fish stocks (the term for defined populations of fish) and found big improvements, especially in developed countries. There are many ways consumers can support sustainable seafood efforts. In fact, each time you go to the market or order fish in a restaurant, simply ask your fishmonger or waiter if the seafood was sourced from a sustainable marine fishery. Making decisions based on this information can help support our magnificent ocean life.

**Keywords:** Aquaculture, Shrimp Industry, Eco-labeling, Fisheries, Ecolabel, Seafood, Sustainability

## The Most Important Eco-Friendly Seafood Certifications

Leigh Matthews

Sustainability Expert

LeafScore, November 24, 2020

Seafood labelling is confusing. While some labels carry weight and offer assurance that a product is sustainably sourced and fully traceable, others are a prime example of greenwashing and pure marketing hyperbole. Eco-labels typically fall into three camps: self-declarations, non-governmental endorsements, and third-party certifications. The first are worth very little and are often misleading, with little to no evidence to back up their claims. The second are also lacking in scope, accuracy, and transparency. Only genuine third-party, independent seafood certifications can be considered reliable, with the evidence required to back up claims. A 2020 report by SeaChoice found that in the Canadian seafood market, only 35% of self-declarations could be verified, and only 57% of endorsements could be verified. In contrast, 100% of certifications were verifiable. It discusses some certificates are the best seafood certification available, it covers wild caught seafood that is more likely to be eco-friendly and sustainable. While some are the most common and are both robust and reliable. If main focus is the safety of seafood and ensures full traceability, safe handling, and testing for food-borne pathogens or high levels of methylmercury and other potential contaminants, the Hazard Analysis and Critical Control Point (HACCP) certification is just the ticket.

**Keywords:** Certification, Label, Sustainability, Seafood, Consumer Choice, Ecolabelling, Self-Regulation, Standard, Ecolabel



## **Producer perceptions of the incentives and challenges of adopting ecolabels in the European finfish aquaculture industry: A Q-methodology approach**

Lynnlee Chikudza<sup>1</sup>, Claire Gauzente<sup>1</sup>, Patrice Guillotreau<sup>1</sup> and Karen A. Alexander<sup>2, 3</sup>

1. University of Nantes (LEMNA) Chemin de La Censive Du, Tertre - BP 52231, 44322, Nantes Cedex 3, France
2. Centre for Marine Socioecology, University of Tasmania, Hobart, Tas, 7001, Australia
3. Institute for Marine and Antarctic Studies, University of Tasmania, PO Box 49, Hobart, Tas, 7001, Australia

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**ISSN: 0308-597X**

There is growing research interest in aquaculture ecolabelling. This is unsurprising given the potential economic incentives for the producer such as market access, price premium and increased sales, as well as the expected environmental benefits. To date, the focus has been on consumer perspectives of ecolabels, but research regarding farmers' perceptions remains scant. This study starts to address this gap by examining producers' perceptions of the costs and benefits of ecolabelling, and by investigating the effects of operation scale on these perceptions. A Q-methodology approach was used to uncover shared ways of thinking about this topic. A total of 26 interviews provided in-depth data on the perceptions behind the Q-sort rankings. The results of the study indicated that producers believed that adopting ecolabelling provides opportunities such as enhanced local and export market access, product acceptance, price premium, long-term supply contracts, increased investment attractiveness, positive consumer perception of aquaculture products and increased reputation. Producers also identified challenges such as compliance costs, costly annual audits and a lack of long-term benefits. The results of this study also suggest that incentives and challenges may not be correlated to scale, as comparable sized farm units did not share similar viewpoints. There are many considerations for a producer prior to pursuing certification. Providing evidence relating to the perceived incentives and challenges may make the decision to take a step towards sustainability an easier one.

**Keywords:** Certification, Eco-label, Europe, Incentives, Challenges, Perspectives, Aquaculture, Ecolabel, Fisheries, Sustainability





## Mainstreaming Sustainable Consumption of Seafood through Enhanced Mandatory Food Labeling

Jerneja Penca

Euro-Mediterranean University, Piran, Slovenia

Policy and Practice Reviews Article: *Frontiers in Marine Science*, 17 December 2020

To contribute to the debate about sustainable seafood consumption, this article considers the role of mandatory food labeling. The article first flags the rise of a policy paradigm of shared responsibility and policy imperatives at various levels calling for increased integration of the citizen/consumer into public regimes, including in fisheries governance. It then explores the options available to citizen/consumers to engage in the fisheries regime in different stages of the value chain and evaluates their readiness to respond to the expectations. Mandatory food labeling of seafood is introduced as an under-unexplored governance tool, alongside the key enabling technological and policy trends. The rise of transparency and traceability, both as norms and a set of technological capabilities, is highlighted as an opportunity for implementation of mandatory seafood labeling. While recognizing equity challenges and various supplementary actions needed to ensure an effective behavioral and attitudinal shift toward more engaged governance (better education and enforcement and an enabling social setting), the article suggests furthering explore mandatory labeling within the governance toolbox. It should be particularly relevant in the context of developed markets with global trade and political influence, and as means of fostering ocean literacy and transparent, participative and deliberative kind of governance.

**Keywords:** Eco-Labeling, Fish, Sustainability, Choice Experiment, Eco-certification, Aquaculture, Seafood, Sustainability, Ecolabel, Certification, Aquaculture, Environmental Impacts, Food Labelling

### OECD Review of Fisheries 2020: Policies and Summary Statistics

Organisation for Economic Cooperation and Development (OECD)

**ISBN: 978-92-6-437477-5/978-92-6-456104-5**

The OECD Review of Fisheries 2020 aims to support policy makers and sector stakeholders in their efforts to deliver sustainable and resilient fisheries that can provide jobs, food, and livelihoods for future generations. The Review updates and analyses the OECD fisheries support estimate (FSE) database, the most comprehensive, detailed, and consistent collection of country level data on governments support to fisheries. It also presents and analyses newly-assembled data on the health of fish stocks; on the management of key stocks of commercial interest; and on the governance of fisheries across OECD countries and emerging economies with large fishing sectors. The report sheds light on how governments are managing fisheries to minimise detrimental impacts on resources and ecosystems, eliminate illegal, unregulated and unreported (IUU) fishing, while increasing the socio-economic benefits from fishing. It suggests priorities for action both at the national level and for the international community.

**Keywords:** Eco-labeling, Fishery management, Fisheries - Economic aspects, Sustainability, Ecolabel, International Trade, Aquaculture, OECD, Seafood Safety, Seafood



2019

## Olympic pressure pushes Japan's Marine Eco-Label to undergo GSSI benchmarking

Chris Loew

Contributing Editor reporting from Osaka, Japan

SeafoodSource.com, January 2, 2019

With the 2020 Tokyo Olympic Games around the corner, environmental advocates have ramped up the pressure on the host country to commit to serving only seafood certified by third-party accredited sustainability schemes. The mounting pressure from environmental groups has pushed the Japan Fisheries Association, which operates the MEL and AEL, to commit to subjecting its programs to benchmarking by the Global Sustainable Seafood Initiative, which determines whether seafood certification schemes meet the requirements of the FAO Code of Conduct for Responsible Fisheries (CCRF), the FAO Guidelines for the Ecolabeling of Fish and Fishery Products from Marine/Inland Capture Fisheries, and the FAO Technical Guidelines on Aquaculture Certification.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability, Aquaculture Stewardship Council, Marine Stewardship Council

## Strategy to Improve the Implementation of Eco-Labeling Global Aquaculture Alliance-Best Aquaculture Practices (GAA-BAP) in Shrimp Processing Industry PT. XYZ Sidoarjo

Puji Sugeng Ariadi, Nuddin Harahab and Aminudin Afandhi

1. Brawijaya University, Indonesia
2. Fisheries and Marine Science Faculty, Brawijaya University; Jl. Veteran, Malang, Indonesia
3. Agriculture Faculty, Brawijaya University; Jl. Veteran, Malang, Indonesia

Economic and Social of Fisheries and Marine Journal, Volume 7, Number 01, 2019,

**ISSN: 2528-5939**

The demands of international consumers for eco-labeling products and supported by Indonesia's considerable shrimp export potential, should be an opportunity for the shrimp processing industry in Indonesia which has implemented GAA-BAP eco-labeling certification. The purpose of this study was formulated as a good strategy to improve the application of GAA-BAP eco-labeling in the shrimp processing industry. This research was a descriptive study with a case study. The research had done at PT. XYZ Sidoarjo. Data were collected through observation, interview, focus group discussion (FGD) and secondary data collection. The data were analyzed using IFE and EFE matrix, IE matrix, and SWOT analysis. The result showed that the strategy could be used to increase the application of GAA-BAP eco-labeling were implemented Strengths-Opportunities (S-O) and combined it with development or stability according to company position in IE matrix. The strategy could be chosen to improve the application



GAA-BAP eco-labeling at shrimp processing industry were optimized human resources, eco-labeling guidance, company location, and market network; utilized the company location and market network to increase the procurement of raw materials; maintained the good work integrity and the quality of eco-labeling guidance; also increased the quality of GAA-BAP eco-labeling products.

**Keywords:** Aquaculture, Shrimp Industry, SWOT, Eco-labeling, GAA-BAP, Fisheries, Ecolabel, Seafood, Sustainability

### **Controversy Over Voluntary Environmental Standards: A Socioeconomic Analysis of the Marine Stewardship Council**

Frank Wijen<sup>1</sup> and Mireille Chiroleu-Assouline<sup>2</sup>

1. Rotterdam School of Management, Erasmus University, Rotterdam, Netherlands
2. Paris School of Economics, University Paris 1 Panthéon-Sorbonne, Paris, France

Organization & Environment, Volume 32, Issue 2, 2019, 98-124p.

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Voluntary standards certifying environmental qualities of labeled products have proliferated across sectors and countries. Effectuating these standards requires the collaboration among and between creators (typically firms and nongovernmental organizations) and adopters (firms across a particular supply chain). However, the need to collaborate does not rule out the presence of controversy. Drawing on the case of the Marine Stewardship Council, a leading seafood standard to conserve the world's threatened marine fauna, we analyze how this controversy, from economic and sociologic vantage points, impacts a sustainability transition. In essence, interest divergence drives controversy over standard design, which spurs controversy over standard effectiveness and prompts the proliferation of competing standards. Controversy is magnified by the opacity or non transparency of the fields which such standards seek to govern. Authors conclude that, while interest divergence and field opacity entail inherent controversy over voluntary environmental standards, the impact of this controversy on sustainability transitions is typically predominantly positive.

**Keywords:** Certification, Competition, Conflict, Controversy, Environmental Governance, Label, Marine Stewardship Council, Nongovernmental Organization, Self-Regulation, Standard





## **The Integration of the National Ecolabel in Southeast Asia to Support Asean Tuna Ecolabelling (ATEL)**

Andre Notohamijoyo<sup>1</sup>, Martani Huseini<sup>2</sup>, Raldi H. Koestoer<sup>3</sup> and Syafril Fauzi<sup>4</sup>

1. School of Environmental Science, University of Indonesia, FKG Building 5th and 6th Floor, Jalan Salemba Raya, No. 4, Jakarta 10430, Indonesia
2. Faculty of Administrative Science, University of Indonesia, Kampus Baru UI Depok, Indonesia
3. Coordinating Ministry of Economic Affairs, Republic of Indonesia
4. Ministry of Marine Affairs and Fisheries, Jalan Medan Merdeka Timur No. 16, Jakarta 10110, Indonesia

Proceedings of the 2nd International Conference on Inclusive Business in the Changing World (ICIB 2019), 2019, 651-656p.

The development of information technology has led to the growth of people's consumption patterns towards fish not only in terms of health but also in sustainability. The lifestyle creates business opportunities in fisheries ecolabel schemes. The trend was well utilized by various multinational companies which collaborated with international NGO to form the scheme. It faces immense challenges in developing countries because of some issues such as high costs and high requirement. It shows that the scheme could not be implemented in Indonesia from the stakeholder's perspective. The ecolabel scheme needs a special approach for tuna species (*Thunnus sp*), the highest economic value of fish in the world and highly migratory species across the sea region. The effective management requires cross-country cooperation. The Association of South East Asian Nations (ASEAN) has begun consolidation to start the regional system of ecolabel which named ASEAN Tuna Ecolabelling (ATEL). This is the first regional seafood ecolabel scheme in the world. The main difficulty in implementing the scheme is the integration of national ecolabel schemes of ASEAN countries. The integration must be resolved by all ASEAN countries. If success, ATEL not only develops as an effective scheme, but also as a new regional brand of tuna.

**Keywords:** Integration of National Ecolabel, Sustainable Fisheries, Eco-Label, Eco-Labeling, Event Studies, Fisheries, Food Industry, MSC, Seafood, Tuna





## **Advancing Sustainable Development Goal 14: Sustainable fish, seafood value chains, trade and climate**

United Nations Conference on Trade and Development,

Geneva, Switzerland

UNCTAD/DITC/TED/2019/3, 2019, 46p.

**eISBN: 978-92-1-004696-1**

This background note reviews current trends and projections of fish and seafood trade, and recent work undertaken to support implementation of the trade related activities of SDG 14, with a focus on the work of UNCTAD, FAO and UN Environment. It flags the main issues encountered and sets the scene for the discussions of the Forum. It draws on the complementary experiences and mandates of UNCTAD, FAO and UN Environment to make recommendations to key stakeholders and propose innovative approaches and tools around the oceans/blue economy, value chain analysis, certification and eco-labelling to strengthen the capacity of developing countries in meeting the trade related targets of SDG 14.

**Keywords:** Eco-certification, Aquaculture, Seafood, Sustainability, Environmental impacts, Ecolabeling, Ecolabel, Certification





2018

## Perceptions of aquaculture ecolabels: A multi-stakeholder approach in Nova Scotia, Canada

Jenny Weitzman and Megan Bailey

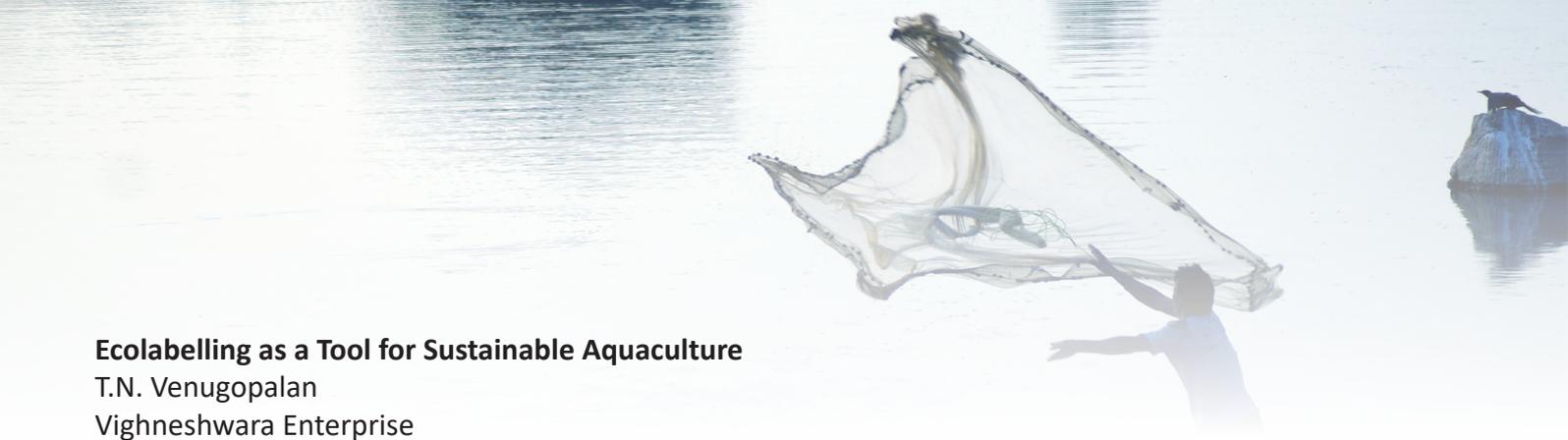
Marine Affairs Program, Dalhousie University,  
Halifax, Nova Scotia,  
Canada B3H 4R2

Marine Policy, Volume 87, January 2018, 12-22p.

ISSN: 0308-597X

Ecolabelling is a tool increasingly used to support sustainable aquaculture management across the world. Proponents argue that ecolabels can offer economic benefits, improve transparency of fish farms, and address some of the ecological and socio-economic concerns of intensive marine finfish aquaculture. Exploring how ecolabelling schemes are valued and perceived can help evaluate their potential acceptance, use, and benefits. However, most perception studies explore consumer opinions and demand; few investigate the perceptions of a range of stakeholders at various points in the supply-chain. In this study, Q-methodology was used to explore the perceptions of six aquaculture-related stakeholder groups (fish farming industry, food industry, scientists, management, wild capture fishing industry, and environmental groups) towards ecolabelling of finfish aquaculture in Nova Scotia, Canada. Twenty-five participants sorted and ranked how much they agreed or disagreed with 49 different statements about the potential uptake, benefits, challenges, and influence of ecolabelling within the aquaculture industry. The analysis revealed four defining factors, or shared 'perspectives' which included: the optimist view, the skeptic view, the pragmatist view, and the improver view. Stakeholders agreed on likely market benefits, but also saw confusion and credibility as biggest barriers to successful ecolabelling. Conflicting viewpoints and significant disagreement on the potential for ecolabels to address environmental and socio-economic concerns suggests that labels may not be an effective tool for improving social acceptance. This paper argues that studying perceptions can lead to a better understanding of how ecolabels communicate, identify areas of improvement, and provide insight for their use for sustainable resource management.

**Keywords:** Ecolabelling, Finfish aquaculture, Perceptions Q-methodology, Stakeholder approach, Social acceptance, Aquaculture, Fisheries, Certification, Ecolabel



## Ec labelling as a Tool for Sustainable Aquaculture

T.N. Venugopalan

Vighneshwara Enterprise

<https://www.vighnet.com/post/ecolabelling-as-a-tool-for-sustainable-aquaculture>, May 20, 2018

Aquaculture is world's fastest growing food production system. During the past two decades aquaculture production has increased by 10% per annum. This sector is rapidly gaining importance as a result of dwindling catches of fish from natural water bodies and increasing global demand for seafood. All fisheries and aquaculture activities generate some kind of impact on the environment.

This article details the world aquaculture production, which is increasing drastically from 49.9 million tonnes in 2007 to 66.6 million tonnes in 2012 and 73.8 million tonnes in 2014. The demand for ecolabelling and certification for both aquaculture and capture fishery are driven by large-scale retailers and food business operators (FBOs) with focus on food safety, environmental sustainability and social criteria. It discusses objectives of Ecolabelling and different Certification Schemes, different ecolabels and ecolabelling schemes in Aquaculture. It also describes Schemes promoted by Aquaculture industry, Schemes promoted by Governments and Schemes promoted by NGOs. A number of certification schemes are also available for aquaculture products. The most important aquaculture certification schemes are also discussed. There are labelling schemes promoted by retailers, those promoted by the aquaculture industry, those promoted by Governments and those promoted by NGOs. In the coming years the importance of ecolabelling will gain further momentum as a market-driven initiative to promote sustainable aquaculture and give fillip to Blue Growth Initiative.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability, WTO, International Trade, FAO

### Sustainability Descriptive Labels on Farmed Salmon: Do Young Educated Consumers Like It More?

Djin Gie Liem 1, Giovanni M. Turchini 2, Uracha Wanich 1 and Russell Keast 1

1. Centre for Advanced Sensory Science, School of Exercise and Nutrition Sciences, Deakin University, 221 Burwood Highway, Burwood, VIC 3125, Australia
2. School of Life and Environmental Sciences, Deakin University, Warrnambool, VIC 3280, Australia

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**ISSN: 2071-1050**

Despite the efforts to make fish sustainable, it is largely unknown if young educated consumers' taste of fish and their willingness to pay more for fish is influenced by positively framed messages regarding sustainable farming practices. This research investigated if a positively framed description of sustainable farming opposed to positively framed descriptions of flavour, health benefits, or socially responsible



farming, influences young consumers' liking, and willingness to pay for farmed salmon. Young consumers of fish (n = 119) randomly tasted Fresh and hot Smoked salmon and rated their liking and willingness to pay more on structured line scales. The salmon were labeled with either a description of sustainable farming practices, flavour benefits, nutrition/health benefits, socially responsible farming practices, or no descriptions. Descriptive labelling about Sustainability (p = 0.04), Flavour (p = 0.01), and Health/nutrition (p = 0.01) significantly increased consumers' liking of Fresh salmon compared to Fresh salmon without labelling. No such a difference was found between the social responsibility label and the sample without labels (p = 0.2). Participants were willing to pay more for 250 g of Fresh and Smoked Salmon with descriptive labels (Fresh: \$9.3 ± \$0.003; Smoked: \$10.1 ± \$0.003), than for the same Salmon without such labels (Fresh: \$9.0 ± \$0.06; Smoked: \$9.8 ± \$0.08) (p < 0.001). The sustainability descriptive label had no added benefit above other descriptive labels. The liking and buying intent were, for all labels and fish types, strongly correlated (r = 0.80, p < 0.001). In conclusion, sustainability labelling is promising, but does not differentiate from other positively framed messages.

**Keywords:** Sustainability, Sensory, Seafood, Consumers, Ecolabelling, Salmon, Ecolabel, Label

### **ASEAN tuna ecolabelling (ATEL): the challenge and opportunity of the first seafood regional ecolabelling in the world**

Andre Notohamijoyo<sup>1</sup>, Martani Huseini<sup>2</sup> and Syafril Fauzi<sup>3</sup>

1. School of Environmental Science, Universitas of Indonesia, Jakarta 10430, Indonesia
2. Faculty of Administrative Science, Universitas Indonesia, Kampus Baru UI Depok, Indonesia
3. Ministry of Marine Affairs and Fisheries, Medan Merdeka Timur No. 16, Jakarta 10110, Indonesia

E3S Web of Conferences, Volume 74, Article Number 04004, 2018, 6p.

Tuna (*Thunnus* sp) is the highest economic value and the most popular fish in the world. Exploitation of tuna fisheries was feared to threaten environment and social welfare for the people of the countries related to those resources. Many international organizations encourage countries involved in tuna trade to follow certain fisheries ecolabel standards. Nonetheless, driven ecolabel schemes do not yet reflect optimal sustainable tuna management. Tuna is a highly migratory species across the sea region of various countries. The effective management of tuna requires cross-country cooperation, but the certification system is not regional yet especially in Southeast Asia which has highest tuna production in the world. The Association of South East Asian Nations (ASEAN) has begun consolidation to start the regional system of ecolabel which named ASEAN Tuna Ecolabelling (ATEL). In the ASEAN Ministry of Agriculture and Forestry (AMAF) meeting in Hanoi, Vietnam, 12-13, October 2018, ATEL has agreed as a scheme of tuna ecolabelling in South East Asia region. The approval at the Ministerial level makes ATEL the first regional seafood ecolabel scheme in the world. It needs more research for the implementation of ATEL in the future both in terms of challenges and opportunities.

**Keywords:** ASEAN, Aquaculture, Eco-labeling, Sustainability, Ecolabel, Seafood, Fisheries, Stakeholders, Tuna, Ecolabelling, South East Asia, Agriculture, Forestry



**ASEAN Tuna Eco-Labeling: Policy Paper on the Establishment of ASEAN Regional Eco-Labeling Scheme**  
ASEAN Tuna Working Group

40th AMAF Meeting 11 October 2018, Ha Noi, Viet Nam, 2018, 25p.

This paper is published under the Joint committee on ASEAN Cooperation in agriculture and forest products promotion scheme. Tuna is considered as the most important species in the globe since its functions as food supplier for those who have been revealed that fish protein is very important for their health. Accordingly, trend of this group of consumers is predictably increasing; therefore the sustainability of production and consumptions of this species would be big challenges in the future. ASEAN countries are considered as the main players in tuna global fisheries. Total of this region's production of tuna is identified as of 896,903 tons in 2010. Among this, Indonesia and the Philippines are dominating the productions. ATEL is established as a correction for eco-label certificate that has existed which lead to new barriers to enter the retail market of developed countries. In order to make the ATEL could be implemented in the whole ASEAN, it should adopt certain principles which support and cover the whole tuna fishery activities in the region. Eco-label certification concept proposed to the ASEAN Tuna Eco-labeling was developed from two main pillars: sustainable use of tuna fishery and responsible social practices.

**Keywords:** Eco-labeling, Sustainability, Ecolabel, Seafood, Fisheries, Stakeholders, Aquaculture, Tuna ATEL, ASEAN

**Snow lines on shorelines: Solving Styrofoam buoy marine debris from oyster culture in Taiwan**

Chung-Ling Chen, Po-Hsiu Kuo, Tuey-ChihLee, and Chien-HoLiu  
Institute of Ocean Technology and Marine Affairs,  
Department of Hydraulic and Ocean Engineering,  
National Cheng Kung University, 1 University Road,  
Tainan 70101, Taiwan

Ocean & Coastal Management, Volume 165, 1 November 2018, 346-355p.

**ISSN: 0964-5691**

Styrofoam buoy marine debris from oyster farming presents a tough management issue in Taiwan. It is an environmental externality but its associated environmental costs have long been neglected. In the pursuit of environmental sustainability, efforts by authorities have been made; yet the problem remains. In an attempt to enhance Styrofoam buoy marine debris management, this paper used document analysis, participative workshops and interviews to identify areas of concern regarding current management measures and propose recommendations. The results found that failure to impose buoy recovery, inevitable loss of buoys and unavailability of equally competitive, eco-friendly alternative buoys are major areas of concern. Built on the modes of governance (hierarchical, market and participative), the



paper proposed recommendations, including enhancing farmer self-governance units' capacity to manage derelict fishing gear (DFG), strengthening Styrofoam buoy recovery, increasing farmers' awareness of DFG, developing eco-friendly buoys, instituting an ecolabeling program for Styrofoam-free oysters. The recommendations involve participation of farmers, decision makers and consumers and mostly rely on the government's initiation and support. The paper particularly highlighted the political sensitivity of a recommendation regarding phasing out the use of Styrofoam buoys and suggested it serve as a last resort and be practiced depending on fulfillment of circumstantial situations. Finally, the paper advised extra attention be paid on public participation in regulation-making, a mismatch between the scope of the problem and the jurisdiction of a local city and adaptive management, if any change to the status quo occurs.

**Keywords:** Marine Debris Management, Derelict Fishing Gear, Oyster Culture, Styrofoam Buoys, Seafood, Eco-Label, Sustainability, Certification, Ecolabelling

### **Evolution and future of the sustainable seafood market**

C. A. Roheim<sup>1</sup>, S. R. Bush<sup>2</sup>, F. Asche<sup>3</sup>, J. N. Sanchirico<sup>4</sup> and H. Uchida<sup>5</sup>

1. Department of Agricultural Economics and Rural Sociology, University of Idaho, Moscow, ID, USA
2. Environmental Policy Group, Wageningen University, Wageningen, Netherlands
3. Institute for Sustainable Food Systems, School of Forest Resources and Conservation, University of Florida, Gainesville, FL, USA
4. Department of Environmental Science and Policy, University of California Davis, Davis, CA, USA
5. Department of Environmental and Natural Resource Economics, University of Rhode Island, Kingston, RI, USA

Nature Sustainability, Volume 1, 2018, 392–398p.

**ISSN: 2398-9629**

The sustainable seafood movement is at a crossroads. Its core strategy, also known as a theory of change, is based on market-oriented initiatives such as third-party certification but does not motivate adequate levels of improved governance and environmental improvements needed in many fisheries, especially in developing countries. Price premiums for certified products are elusive, multiple forms of certification compete in a crowded marketplace and certifiers are increasingly asked to address social as well as ecological goals. This paper traces how the sustainable seafood movement has evolved over time to address new challenges while success remains limited. We conclude by exploring four alternative potential outcomes for the future theory of change, each with different contributions to creating a more sustainable global seafood supply.

**Keywords:** Aquaculture, Eco-labeling, Sustainability, Ecolabel, Seafood, Fisheries, Ecolabelling, Certification





## **The false promise of Certification: How certification is hindering sustainability in the textiles, palm oil and fisheries industries**

The Changing Markets Foundation  
London, England

2018, 57p.

The purpose of this report is to shed light on industry-specific issues related to environmental impacts of certification schemes and voluntary initiatives in fisheries, palm oil and textiles sectors.

This report analyses the context in which such voluntary initiatives emerge, what their role is and how they set out to address some of the challenges identified. They investigated an array of voluntary initiatives that provide a company, product or service with a sustainability endorsement, ranging from product labels to industry-wide initiatives aiming to improve the environmental performance of a sector as a whole. Reviewed key schemes in each of the three sectors, evaluating how they work, their achievements and their failures. Our focus is mostly environmental issues, although in some cases it also looks at reports on human rights violations.

This report comes at a time when many of these schemes are under pressure to reform from NGOs and scientists – and, in some cases, even progressive companies. But despite the fact that the tide is turning, there is still a massive push for certification – and not always for the right reasons. This report demonstrates that many of these schemes are being used as a cover, which makes it more difficult for NGOs and academics to question the sustainability of some products and companies. For example, McDonald's has used the Marine Stewardship Council (MSC) label to deflect criticism over the sustainability of the New Zealand Hoki Fishery, which has been criticised for its high discard levels and trawling methods. Governments are also increasingly using schemes as evidence of sustainability, as demonstrated by the use of certified palm oil to comply with biofuels targets, despite doubts about its success in stopping deforestation.

**Keywords:** Sustainability Practices, Sustainable Production, International Trade, Ecolabels, Trade Policy, Marine Stewardship Council





## **Global Ecolabelling Certification Standards and ASEAN Fisheries: Can Fisheries Legislations in ASEAN Countries Support the Fisheries Certification?**

Sopha Lieng 1, Nobuyuki Yagi<sup>1</sup> and Hiroe Ishihara

Graduate School of Agricultural and Life Sciences, The University of Tokyo, Tokyo 113-8657, Japan

Sustainability, Volume 10, Issue 11, 3843, 2018, 17p.

**ISSN: 2071-1050**

Fisheries, particularly small-scale fisheries, in the Association of Southeast Asian Nations (ASEAN) countries are an important source of food security, nutrition, and livelihood for people. However, high fishing pressure and other impacts have resulted in a decline of fisheries resources, questioning the future sustainability of fisheries. Ecolabelling is a tool developed based on the Code of Conduct for Responsible Fisheries and the Food and Agriculture Organization (FAO) Guideline for Ecolabelling of Fish and Fisheries Products from Marine/Inland Fisheries. In the past decades, only a few fisheries in ASEAN countries have been certified. This study particularly focuses on the legal frameworks of these countries and reviews the existing national fisheries legislation, including laws, acts, decrees, directives, rules, and regulations in ASEAN countries in relation to the requirement of the fisheries certification standards. The review reveals that although the legal frameworks in ASEAN member states generally provide a fair basis for their fisheries to meet the requirement of the fisheries certification standards, further improvements are required to incorporate the concept of adaptive management, precautionary approaches, and reference points on fishery management objectives. Monitoring, control, and surveillance of fisheries and other enforcement activities for fisheries legislations are other challenges to ensure sustainability of fisheries through fisheries certification.

**Keywords:** Ecolabelling, Certification, ASEAN, Small-Scale Fisheries, GSSI, Community Fisheries, Sustainability



## **Sustainable Aquaculture: Socio-Economic and Environmental Assessment**

Bishal Bhari and C. Visvanathan

Environmental Engineering and Management Program,  
Asian Institute of Technology,  
Bangkok Thailand

Springer, 2018, 63-93p.

**ISBN: 978-3-319-73256-5 | 978-3-319-73257-2**

One of the goals of the sustainable development is to minimize or eliminate the environmental externalities and target social and economic development. Socio-Economic and Environmental Assessment (SEEA) deal with assessing the socio-economic and environmental issues that can potentially be a threat to the existing condition. SEEA also deals with developing a proper alternative or management techniques. As the world capture type of fishing is stagnant or declining, the growth of the aquaculture is inevitable as it fills the gap between declining natural production and increasing market demand. Aquaculture is the only viable way of raising the production of seafood and freshwater fish. Thus, the sustainable development of aquaculture industries has been the necessity. This chapter highlights the different socio-economic and environmental issues that aquaculture leads to and also presents the impact areas, mitigation and monitoring plans that can be adopted to ensure sustainability of the aquaculture. This chapter is a part of the book Sustainable Aquaculture under the series - Applied Environmental Science and Engineering for a Sustainable Future edited by Hai F., Visvanathan and C., Boopathy R.

**Keywords:** Sustainable Aquaculture, Environmental Assessment, SEEA, Environmental Impact, Sustainability, Labelling, Certification



2017

**Promoting diversity and inclusiveness in seafood certification and ecolabelling: Prospects for Asia**

Robert Blasiak<sup>1</sup>, Julia Hsiang-Wen Huang, Hiroe Ishihara, Ingrid Kelling, Sopha Lieng, Hannah Lindoff, Alastair Macfarlane, Akane Minohara, Yasuyulti Miyakoshi, Herman Wisse and Nobuyuk Yagi

1. Stockholm University, Faculty of Science, Stockholm Resilience Centre.  
The University of Tokyo, Japan.

Marine Policy, Volume 85, 42-47p.

**ISSN: 0308-597X | 1872-9460**

Building on the inputs by a range of experts who participated in the February 2017 international symposium on Designing the Future for Fisheries Certification Schemes at the University of Tokyo, this manuscript traces the origins of fisheries certification schemes, relevant developments, and remaining challenges from an Asian perspective. Over the past 20 years, seafood certification has emerged as a powerful tool for meeting growing demands for sustainable fisheries and aquaculture products. Despite broad consensus among countries regarding what constitute responsible fishing practices, the fisheries certification landscape remains uneven. A plethora of certification schemes has generated confusion among consumers and retailers, and capital-intensive certification schemes may be out-of-reach or impractical for some small-scale fisheries, particularly within the developing world. A recent initiative by the Global Sustainable Seafood Initiative (GSSI) is aiming to address the diversity within the certification landscape by creating a tool to benchmark certification schemes that are in line with the FAO Code of Conduct for Responsible Fisheries and other relevant agreed FAO guidelines on fisheries, ecolabelling and aquaculture. Countries in Asia are among the world's top consumers and exporters of seafood, yet have faced some particular challenges with regard to seafood certification, underscoring the need for certification schemes that account for regional and local conditions and management practices, particularly with regard to small-scale fisheries.

**Keywords:** Aquaculture, Eco-labeling, Sustainability, Ecolabel, Seafood, Fisheries, Stakeholders, Global Sustainable Seafood Initiative, Ecolabelling, Certification

**Hybrid governance of aquaculture: Opportunities and challenges**

Joanna Vince<sup>1</sup> and Marcus Haward<sup>2</sup>

1. Politics and International Relations Program, School of Social Sciences, Centre for Marine Socioecology, Institute for the Study of Social Change, University of Tasmania, Locked Bag 1340, Newnham, Tasmania 7250, Australia
2. Ocean and Cryosphere Centre, Institute for Marine and Antarctic Studies, Centre for Marine Socioecology, Institute for the Study of Social Change, University of Tasmania, Private Bag 129, Hobart, Tasmania 7001, Australia

Journal of Environmental Management, Volume 201, 1 October 2017, 138-144p.



**ISSN: 0301-4797**

The development of third party assessment and certification of fisheries and aquaculture has provided new forms of governance in sectors that were traditionally dominated by state based regulation. Emerging market based approaches are driven by shareholder expectations as well as commitment to corporate social responsibility, whereas community engagement is increasingly centered on the questions of social license to operate. Third party assessment and certification links state, market and community into an interesting and challenging hybrid form of governance. While civil society organizations have long been active in pursuing sustainable and safe seafood production, the development of formal non-state based certification provides both opportunities and challenges, and opens up interesting debates over hybrid forms of governance. This paper explores these developments in coastal marine resources management, focusing on aquaculture and the development and operation of the Aquaculture Stewardship Council. It examines the case of salmonid aquaculture in Tasmania, Australia, now Australia's most valuable seafood industry, which remains the focus of considerable community debate over its siting, operation and environmental impact.

**Keywords:** Hybrid governance, Third party accreditation, Social license to operate, Corporate social responsibility, Aquaculture, Certification, Labelling, Sustainability, Label

### **Sustainable Seafood from Aquaculture and Wild Fisheries: Insights from a Discrete Choice Experiment in Germany**

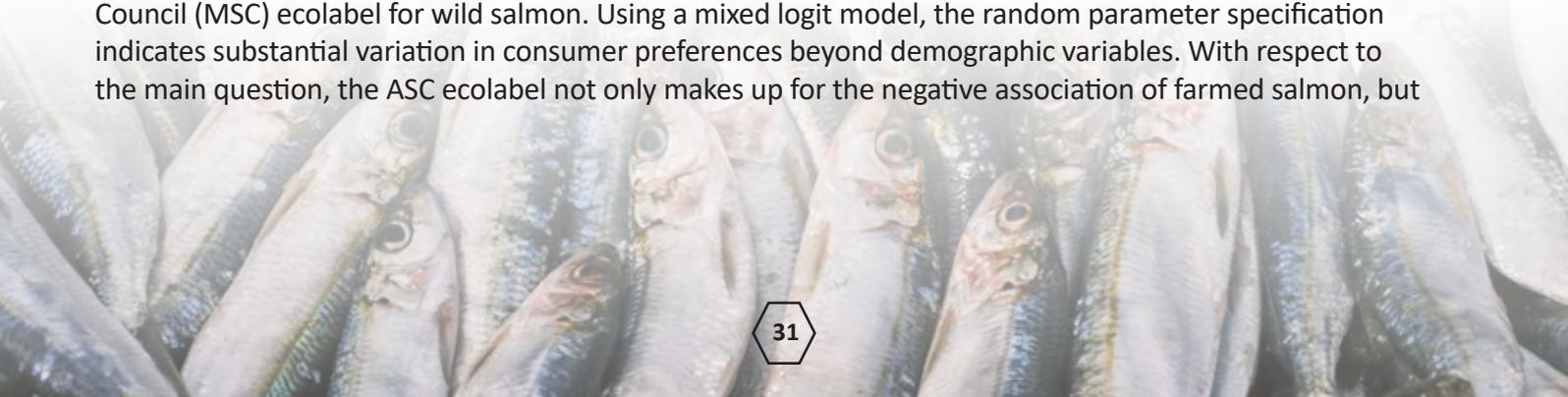
Julia Bronnmann<sup>1</sup> and Frank Asche<sup>2</sup>

1. Department of Agricultural Economics and Department of Economics, University of Kiel, Germany
2. Institute for Sustainable Food Systems and School of Forest Resources and Conservation, University of Florida, USA and the Department of Industrial Economics, University of Stavanger, Norway

Ecological Economics, Volume 142, December 2017, 113-119p.

**ISSN: 0921-8009**

There is an increasing focus on environmentally sustainable seafood, which creates a potential for segmentation in the seafood market. Several recent studies demonstrate that consumers prefer ecolabeled wild seafood over unlabeled seafood. In addition, there is increasing evidence of a preference for wild fish relative to farmed fish, despite the rapid increase of aquaculture production. Recently, ecolabels have also been introduced for farmed fish. An interesting question is whether the preference for wild fish is primarily related to the perceived lack of environmental sustainability in aquaculture, or whether it is a perceived quality difference. In this paper, a choice experiment is used to investigate these issues in Germany for salmon using the Aquaculture Stewardship Council (ASC) ecolabel for farmed salmon and the Marine Stewardship Council (MSC) ecolabel for wild salmon. Using a mixed logit model, the random parameter specification indicates substantial variation in consumer preferences beyond demographic variables. With respect to the main question, the ASC ecolabel not only makes up for the negative association of farmed salmon, but





gives a similar price for the ASC labeled salmon as for MSC labeled wild salmon. This is an indication that environmental concerns and not quality differences are the major issue in segmenting the market between farmed and wild fish.

**Keywords:** Aquaculture, Consumer Heterogeneity, Ecolabel, Mixed Logit Model, Sustainable Seafood, Salmon, Seafood, Sustainability, Ecolabelling

### **Consumer preferences for farmed organic salmon and eco-labelled wild salmon in Denmark**

Ankamah-Yeboah Isaac<sup>1</sup>, Frank Asche<sup>2</sup>, Julia Bronnmann<sup>3</sup>, Max Nielsen<sup>1</sup> and Rasmus Nielsen<sup>1</sup>

1. Department of Food and Resource Economics, Faculty of Science, University of Copenhagen,
2. Rolighedsvej 25, 1958 Frederiksberg C, Denmark
3. Institute of Sustainable Food Systems, School of Forest Resources and Conservation, University of Florida, Gainesville, USA
4. Department of Agricultural Economics, University of Kiel, Germany

JEL Classification: C23, D12, Q11, Q22, 2017, 12p.

Sustainably produced food products have rapidly grown in popularity within the last years. Ecolabeling systems to indicate the environmental sustainability of product have also been implemented in the seafood market, with the MSC label for wild fish as the leading one. However, it is not clear whether consumers really notice the values behind an eco-label and how important these attributes are in their purchasing decision. This study analyzes data from a large household scanner panel to investigate actual consumer purchasing behavior and preferences when faced with competing product attributes such as organic and MSC labeled for salmon in Denmark. To accomplish these objectives and explicitly account for consumer heterogeneity, a mixed logit as well as a latent class model is applied. The results indicate substantial consumer heterogeneity with respect to MSC-labeled wild salmon and organic labeled farmed salmon, with a negative preference on average. The latent class models reveal the picture. In total, we find 5 segments, where 3 segments have no preference for ecolabeled salmon at all. The study shows that there is approximately a combined 50% chance of a consumer belonging to one of the segments that have a preference for eco-labeled salmon.

**Keywords:** Eco-labeling, Salmon, Demand Preferences, Random Coefficient approach, Consumer, Sustainability, Marine Stewardship Council, Ecolabel, Seafood





**2016**

**Fisheries certification and Eco-labeling: Benefits, Challenges and Solutions: Special Issue**

Andre Punt, Nicolas Gutierrez, Simon Bush, Omar Defeo, Doug Butterworth, Jeremy Collie, Editors

**Fisheries Research, Volume 182, October 2016, 1-176p.**

**ISSN: 0165-7836**

The papers in this Special Issue address the wider conditions for the successful implementation and the overall impact of certification. Across 17 papers, authors explore in broad terms whether and how the limitations of certification can be overcome, and in doing so contribute to an evaluation of the future of certification. The papers cover fisheries in all continents (except Antarctica), from both developing and developed countries, and include both small-scale and industrial sectors. All but three papers are focused on the MSC certification program or MSC certified fisheries, with one on the FairTrade USA fishery standard, one on a Belgium National fishery standard (VALDUVIS) and one comparing several standards including MSC, Friend of the Sea and Seafood Watch. Six papers cover issues related to assessing attributes leading to successful certification, seven assess impacts of fisheries certification both at the fishery and broader level, and the final four cover other topics such as alternative uses and benchmarking of certification standards, and elements of their credibility and rigor. Perhaps most notably, half of the papers assess the implications of fisheries certification for developing countries, or fisheries within developing countries, despite their under-representation in major certification programs like the MSC. The following presents an overview of the papers in the Special Issue divided into the two key themes of uptake and impact, before outlining some of the main conclusions of the collection.

**Keywords:** Certification, Ecolabelling, Marketing Management, Eco-Certification, Aquaculture, Seafood, Ecolabel, Fisheries, Sustainability, Fisheries Management, Sustainable Production, Fairtrade, MSC Certification

**Assessing the potential of ecolabels to improve social acceptance within Nova Scotia's finfish aquaculture industry: A stakeholder approach**

Jenny Weitzman

Dalhousie University, Halifax, Nova Scotia

Master Thesis, November 2016, 110p.

This thesis submitted in partial fulfillment of the requirements for the degree of Master of Marine Management. While aquaculture has grown exponentially in recent years and has been promoted for its economic benefits and potential to contribute to improved food security, conflicts over public health, land use, and environmental concerns have accompanied its rapid growth. Ecolabelling is widely recognized as a market-based tool for improved sustainability in fisheries and aquaculture, but the ability of ecolabels to address diverse public concerns is not well understood. This research used a stakeholder approach to identify challenges and opportunities for ecolabelling, and discuss its potential to influence social acceptance within a controversial finfish aquaculture industry.



This study used mixed-methods (Q-methodology, surveys, and interviews) to explore the perceptions of stakeholders towards ecolabelling finfish aquaculture in Nova Scotia, Canada. Results show that aquaculture producers are highly supportive of ecolabelling, but that other stakeholders have mixed opinions on their benefits, challenges and potential uptake. An analysis of current production methods found that ecolabels could have industry-wide adoption. This study argues that ecolabelling may offer economic benefits, reduce environmental concerns, and represent a shared vision between stakeholders, but is not a panacea for social acceptance. A media analysis found several prominent concerns about aquaculture.

The connectedness of diverse environmental, socio-economic and management concerns challenges the ability of ecolabels to influence social acceptance, since ecolabels only address environmental concerns. Furthermore, the variability between schemes must be acknowledged and better understood to fully assess their potential within Nova Scotia's aquaculture industry. This study provides recommendations to aquaculture producers, governments, NGOs, and other stakeholders interested in pursuing aquaculture ecolabelling.

**Keywords:** Eco-certification, Aquaculture, Seafood, Sustainability, Environmental impacts, Ecolabeling, Ecolabel, Certification

### **Regulating Sustainability Claims on Seafood - EU Ecolabel, Unfair Commercial Practices Directive or Seafood Information Requirements?**

Hanna Schebesta

Wageningen University

6708 PB Wageningen, Netherlands

European Journal of Risk Regulation, Volume 7, Issue 4, December 2016, 784-788p.

**ISSN: 1867-299X|2190-8249**

In February 2016, the Feasibility Report on options for an EU ecolabel scheme for fishery and aquaculture products was published. The study did not make a strong case for the introduction of seafood EU Ecolabel and it is unlikely that the European Commission will pursue this policy option. Author argues that sustainability information on seafood should not be framed through the EU Ecolabel debate. The more pressing issue concerns self-declared sustainability claims on seafood products. As a possible solution, He proposes to address these by re-invigorating the labelling rules on seafood information in the Regulation on the Common Organisation of the Markets in Fishery and Aquaculture Products.





## **An EU eco-label scheme for fishery and aquaculture products**

European Commission

Brussels

Brussels, 18.5.2016, COM(2016) 263 final, 2016,10p.

This is the Report from the commission to the European parliament and the council on options for an EU eco-label scheme for fishery and aquaculture products. The present report describes the context in which eco-labels have developed in the fishery and aquaculture sector. Relevant public and private initiatives at EU and international level on environmental voluntary claims are presented. The situation of the market for eco-labelled products is described, as are the main issues raised with regard to eco-labels. Finally, the report identifies areas of possible action in relation to an eco-label scheme for FAPs and evaluates their respective feasibility.

**Keywords:** Ecolabel, Sustainable Fisheries, Eco-Label, Eco-Labeling, Fisheries, Food Industry, MSC, Seafood, EU Ecolabel, Aquaculture

## **State of Sustainability Initiatives Review: Standards and the Blue Economy**

Roma Ilnyckyj and Eve Rickert, Editors

Canada: International Institute for Sustainable Development, 2016, 209p.

**ISBN: 978-1-894784-74-0**

This review covers nine key voluntary sustainability standards operating at the global level in the capture fisheries and aquaculture sectors. Different standards may have global applicability due to their having either a global supply or consumer base. The nine initiatives covered certified 20.8 million metric tons, accounting for approximately 95 per cent of the world's certified seafood in 2013.

The State of Sustainability Initiatives (SSI) project is a multi-institutional effort to understand and report on market-based approaches to sustainable commodity production and trade. Specifically, the SSI analyzes the valuable global effort under way now for more than two decades to develop and gain widespread acceptance of voluntary sustainability initiatives and standards such as those applied to a wide variety of agricultural and forest products. The current report uses the analytical framework devised and used for a number of land-based commodities but here adapted to ocean wild fish and aquaculture. The study is a pioneering effort that assembles and comparatively analyzes an information and analytical base covering some major marine and freshwater sustainability-oriented certification initiatives. This report is a key contribution to the SSI, relevant to both small and large producers and helpful to a range of stakeholders, including those who may be thinking about but are not actively engaged with the voluntary standards, best practices and certification systems examined. Another important matter covered in some detail is the issue of Chain of Custody.

**Keywords:** Eco-labeling, Sustainability, Ecolabel, Seafood, Fisheries, Stakeholders, Aquaculture



2015

## **Aquaculture Standards to Ensure Responsibility**

Patrick White and Peter Edwards

Aquaculture Management, February 2, 2015

Independent certification programs have developed ecolabels and “seafood watch cards” to provide consumers with additional information from non-governmental organizations on whether or not the regulatory bodies are actually protecting the environment and society. There are ecolabels that examine best management practices in culturing marine organisms and also include social criteria on whether products are raised in conditions in which the workers are paid fair wages. Consideration of consumers’ increasing awareness of environmental and food safety issues has led farmers’ associations/consortia to adopt a variety of standards and labels, most of which are specifically intended to allay consumers’ concerns about negative environmental consequences.

Ecolabeling informs consumers and thereby promotes consumer products which are determined to be environmentally more friendly than other functionally and competitively similar products. Most ecolabeling guidelines follow the International Organization for Standardization (ISO) guidelines. Certification of plant and animal protein products being produced or harvested in a sustainable, ecological manner is being led by the UK Soil Association, the International Federation of Organic Agriculture Movements (IFOAM), Sweden’s KRAV, Germany’s “Naturland”, and FAO’s Codex Alimentarius Commission.

Group certification should be considered as a means to foster and facilitate the participation of small-scale producers, e.g. cooperatives, clusters or unions of producers, federations (group of clusters). Group members should agree to special commitments in relation to compliance.

**Keywords:** Certification, Environmental Governance, Label, Aquaculture, Consumer, Sustainability, Ecolabel, Sustainability, Ecolabelling

## **Incorporating carbon footprints into seafood sustainability certification and eco-labels**

Elizabeth M.P.Madin<sup>1</sup> and Peter I.Macreadie<sup>2</sup>

1. Department of Biological Sciences, Macquarie University, Sydney, NSW 2109, Australia
2. Plant Functional Biology and Climate Change Cluster, University of Technology, Sydney, PO Box 123, Sydney, NSW 2007, Australia

Marine Policy, Volume 57, July 2015, 178-181p.

**ISSN : 0308-597X**



The seafood industry has become increasingly interconnected at a global scale, with fish the most traded commodity worldwide. Travel to the farthest reaches of the oceans for capture is now common practice,



and subsequent transport to market can require hundreds to thousands of miles of travel by sea and air. Refrigeration of seafood products is generally required at all stages of the journey from ocean to dinner plate, resulting in substantial energy expenditure. Energy input for aquaculture (including mariculture) products can also be high, namely due to the large amounts of feed required to support fish growth. As a result of these factors, the seafood industry has a substantial carbon footprint. Surprisingly, however, carbon footprints of seafood products are rarely integrated into assessments of their sustainability by eco-labels, sustainability certification, or consumer seafood sustainability guides. Suggestions are provided here for how carbon footprints could be incorporated within seafood sustainability schemes.

**Keywords:** Seafood, Eco-Label, Sustainability, Certification, Carbon Footprint, Climate Change, Life Cycle Analysis (LCA), Mariculture

### **Vote with Your Wallet: Eco-Labeling and Sustainable Seafood: Impact of Consumer Choices on Eco-Labeled Seafood**

Sachiko Ouchi

UBC · Fisheries Centre (FC), , University of British Columbia - Vancouver

Ocean Reports and “Sea-views”, October 14, 2015

Eco-labeling has boomed recently to become one of the key mechanisms to incentivize fishers to fish sustainably for ecological and economic benefits. The idea is to make consumers conscious of the choices they are making when purchasing the evening’s dinner. By being informed and educated on the health of the oceans and fishing practices, consumers are able to “vote with their wallets” and able potentially to create change. To make policy changes, environmental organizations and governments need to work together to come up with an ecologically and economically sustainable action plan. However, policy makers who feel like they are under attack are less likely to engage in discussions. This has been the biggest problem in Japan since the government has been intensely scrutinized for whaling. Researchers found that with no information on ocean health or no information on the MSC label, consumers were not willing to pay the extra for sustainable seafood. Limited knowledge and education of ocean issues has to be addressed more in order to create the baseline for change.

**Keywords:** Certification, Label, Sustainability, Seafood, Consumer Choice, Ecolabelling, Marine Stewardship Council, Nongovernmental Organization, Self-Regulation, Standard





## **Organic Salmon – Considered a Fisheries or Agricultural Product among Consumers?**

Ankamah-Yeboah Isaac<sup>1</sup> and Max Nielsen, Rasmus Nielsen

1. Department of Food and Resource Economics, Faculty of Science, University of Copenhagen, Denmark

JEL Classification: C23, D12, Q11, Q22, 2015, 17p.

This paper was presented in XXII EAFE (European Association of Fisheries Economists) Conference, Salerno (Italy) – April 28-30, 2015. The year 2016 is groundbreaking for organic aquaculture producers in EU, as it represents the deadline for implementing a full organic life cycle in the aquaculture production. Such a shift induces production costs for farmers and if it should be profitable, they must receive higher prices. This study identifies the price premium on organic salmon in the Danish retail sale sector using consumer panel scanner data for households by applying the hedonic price model. A premium of 20% for organic salmon is found. Since this premium is closer to organic agriculture products than to ecolabelled capture fisheries products, it indicates that consumers consider organic salmon as an agriculture product more than fisheries product.

**Keywords:** Price Premium, Organic Seafood, Fisheries Ecolabel, Salmon, Sustainability, Labelling

## **The Effectiveness of Eco-labelling and Certification in Sustainable Aquaculture and Fisheries (EECSAF)**

Tavis Potts

University of Aberdeen, Department of Geography and Environment

St Marys Building, Elphinstone Road

Aberdeen AB24 3UF

ESRC End of Award Report, RES-061-25-0034, Swindon: ESRC, 2015, 9p.

The eco-labelling of seafood is a considerable industry sector changing the practices of the seafood industry and marine resource governance. This study explores the implementation of fisheries and aquaculture sustainability standards, the organizations behind the standards, and the application of product ecolabels in the context of environmental policy.

The research described the structure and operations of eco-labelling (CEOs) organisations. The results revealed the inner workings of CEOs and the divergent views on standards and sustainability, on organisational structures and processes, transparency, financial models, and engagement. While visions of organisations were similar i.e. achieving sustainable resource use, the means of achieving the vision were diverse. There was often tension within the organisation concerning standard development increasingly competitive relationships between the different CEOs for market share.



The study interviewed consumers and producers over their views and practices concerning certification and eco-labelling. Consumers, while indicating a general preference towards sustainable production, displayed a considerable lack of recognition of the key certification schemes, and were particularly critical of the idea of organic aquaculture. Considering that 80% of seafood is sold in high street chains, this is an area of particular concern and improvement. In terms of industry, authors focused on the outcomes of involvement in the Marine Stewardship Council program in Scottish fisheries. Positive views were received about the credibility of the process, but concerns emerged over access, cost, and the squeezing of small scale fisheries in preference to larger scale operators.

**Keywords:** Eco-certification, Aquaculture, Seafood, LCA, Sustainability, MSC, Environmental impacts, Ecolabeling, Ecolabel, Certification, Marine Stewardship Council





**2013**

### **Seafood Ecolabelling**

T. K. Srinivasa Gopal and M R Boopendranath  
Central Institute of Fisheries Technology  
P.O. Matsyapuri, Cochin - 682 029, India

Fishery Technology, Volume 50, January 2013, 1-10p.

**ISSN: 00153001**

Ecolabelling, traceability and related certification schemes are becoming significant features of international fish trade and marketing. Ecolabels are “seals of approval” given to products that are deemed to have fewer negative impacts on the environment than functionally or competitively similar products. There are about 400 ecolabels concerning different products in operation in the world, of which nearly 50 are related to fisheries and aquaculture. Marine Stewardship Council (MSC), Friend of the Sea (FOS), KRAV and Naturland are some of the well-known third party certification and ecolabelling schemes in fisheries. The effectiveness and potential trade implications of ecolabelling programmes have been widely discussed. The adoption of ecolabelling schemes provide additional tools to move towards sustainability of capture fisheries and aquaculture and brings together elements of the market, industry, environmental interests and communities. Different ecolabelling schemes for seafood products and the benefits, issues and challenges in their adoption are briefly reviewed in this paper.

**Keywords:** Ecolabelling, Traceability, Seafood, Fishery Resource Conservation, Ecolabel, Sustainability

### **Eco-certification of Farmed Seafood: Will it make a Difference?**

Malin Jonell<sup>1, 5</sup>, Michael Phillips<sup>2</sup>, Patrik Rönnbäck<sup>3</sup>, and Max Troell<sup>4</sup>

1. Gotland University, Cramérgatan 3, 621 67 Visby, Sweden
2. The WorldFish Center, Jalan Batu Maung, Batu Maung, Bayan Lepas, 11960 Penang, Malaysia
3. The Beijer Institute, Swedish Royal Academy of Sciences, Stockholm, Sweden
4. Stockholm Resilience Centre, Stockholm University, Stockholm, Sweden
5. Uppsala University, Cramérgatan 3, 621 67 Visby, Sweden

Ambio. 2013 October, 42(6): 659–674.

**ISSN: 1654-7209 | 0044-7447**

Eco-certification is widely considered a tool for reducing environmental impacts of aquaculture, but what are the likely environmental outcomes for the world’s fastest growing animal-food production sector? This article analyzes a number of eco-certification schemes based on species choice, anticipated share of the global seafood market, size of eligible producers, and targeted environmental impacts. The potential of eco-certification to reduce the negative environmental impacts of aquaculture at scale presently appears



uncertain as: (a) certification schemes currently focus on species predominantly consumed in the EU and US, with limited coverage of Asian markets; (b) the share of certified products in the market as currently projected is too low; (c) there is an inequitable and non-uniform applicability of certification across the sector; (d) mechanisms or incentives for improvement among the worst performers are lacking; and (e) there is incomplete coverage of environmental impacts, with biophysical sustainability and ecosystem perspectives generally lacking.

**Keywords:** Eco-certification, Aquaculture, Seafood, LCA, Sustainability, Environmental impacts, Ecolabeling, Ecolabel, Certification

### **Special Study on Sustainable Fisheries Management and International Trade in the Southeast Asia and Pacific Region**

Masayuki Komatsu

National Graduate Institute for Policy Studies

7 Chome-22-1 Roppongi, Minato City,

Tokyo 106-0032, Japan

Tokyo: Asian Development Bank Institute. ADBI Working Paper 438, 2013, 25p.

This paper analyzes the current status of fisheries and aquaculture in Southeast Asia and international trade. Analysis concludes that a policy of sustainable management for both capture fisheries and aquaculture is of greatest importance, but such a policy has been neither planned nor implemented with a holistic and long-term perspective. Current policy reflects a short-term view and the immediate needs of each nation. Therefore, capacity building of human resources and organizations, including governments, is needed for the formulation of holistic national policies to seek long-term and fundamental remedies for the sustainable management of fisheries resources and intensified and extensive aquaculture. Such holistic national policies should include science-based management, monitoring, enforcement, coordination of capture fisheries and aquaculture, and international trade policies. It may include the effects of climate change and oil price increases, as well as international market trends and regulations or barriers. Moreover, international trade will be promoted based on the sustainability of capture fisheries and aquaculture. ADB members and governments are urged to provide official development assistance for policy implementation, in particular to the private sectors that may not otherwise receive any, and to small and community-related businesses. Recommendations focus on building capacity for the long run, among others, for which facilitation should be provided.

**Keywords:** Fisheries, Seafood, Aquaculture, Sustainability, Fisheries Management, Trade





## **Some issues of consumer preferences for eco-labeled fish to promote sustainable marine capture fisheries in peninsular Malaysia**

Lucie Reczkova, Jamalludin Sulaiman and Zakaria Baharia  
School of Social Sciences, Universiti Sains  
Malaysia, P. Pinang 11800, Malaysia

Procedia - Social and Behavioral Sciences, Volume 91, 2013, 497- 504p.

**ISSN: 1877-0428**

The fisheries sector in Malaysia is one of the main contributors to the Gross Domestic Product (GDP) and fish products are a main source of food and protein for the Malaysian population. While domestic and international demand for fish and fish products are growing, marine capture fisheries are on the decline. This situation requires an urgent solution. This paper aims to discuss the possibility of eco-labeling as a tool to promote sustainable fisheries in Malaysia. Some serious concerns are price premiums, impacts of certification on prices of fish and consumers willingness to pay the price premium in order to obtain an eco-labeled fish. Other issues include high cost of certification, possible barrier for trade and non-suitability for multi-species fisheries. Eco-labeling in marine fisheries is quite of recent interest. Some studies have used willingness to pay (WTP) for eco-labeled marine capture fish to identify the factors influencing individuals to accept eco-labeled marine capture fish. The paper aims to answer the following questions: (1) what are the benefits of eco-labeling? (2) What is the status of the fishery sector in the country? (3) How will eco-labeling contribute to sustainability in fisheries in Malaysia?

**Keywords:** Eco-Labeling, Consumer Preferences, Fish, Sustainability, Choice Experiment, Eco-certification, Aquaculture, Seafood, LCA, Sustainability, Environmental impacts, Ecolabel, Certification



2012

### **The Sustainable Marine Aquaculture**

Bahram Shakouri and Soheila khoshnevis Yazdi  
Department of Economics, Islamic Azad University,  
South Tehran Branch,  
Tehran, Iran

Advances in Environmental Biology, Volume 6, Number 1, 2012, 18-23p.

**ISSN: 1995-0756**

Aquaculture is the keeping, breeding, hatching or culturing of fish. Fish used for aquaculture include non-pearl oysters, mussels, yabbies, marron, crayfish, abalone, prawns, freshwater and marine finfish, trochus and algae for beta carotene (i.e. any marine organism other than reptiles, birds and mammals). Aquaculture has an important role in the development of many national economies and plays a key role in world development. As the expansion of aquaculture product, there is a growing concern over the impacts of aquaculture on the environmental sustainability and also over the requirements on quality and food safety by consumers and regulators. Global wild fisheries are in decline, with valuable habitat such as estuaries in critical condition. The aquaculture or farming of piscivorous fish, like salmon, does not help the problem because they need to eat products from other fish, such as fish meal and fish oil. Apart from fish and shrimp, some aquaculture undertakings, such as seaweed and filter feeding bivalve mollusks like oysters, clams, mussels and scallops, are relatively benign and even environmentally restorative. Filter-feeders filter pollutants as well as nutrients from the water, improving water quality. Some profitable aquaculture cooperatives promote sustainable practices. New methods lessen the risk of biological and chemical pollution through minimizing fish stress, fallowing netpens, and applying Integrated Pest Management. Vaccines are being used more and more to reduce antibiotic use for disease control. Onshore re-circulating aquaculture systems, facilities using poly-culture techniques, and properly sited facilities (e.g. offshore areas with strong currents) are examples of ways to manage negative environmental effects. It is a need to improve aquaculture technology and management system to address the need for eco-friendly production process and food safety concerns in the sustainability of national aquaculture.

Fisheries Management should be done for job opportunity, and for fisher, farmer and related community welfare, and also for fisheries resources and environmental sustainability. In addition, it is mentioned also that the product from both capture and aquaculture fisheries should meet quality standard and product safety.

**Key words:** Environment, Aquaculture, Development, Sustainable, Seafood, Sustainability



## **Seafood Ecolabels: For Whom and to What Purpose?**

Kaitlan Lay

Masters of Resource and Environmental Management program

Dalhousie University

6299 South St, Halifax,

NS B3H 4R2,

Canada

Dalhousie Journal of Interdisciplinary Management, Volume 8, Number 2, Fall 2012, 22p.

**ISSN: 1923-6530**

Ecolabelling is regarded as an important tool used as a means of promoting sustainable fisheries around the world, as they provide consumers with the opportunity to exercise a choice between different seafood products and producers, and encourage the purchase of ecologically sustainable products. Consumers are generally considered to be the main drivers behind ecolabels, as they are the end buyers of the products; however, there is very little existing peer reviewed research supporting this idea. This paper seeks to address the question of who is responsible for the market drive of seafood ecolabels. Through the examination of issues surrounding seafood ecolabels, this paper argues that the initiation and proliferation of ecolabels was a result of the interaction between non-government organizations, producers, purchasers and retailers, as the labels act as a useful insurance policy and marketing tool.

**Keywords:** Ecolabels, Fisheries, Sustainability, Ecolabelling, Seafood

## **Ecolabelling and Certification in Capture Fisheries and Aquaculture**

Dr C. Devakumar and Dr P.K. Chhonkar, Editors

National Academy of Agricultural Sciences

NASC, Dev Prakash Shastri Marg,

New Delhi - 110 012

Policy Paper No. 53, National Academy of Agricultural Sciences, New Delhi, 2012, 38 p.

Seafood which includes fish and shellfish harvested from capture fisheries and aquaculture production in marine and freshwater environments is a significant source of protein for nearly 3 billion people and is the planet's most highly traded food commodity. Recent studies have indicated significant decline in the viability of fish stocks throughout the world and concerns have emerged regarding possible negative impacts of aquaculture on the environment, communities and consumers.

The application of certification and ecolabelling is viewed as a trade-sensitive device for reducing market negativity and building up confidence and enhancing consumer and societal gains and trust in the process



of capture fisheries and aquaculture production and marketing. There are close to 400 ecolabels concerning different products in operation in the world, of which nearly 50 are related to fisheries and aquaculture. An overview of the fish stock certification and ecolabelling and recommendations which emanated during the NAAS Brainstorming Session and subsequent reviews by experts are presented in this Policy Paper.

**Keywords:** Sustainable Aquaculture, Sustainable Harvesting, Environmental Impact, Sustainability, Labelling, Certification, Ecolabelling, Ecolabel

### **World Trade Agreement and Indian Fisheries Paradigms: A Policy Outlook**

Shyam, S Salim and R. Narayanakumar

Central Marine Fisheries Research Institute,

Post Box No. i603, Ernakulam North P.O., Kochi, Kerala, India

Kochi: Central Marine Fisheries Research Institute, 2012, 496p.

International trade is duly called as the “engine of growth” and is inextricably linked with economic development. Nevertheless, trade is also vulnerable to economic slowdown as in the current global environment. Many of the developing countries are getting exposed to declining demand for exports and increased protectionism. Even in times of strong economic growth, trade and its benefits had not been evenly distributed across the developing world and the growth had been asymmetric. The World Trade Organization (WTO) which officially commenced on January 1st, 1995 under the Marrakesh Agreement, replacing the General Agreement on Tariffs and Trade (GATT), intends to supervise and liberalize international trade through negotiations aiming at expansion of rules-based trade and thereby gearing trade policies to support development. When the developing countries were liberalizing their economies, they felt the need for better export opportunities. The establishment of WTO is an important landmark in the history of international trade as it provides opportunities for countries to grow and realize their export potentials, with appropriate domestic policies in place.

**Keywords:** World Trade Agreement, Indian Fisheries, Sustainability, Aquaculture, Ecolabel, Label, Seafood, Fisheries, Product Certification, Ecolabelling, Consumer, WTO, GATT





## **Ecolabelling in Fisheries: Boon or Bane in improving trade?**

K. Sunil Mohamed

Principal Scientist & Head, Molluscan Fisheries Division

Central Marine Fisheries Research Institute [CMFRI]

PO Box 1603, Kochi 682018, Kerala

Kochi: Central Marine Fisheries Research Institute, 2012, 357-363p.

This document is a collation of information, mainly from FAO documents on fisheries ecolabelling (FAO, 2001; Sainsbury, 2010; Washington and Ababouch, 2011). Fish is one of the most highly traded commodities in the world, and as a natural resource, there is worldwide concern about long-term sustainability of the resources. Ecolabels are a new and growing feature of international fish trade and marketing. They have emerged in the context of increased demand for fish and seafood, and a perception that many governments are failing to manage the sustainability of marine resources adequately. Many mechanisms to ensure the sustainability of fish stocks have been introduced by international bodies which are binding on national governments.

This chapter is a part of Manual on World Trade Agreements and Indian Fisheries Paradigms: A Policy Outlook authored by Shyam S. Salim and R.Narayanakumar, (2012).

**Keywords:** World Trade Agreement, Indian Fisheries, Sustainability, Aquaculture, Ecolabel, Label, Seafood, Fisheries, Product Certification, Ecolabelling, Consumer, WTO, GATT





2011

**Environmental improvement of seafood through certification and ecolabelling: Theory and analysis**

Michael F Tlusty

New England Aquarium,

Boston, MA 02110, United States

Fish and Fisheries, Volume 13, Issue 1, February 2011, 1 – 13p.

**ISSN: 1467-2979 | 1467-2960**

The study of environmental impacts of seafood production as a result of ecolabelling and certification is a young yet rapidly growing discipline that lacks theoretical models. Pieces of the model have been suggested in the literature, and these pieces are formalized here realizing the current operating parameters of the global seafood industry. The derived pull-threshold model assumes that if producers exceed the threshold, there is no incentive to improve while if too far below, improvement is most likely beyond technical or financial means. Thus, a single certification is only a marginal solution to the larger picture. Those producers immediately below the certification threshold are within range or 'pull' of the threshold to improve as a result of certification. Results from a single threshold model applied to compliance data indicated that a maximum improvement of 12.5%, achieved when the pull was the greatest and the threshold was at the lower end of the impact distribution. When impacts were continuous (e.g. escapes in aquaculture), greater improvement was observed with thresholds targeting the producers at the higher end of the impact distribution. In all cases, improvement was maximized with a triple threshold model, indicating that single threshold scenario will not drive the greatest movement towards environmental improvement throughout the industry. Innovation is potentially more important in reducing environmental impacts of seafood production and needs to be accounted for as the seafood certification or ecolabelling continues to mature.

**Keywords:** Eco-Labeling, Fish, Sustainability, Choice Experiment, Eco-certification, Aquaculture, Seafood, Sustainability, Ecolabel, Certification, Aquaculture, Environmental Impacts, Fisheries

**The Elusive Price Premium for Ecolabelled Products: Evidence from Seafood in the UK Market**

Cathy A. Roheim<sup>1</sup>, Frank Asche<sup>2</sup> and Julie Insignares Santos<sup>1</sup>

1. Department of Environmental and Natural Resource Economics , University of Rhode Island, 1 Greenhouse Road, Kingston, RI 02881, USA
2. Department of Industrial Economics, Risk Management and Planning, University of Stavanger, N-4036 Stavanger, Norway

Journal of Agricultural Economics, Volume 62, Issue 3, September 2011, 655-668 p.

**ISSN: 1477-9552**



Ecolabelling is an increasingly important tool used in the promotion of sustainable forestry and fishery products around the world. Whether the consumer is actually paying a price premium for ecolabelled products is of fundamental importance as it indicates a return on the investment of sustainable practices, providing an incentive for producers to undertake such practices. This article seeks to address the question of whether or not an actual premium is being paid by consumers for ecolabelled seafood by conducting a hedonic analysis of Marine Stewardship Council (MSC)-certified frozen processed Alaska pollock products in the London metropolitan area in the UK market using scanner data. Regression results show a statistically significant premium of 14.2%. This implies the presence of market differentiation for sustainable seafood and the potential of the MSC's fisheries certification programme to generate market incentives for sustainable fisheries practices.

**Keywords:** Aquaculture, Law, Seafood, Environment, Ecolabelling, Sustainability, Fisheries, Marine Stewardship Council

### **How Green is Your Eco-Label? : Comparing the Environmental Benefits of Marine Aquaculture Standards**

Volpe, J.P., J. Gee, M. Beck, V. Ethier,  
University of Victoria, Victoria, British Columbia, Canada

Pew Environment Group, 2011, 7p.

Product standards and eco-labels have proliferated in the seafood market as a kind of shorthand — a seal of approval — buyers can rely on to make environmentally sustainable decisions. But what do these standards and eco-labels actually mean? Is fish produced according to a particular standard better than conventionally produced fish? And how do these different standards stack up?

The study evaluates voluntary standards that aim to reduce or eliminate the environmental impacts of marine finfish farming. It is limited to those standards for which there are publicly available criteria (including draft standards) and assesses performance as it relates to environmental impacts only. The standards fall into three basic categories: organic standards, retailer standards, and industry and other third-party standards.

This study assesses the performance of each standard as written, translating each standard into the GAPI scoring system. It does not assess the performance of a specific certified farm, but simply asks how poorly a farm could perform and still meet the written standards relevant to each impact category.

**Keywords:** Sustainable Aquaculture, Sustainable Harvesting, Environmental Impact, Sustainability, Labelling, Certification, Global Aquaculture Performance Index, GAPI, Ecolabelling, Ecolabel





## **Sustainable “Seafood” Ecolabeling and Awareness Initiatives in the Context of Inland Fisheries: Increasing Food Security and Protecting Ecosystems**

Steven J. Cooke<sup>1</sup>, Karen J. Murchie<sup>1</sup> and Andy J. Danylchuk<sup>2</sup>

1. Fish Ecology and Conservation Physiology Laboratory, Department of Biology, Institute of Environmental Science, Carleton University, Ottawa, Canada
2. Department of Environmental Conservation at the University of Massachusetts, Amherst

BioScience, Volume 61, Issue 11, November 2011, 911–918p.

**ISSN: 1525-3244 | 0006-3568**

The sustainable seafood movement has adopted a variety of certification and ecolabeling systems, as well as seafood-awareness campaigns, to influence industry and help consumers make informed decisions regarding their seafood consumption. However, a review of these programs revealed that the majority are focused on marine and coastal fisheries. Globally, freshwaters and their fish assemblages represent some of the most threatened systems and taxa because of multiple anthropogenic stressors. There is an urgent need to harness the momentum of the sustainable seafood movement for marine systems to benefit all aquatic systems, including freshwater. Moreover, given that freshwater systems are at particular risk in developing countries in which small-scale fisheries dominate, it is essential to expand awareness campaigns, through grassroots initiatives that differ significantly from current awareness campaigns that are global in focus, involve industrialized large-scale fisheries, and assume significant exports of seafood. Addressing the limitations of marine campaigns is a logical first step before launching new programs aimed at inland fisheries. In the long term, failure of the sustainable seafood movement to incorporate freshwater fisheries will lead to public perception that these fisheries are not in peril and may allow unsustainable practices to continue.

**Keywords:** Eco-Labeling, Fish, Sustainability, Eco-certification, Aquaculture, Seafood, Sustainability, Ecolabel, Certification, Aquaculture, Environmental Impacts, Fisheries

## **Marine Aquaculture: Impacts and International Regulation**

Jana Roderburg

GSK Stockmann, Munich, Germany

Australian and New Zealand Maritime Law Journal, Volume 25, Number 1, 2011, 161-179p.

**ISSN: 1834-0881**

This paper explores the positive and negative impacts of marine aquaculture, focusing on the ecological effects. Subsequently, it will give a review of the key elements of the current international regulatory framework dealing with marine aquaculture. The paper concludes that, since the effects of marine



aquaculture are transboundary, it is a truly a global subject that requires discussion on a supranational level. The consensus is that aquaculture is an activity with a remarkable potential for human benefit. However, a healthy environment is essential to the wellbeing of the human population. With 71 percent of the earth covered by oceans, it is obvious that preserving the seas is vital to achieve that goal. Therefore, instruments have to be found to facilitate aquaculture development in a way that respects the competing concerns. There are no perfect solutions to the tensions surrounding aquaculture. Since aquaculture operations occur in diverse modes, that creates particular difficulties when drafting regulations or guidelines which meet the requirements of all the stakeholders. A regime is required that allows the industry to prosper but, at the same time, safeguards the wild stocks so as to maintain the social and economic benefits. The aim is finding a balance between aquaculture development and environmental protection. Adequate legal and policy frameworks on an international level are an effective ingredient to act as a compass in aquaculture development. Certainly, that is not an easy task, but if it is done well, it could help to safeguard marine resources for future generations.

**Keywords:** Aquaculture, Law, Mariculture, Environment, Ecolabelling, Sustainability, Fisheries

### **Private standards and certification in fisheries and aquaculture: Current practice and emerging issues**

Sally Washington<sup>1</sup> and Lahsen Ababouch<sup>2</sup>

1. FAO Consultant Christchurch, New Zealand
2. Chief Products, Trade and Marketing Service FAO Fisheries and Aquaculture Department Rome, Italy

FAO Fisheries and Aquaculture Technical Paper No. 553, 2011, 203p.

**ISBN: 978-92-5-106730-7**

Private standards and related certification schemes are becoming significant features of international fish trade and marketing. They have emerged in areas where there is a perception that public regulatory frameworks are not achieving the desired outcomes, such as sustainability and responsible fisheries management. Their use is also becoming more common in efforts to ensure food safety, quality and environmental sustainability in the growing aquaculture industry.

Private standards are now a key mechanism for large-scale retailers and commercial brand owners wishing to translate requirements – both product and process specifications – to other parts of the supply chain. This is especially important as supply chains become more vertically integrated. Indeed, from the perspective of the firm, private standards and the certification sitting behind them can serve as mechanisms for safety and quality assurance. They can also facilitate traceability, standardization of products from a range of international suppliers, and transparency of production processes.

Attachment to an environmental standard or ecolabel provides retailers and brand owners with insurance against boycotts from environmental groups and negative media coverage. Moreover, it also helps them tap





into and grow consumer demand for ethical products. Consequently, the fisheries procurement policies of most large retailers typically include a significant sustainability component, often with targets for wild-caught fish to be certified to an ecolabel, and for farmed fish and seafood to be certified to an aquaculture certification scheme. Suppliers working at the post-harvest level are increasingly required to be certified to a private food safety management scheme. Therefore, the onus is increasingly on suppliers to verify that their products meet certain standards. Certification provides this “burden of proof”.

Although the impact of private standards is not uniform across markets, species or product types, it is likely to increase, including in developing countries, as supermarket chains consolidate their role as the primary distributors of fish and seafood products, and as their procurement policies move away from open markets towards contractual supply relationships. As the leading retail transnationals extend their global reach, their buying strategies are likely to progressively influence retail markets in East Asia, Africa, Eastern Europe and Latin America. Key issues related to the overall impact of private standards in fisheries and aquaculture and how they affect various stakeholders require resolution.

The compliance costs associated with certification to a private standard represent another contentious issue. These costs are borne disproportionately by those upstream in the supply chain rather than those downstream where the demands for certification generate. However, arguably more problematic is the distribution of those costs: Is some redistribution of costs possible, and using what levers?

Furthermore, the multiplicity of drivers for the traceability aspects of private standards schemes, which retailers and brand owners find most compelling, requires integration to meet the multiple requirements relating to food safety, catch certification, illegal, unreported and unregulated (IUU) fishing and the chain-of-custody aspects of private voluntary certification schemes, as well as public regulatory requirements.

Most importantly, the proliferation of private standards causes confusion for many stakeholders: fishers and fish farmers trying to decide which certification scheme will maximize market returns; buyers trying to decide which standards have most credence in the market and will offer returns to reputation and risk management; and vi governments trying to decide where private standards fit into their food safety and resource management strategies.

This technical paper analyses the two main types of private standards affecting fish trade, namely ecolabels and food safety and quality standards, and their importance for a range of stakeholders. It addresses issues that are driving their development and examines inter alia their policy and governance implications, their impact on costs, their role in traceability, the assessment of their credence, and the challenges and opportunities for developing countries

**Keywords:** Eco-labeling, Fishery management, Fisheries - Economic aspects, Sustainability, Consumer, Ecolabel, International Trade, Aquaculture, FAO, International Standards, Private Standards



2010

## Review of Fish Sustainability Information Schemes: Final Report

G. Parkes, S. Walmsley, T. Cambridge, R. Trumble, S. Clarke, D. Lamberts, D. Souter and C. White  
Fish Sustainability Information Group  
MRAG Ltd. (London Headquarters), 18 Queen Street  
London W1J 5PN  
UK

January 2010, 194p.

This review, commissioned by the Fish Sustainability Information Group (FSIG), an international consortium representing a variety of national organisations concerned with seafood trade, is an objective assessment of a selection of certification schemes and recommendation lists for both capture fisheries and aquaculture. The intention is to provide readers with a clear picture of what makes a “good” fish sustainability information scheme. In this respect it should be a useful resource for a range of interested parties, including: consumers, who are making purchasing choices; retailers, who are offering those choices; suppliers and wholesalers who decide which fish they are going to trade; producers and fishers who decide which fisheries they will take part in or which labelling scheme to be assessed by; and of course the creators and owners of the schemes themselves. While certification schemes and recommendation lists function quite differently, they share the common purpose of trying to influence consumers and industry towards purchasing seafood products that come from sustainable sources. The overarching goal is to modify market demand in a way that will support sustainability and ultimately benefit the environment.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability, Fish Sustainability Information Group

### Aquaculture system diversity and sustainable development: fish farms and their representation

Jérôme Lazard<sup>1</sup>, Aurèle Baruthio<sup>1</sup>, Syndhia Mathé<sup>2</sup>, Hélène Rey-Valette<sup>2</sup>, Eduardo Chia<sup>3</sup>, Olivier Clément<sup>4</sup>, Joël Aubin<sup>4</sup>, Pierre Morissens<sup>5</sup>, Olivier Mikolasek<sup>5</sup>, Marc Legendre<sup>6</sup>, Patrice Levang<sup>6</sup>, Jean-Paul Blancheton<sup>7</sup> and François René<sup>7</sup>

1. CIRAD, UR Aquaculture et gestion des ressources aquatiques, TA B-20/01, avenue Agropolis, 34398 Montpellier Cedex 5, France
2. Université de Montpellier 1, Faculté de Sciences économiques, CS 79606, 34960 Montpellier Cedex 2, France
3. INRA/CIRAD, UMR Innovation, 2 place Viala, 34000 Montpellier, France
4. INRA, UMR Nuage, Pôle d’hydrobiologie, Quartier Ibarron, 34310 Saint Pée sur Nivelle, France
5. CIRAD, UR Aquaculture et gestion des ressources aquatiques, TA B-20/01, avenue Agropolis, 34398 Montpellier Cedex 5, France
6. IRD, UR 175, Gamet, BP 5095, 34196 Montpellier Cedex 5, France
7. IFREMER, chemin de Maguelone, 34250 Palavas-les-Flots, France



Aquatic Living Resources, Volume 23, Issue 2, April 2010, 187- 198p.

**ISSN: 0990-7440 | 1765-295**

Initiatives for the sustainable development of aquaculture have so far focused on the production of codes of conduct, of best management practices, of standards etc., most of which have been developed by international organisations, the industrial sector and non- governmental organisations. They were, to a large extent, produced using a “top down” process and inspired by models from intensive industrial shrimp and sea fish farming (mainly salmon). However, most of global aquaculture production comes from small- and medium-sized farms, essentially in Asia which contributes 92% of the total world aquaculture production volume. The objective of this article is to define the contours of systemic typologies that are able to express the sustainability conditions of aquaculture systems. The proposed approach builds on surveys of aquaculture systems which differ in terms of their bio-geographical nature (temperate/tropical and north/south countries) or their farming techniques and their governance systems. This work is a prerequisite to any attempt at an individualised and comparative evaluation of specific aquaculture systems from either global or territorial viewpoints. In order to go beyond the cleavage of a typology based on the differentiation between developed and developing countries, three typologies were produced. These typologies allow for discriminatory variables to be identified such as for example the marketing methods or the pace of innovation: a structural typology, a functional typology and a systemic typology. Finally, the representations of aquaculture activity and of its sustainability that producers have of the four different types that emerge from the systemic typology were recorded and analyzed.

**Keywords:** Sustainable Development, Sustainable Aquaculture, Typology, Social Representations, Seafood, Aquaculture, Sustainability

### **Eco-labelling in Fisheries along West African Coast: the Potentials and Pitfalls.**

Marie-Christine Cormier-Salem<sup>1</sup> and Alassane Samba<sup>2</sup>

1. IRD, UMR208 PALOC, IRDIMNHN, Dakar, Senegal
2. ISRA, Dakar, Senegal

IIFET 2010 Montpellier Proceedings, 2010, 13p.

Eco-labelling is considered with increased interest within the scope of fisheries crisis, as a way to tackle both marine biodiversity conservation and development issues. Along West African Coast, diversity and specificity of seafood issued from localised fishery systems (or fishery territories) are remarkable and recognised from long time. Recently, initiatives to draw more value from fish and fishery while maintaining them for the future are more and more developing. Nevertheless, those innovative dynamics are generally initiated and implemented by foreign operators, targeting specific categories of customers and are unequally re-appropriated by the fishermen communities. They still occupy a minor place in local and national economies. Moreover, these devices are binding and thus exclusive. So, they could have



unexpected and contradictory effects on biological and cultural diversity. An Interdisciplinary (anthropology, geography, economic, sociology, ethnobiology, ecology and law studies) and comparative approach, conducted in different environmental, political and socio-economical contexts, leads to assess the constraints and opportunities attached to ecolabelling in fisheries (Biodivalloc programme, ANR05 BDIV02). Also, the aim of this contribution is to examine the connection and consistency between the devices and norms that shape those instruments and the local practices and actors strategies all along the fish network. It seeks to determine the conditions of using these tools in ways that ensure the eco-viability of coastal (biological and social) systems.

This question is addressed through diverse study cases, the Mugil fishery of Mauritania, the Octopus fishery of Senegal, the mollusks exploitation (Area, Crassostrea, Cymbium, Pugilina, etc.) of the Saloum Delta, Senegal.

**Keywords:** Certification, Environmental Governance, Label, Fisheries, Consumer, Sustainability, Seafood, West Africa

### **De-Coding Seafood Eco-Labels: Why We Need Public Standards**

Food & Water Watch  
1616 P St. NW, Suite 300  
Washington, DC 20036  
2010, 18p.

Choosing the best fish to eat can be complicated. People browsing seafood counters or restaurant menus may wonder whether certain fish are both safe and sustainable. In many cases, the more a person knows, the more questions arise: Is this wild or farmed? Local or imported? Produced in an environmentally responsible way? High in mercury? Tainted with antibiotics and chemicals?

Food & Water Watch examined various seafood certification programs and unfortunately, these labels do not always represent what consumers expect. Research reveals a variety of flaws and inadequacies associated with the eco-labels analyzed and suggest that private labels may not be the most appropriate means to convey neutral, credible information about seafood. While the intent to raise awareness about sustainability among seafood suppliers and fish farms is admirable, it is questionable whether these labels are actually increasing sustainability in the marketplace.

This report proposes that in order to provide consumers with much-needed, unbiased and well-regulated information, the federal government should introduce and oversee standards for eco-labeled seafood. Until that time, consumers can use our guidelines and recommendations on safer seafood choices, as well as tips on other seafood-related concerns at the end of this report.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability





## **Diverse Perceptions on Eco-Certification for Shrimp Aquaculture in Indonesia**

Fahma Fiqhiyyah Nur Azizah<sup>1</sup>, Hiroe Ishihara<sup>1</sup>, Aiora Zabala<sup>2</sup>, Yutaro Sakai<sup>1</sup>, Gede Suantika<sup>3</sup> and Nobuyuki Yagi<sup>1</sup>

Department of Global Agricultural Sciences, Graduate School of Agricultural and Life Sciences, The University of Tokyo, Tokyo 113-8657, Japan

3. Department of Land Economy, University of Cambridge, 19 Silver Street, Cambridge CB3 9EP, UK

4. Bandung Institute of Technology, School of Life Sciences and Technology, Ganesa 10, Bandung 40132, Indonesia

Sustainability, Volume 12, Issue 22, 2010, 9387

**ISSN: 2071-1050**

Shrimp is a major aquaculture species in Indonesia. Despite the Indonesian government's effort to reinforce sustainability practices using a national eco-certification scheme, the uptake of stakeholders has been slow so far. This study analyzed diverse perceptions of the national eco-certification of shrimp aquaculture among stakeholders across the value chain in Indonesia. Using Q-methodology, 49 statements were selected, and they covered seven themes: conceptual understanding, priorities, motivation for eco-certification, market access, impacts of eco-certification, obstacles in Indonesia, and stakeholder involvement. Thirty respondents across the supply chain of whiteleg shrimp sorted these statements according to their level of agreement. Based on their support or opposition to eco-certification, responses were categorized into five perspectives: (1) supporter for the certification by principle, (2) market-oriented supporter, (3) collaborative supporter, (4) ambivalent self-sufficient, and (5) antagonistic business-oriented. Several reasons for stakeholder's slow acceptance were identified. These include a limited understanding of sustainability concepts in eco-certification, uncertainty for the potential positive effects of eco-certification in terms of market access, the recognition of other priorities such as improving farm-infrastructures, and a lack of stakeholders' participation in communication forums. The findings of this study can facilitate the process of consensus-building on eco-certification among farmers, scientists, the government, non-governmental organizations, and other stakeholders to support a viable pathway for policy development to achieve sustainable shrimp aquaculture. Ultimately, this study provides new insights on how a country in the Global South perceives eco-certification differently from the Global North.

**Keywords:** Stakeholders, Perception, Eco-Certification, Whiteleg Shrimp, Aquaculture, Indonesia, Seafood, Certification, Ecolabel, Ecolabelling





## **Ecolabeling and Green Certification for Effective Fisheries Management – An Analysis**

A. Ramachandran

Kerala University of Fisheries and Ocean Studies,  
Cochin, India

World Academy of Science, Engineering and Technology 41, 2010, 763-775p.

Nowadays there is a growing environmental concern and the business communities have slowly started recognising environmental protection and sustainable utilization of natural resources into their marketing strategies. This paper discusses the various Ecolabeling and Certification Systems developed world over to regulate and introduce Fair Trade in Ornamental Fish Industry. Ecolabeling and green certification are considered as part of these strategies implemented partly out of compulsion from the National and International Regulatory Bodies and Environmental Movements. All the major markets of ornamental fishes like European Union, USA and Japan have started putting restrictions on the trade to impose ecolabeling as a non tariff barrier like the one imposed on seafood and aqua cultured products. A review was done on the available Ecolabeling and Green Certification Schemes available at local, national and international levels for fisheries including aquaculture and ornamental fish trade and to examine the success and constraints faced by these schemes during its implementation. The primary downside of certification is the multiplicity of ecolabels and cost incurred by applicants for certification, costs which may in turn be passed on to consumers. The studies reveal serious inadequacies in a number of ecolabels and cast doubt on their overall contribution to effective fisheries management and sustainability. The paper also discusses the initiative taken in India to develop guidelines for Green Certification of Fresh water ornamental fishes.

**Keywords:** Ecolabeling, Fisheries, Fair Trade, Green Certification, Sustainable Ornamental Fish Trade, Sustainable Aquaculture, Sustainable Harvesting, Environmental Impact, Sustainability, Labelling, Certification, Ecolabel





2009

## The Economics of Market Information Related To Certification and Standards in Fisheries

Julie A. Caswell<sup>1</sup> and Sven M. Anders<sup>2</sup>

1. Department of Resource Economics, University of Massachusetts Amherst, USA
2. Department of Rural Economy, University of Alberta, Canada

The Hague: Organisation for Economic Co-Operation and Development, 2009, 39p.

More sustainable fisheries can be promoted by well-designed environmental standards based on significant industry participation, credible labelling backed by independent third-party auditing of compliance, strong retail market take-up, and consumer demand for labeled products. It bears consideration, however, from a political economy perspective, whether eco-labelling as a means of improving ecological outcomes is after all a largely inefficient tool when compared to directly targeting environmental fisheries management problems with environmental policy and fishers' incomes with better management and marketing systems. Government regulators and international bodies face considerable challenges in overseeing and guiding the development of certification and quality signaling systems for fisheries products. A major step in making good decisions is for these parties to delineate which policy goals (e.g., improved fisheries management, ecological protection, supply chain functioning, or consumer protection and information) will be pursued through private and public systems of standard setting, certification, and quality signaling. This paper has been commissioned by the OECD for presentation at the Round Table on Eco-labelling and Certification in the Fisheries Sector on 22-23 April 2009.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability

### Ecolabelling of Fisheries Products: Assessment of its Benefits

The Fish Site

thefishsite.com, 22 August 2009

The goal of ecolabelling is to harness the power of the market to achieve environmental goals, and, in the case of seafood ecolabelling, to promote sustainable fisheries. Seafood ecolabelling may not only apply to fisheries, but may also apply to aquaculture.

This article covers the view of Cathy A. Roheim, Professor, Department of Environmental and Natural Resource Economics, University of Rhode Island, on ecolabelling of fisheries. She says seafood ecolabelling may not only apply to fisheries, but may also apply to aquaculture. She puts ecolabelling in the context of the larger sustainable seafood movement. In conclusion, she says, we have to recognize that the sustainable seafood movement is here to stay. Some of the alternatives approaches to market-based mechanisms, such as boycotts and consumer choice guides, are what I would classify as "less preferred" to ecolabelling, for a host of reasons. Market benefits of ecolabelling are as yet unproven from the rigorous



statistical perspective of an economist, but the behaviour of corporate social responsibility on the part of many fisheries, processors, retailers and others in the supply chain of the international seafood industry seems to indicate that there are market benefits in a sense broader than simple price premiums. In the future, quantification of those benefits will be of interest to many: industry, environmentalists and policy-makers alike.

**Keywords:** Eco-labeling, Fishery management, Fisheries - Economic aspects, Sustainability, Consumer Movement, International Trade, Aquaculture

### **Certification and Sustainable Fisheries**

Division of Technology, Industry and Economics  
United Nations Environment Programme  
International Environment House  
15, chemin des Anémones, 1219 Châtelaine/Geneva  
Switzerland

UNEP DTIE, 2009, 116p.

The report focuses on environmental certification of capture fisheries (rather than social and/or aquaculture certification), and has a strong focus on developing countries based on the reasoning. It briefs considering the FAO and proposed EC Guidelines for Ecolabelling, as well as a number of consumer guides and alliances aimed at promoting sustainable fisheries. However, the main focus of the is on private sector certification and ecolabelling schemes, and the claims made by private sector retailers and others about environmental sustainability and sustainable sourcing of fish products. It profiles in some detail the wide range of environmental certification initiatives such as the Marine Stewardship Council (MSC), the Friend of the Sea Scheme (FoS), and others. This profiling includes the main characteristics of the schemes, and where possible their extent/coverage. It also focuses on environmental certification only, and not the very few social certification initiatives in fisheries that have been attempted, without much success. These include the Fair Fish scheme and the Fairly Traded Fish and Seafood Initiative.

This is one of a series of UNEP reports and activities aiming to contribute to a better understanding of the market-based tools, policies and instruments available and actions needed to turn around the serious decline in fisheries resources.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability, Fish Sustainability, Friend of the Sea Scheme, Marine Stewardship Council





## **Seafood Ecolabelling: Principles and Practice**

Trevor Ward and Bruce Phillips, Editors

School of Molecular and Life Sciences (MLS), Faculty of Science and Engineering

Curtin University, Kent Street, Bentley

Western Australia, 6102

Germany: Wiley, 2009, 472p.

**ISBN: 9781444301397 | 144430139X**

In recent years there have been some major developments and a greatly increased recognition of the importance of more sustainable and environmentally-friendly fishing and fish-farming methods. Various types of seafood eco-endorsements have been introduced, and these initiatives have now blossomed into an extensive range of types of product endorsement labels and systems.

This volume comprehensively reviews the current eco-endorsement systems for seafood products, described in four main sections with contributions by leading experts from around the globe:

- A full description of the background and history of ecolabels, ratings, guides and choice systems
- Seafood evaluation and certification, including issues of quality, costs and benefits
- Highly significant case studies in the use of ecolabels, including details of programs undertaken with species such as Pollock, Baja Red Spiny Lobster, and Patagonian Toothfish
- The future of sustainable seafood

Seafood Ecolabelling is an essential purchase for all those involved in fisheries and aquaculture management and product certification and ecolabelling throughout the world. Professionals including fishery scientists and managers, fish farm managers, marine biologists, environmental biologists, conservation biologists, ecologists, natural resource managers, civil society and sustainability governance practitioners, and resource and environmental economists will find this book to be extremely valuable. Professionals involved in the seafood trade, including those in production, packaging, reselling and seafood product labelling, will find a great deal of commercial interest within this book. Libraries in all universities and research establishments where biological sciences, food science and fisheries are studied and taught should have copies of this important book on their shelves.

**Keywords:** Certification, Eco-label, Aquaculture, Ecolabel, Aquatic Products, Marine Stewardship Council, Sustainability, Fisheries, Seafood, Lobster





2008

### **Sustainable Seafood Labeling: An Analysis of the Marine Stewardship Council**

Matthew C. Owens

Graduate School of International Relations and Pacific Studies,  
University Of California, San Diego

IR/PS CSR Case # 07-02, February, 2008, 40p.

Public response to the crisis of over fishing and the resulting collapse of global fish stocks has led to the development of a consumer directed approach to sustainable fisheries management. Many consumers, when educated about the source of a seafood product, will make purchases based on confidence that the seafood is safe to eat and comes from a sustainable source. The Marine Stewardship Council (MSC) promotes and responds to consumer awareness by supporting sustainable and responsible fishing practices through certifying fishermen and seafood companies. MSC certification is based on established principles and criteria for sustainable fisheries, and certified products have the right to use the MSC blue label. To demonstrate causes for consumer interest and confidence in the MSC label this report first provides a brief background on the seafood industry and the sustainable seafood movement before investigating MSC's organizational structure, certification process, and monitoring and evaluation tools. Relevant case studies will be applied in support of credibility arguments, but shortfalls of the organization and certification, such as the lack of developing world fisheries involvement, will also be addressed.

**Keywords:** Aquaculture, Ecolabel, Sustainability, Seafood, Ecolabelling, Marine Stewardship Council, MSC, Sustainable Labelling

### **Gold Standard for Sustainable Aquaculture Ecolabel Design: Technical Report**

Environmental Law Institute<sup>1</sup> and The Ocean Foundation<sup>2</sup>

1. 1730 M Street, NW, Suite 700, Washington, DC 20036
2. 1320 19th St, NW, 5th Floor, Washington, DC 20036

Washington: Environmental Law Institute, December 2008, 111p.

**ISBN 978-1-58576-147-0**

The aquaculture industry is growing and now produces approximately 40 percent of the seafood consumed around the world each year. This "Blue Revolution" has increased seafood availability, but has also caused serious environmental and social impacts, including but not limited to pollution, destruction of habitat, damage to native ecosystems, and harm to human health. Ecolabels will play an important role in reducing the impacts of aquaculture production and processing. Ecolabels — voluntary systems that certify and label products that meet standards for environmental and social performance — have already begun to be developed for aquaculture products, and additional ecolabel development is likely in the near future. Gold Standard for Sustainable Aquaculture Ecolabel Design, establishes a definitive standard for the institutional



design of sustainable aquaculture ecolabels. The Gold Standard's institutional framework is credible and practical, and compliant ecolabels will produce sustainable aquaculture practices on the ground. The report is a project of the Environmental Law Institute (ELI) and The Ocean Foundation (TOF). Funding was provided by grants from the Munson Foundation, the Keith Campbell Foundation for the Environment, and an anonymous donor. The authors of this report include Read D. Porter, Kathryn Mengerink and John Pendergrass of ELI and Mark J. Spalding of TOF. Jesse Daniel Oppenheimer and intern Anne Davis contributed research support.

**Keywords:** Freshwater & Ocean, Ocean Program, Aquaculture, Ecolabel, Label, Seafood, Fisheries

### **Challenging the Aquaculture Industry on Sustainability: Technical overview**

Michelle Allsopp, Paul Johnston and David Santillo  
Greenpeace Research Laboratories,  
University of Exeter, UK.

Greenpeace Research Laboratories Technical Note 01/2008, 59p.

This report outlines some of the negative environmental and social impacts that have resulted from aquaculture practices. These issues are discussed by way of example for certain species –, shrimp, salmon, tuna, other marine fish and tilapia. Another key issue undermining the sustainability of some aquaculture is the use of fishmeal and fish oil as feedstuffs. Utilization of alternative feedstuffs is examined. Negative environmental impacts of aquaculture can be addressed in a variety of ways in order to place aquaculture on a more sustainable footing. It briefly explores certification of aquaculture products. Ultimately, aquaculture must become sustainable. In order to achieve this, the aquaculture industry will need to adhere to rigorous standards

**Keywords:** Aquaculture, Ecolabel, Sustainability, Seafood, Ecolabelling, Fisheries, Sustainable Labelling

### **The Growing Supply of Ecolabeled Seafood: An Economic Perspective**

Nicolai V. Kuminoff, Darrell J. Bosch, Dan Kauffman, Jaren C. Pope and Kurt Stephenson  
Department of Agricultural and Applied Economics, Virginia Tech University  
Blacksburg, VA 24061, United States

Sustainable Development Law & Policy, Volume 9, Issue 1, Fall 2008, Article 10, 25-28p.

This article describes the growing market for ecolabeled seafood and provides an economic perspective on emerging legal and policy issues. Authors begin with an overview of the different ecolabeling schemes, with emphasis on the Marine Stewardship Council. They then summarize the state of knowledge on the demand





for ecolabeled seafood and discuss three issues: conflicting labeling claims, the impact of ecolabeling on the demand for fish which are harvested sustainably but not sold under an ecolabel, and the effect of ecolabeling on the health of aquatic ecosystems.

**Keywords:** Eco-certification, Aquaculture, Seafood, LCA, Sustainability, MSC, Environmental impacts, Ecolabeling, Ecolabel, Certification, Marine Stewardship Council

### **Ecolabelling and seafood certification in equitable benefit sharing of Tuna fisheries**

Peter Oosterveer  
Environmental Policy Group  
Wageningen University  
Wageningen  
The Netherlands

2008, 15p.

Tuna is a globalised fishery par excellence which means that it has to be approached as a highly connected global network, as a global flow. Managing tuna fishery in the Coral Triangle can therefore only be successful if other relevant actors and institutions along the global supply chain are also involved. Whatever intervention will be aimed this has to be coordinated globally and not only focus on the fishery itself as is often the case. Particular attention should be given to the involvement of consumers as their role is often ignored while they are the target group when certification schemes are to be effective.

**Keywords:** certification schemes, Ecolabelling, seafood, certification, fisheries





## **Ecolabels and Marine Capture Fisheries: Current Practice and Emerging Issues**

Sally Washington, Consultant

FAO Fisheries and Aquaculture Department

Food and Agriculture Organization of The United Nations, Rome

GLOBEFISH Research Programme, Volume 91, Rome, FAO, 2008, 63p.

This paper examines current experience and emerging issues related to ecolabelling and certification schemes in marine capture fisheries. It describes the history of ecolabels and the variety of certification schemes, and analyses the market penetration of ecolabelled products. It discusses the opportunities and challenges for the various stakeholders in the fish and seafood supply chain (producers, processors, retailers, governments and consumers) and examines the specific challenges faced by developing countries, as well as the implications for international trade. It raises questions about who and what is driving ecolabels, with what costs and benefits for whom, and with what implications for the future sustainability of the world's fisheries.

**Keywords:** Eco-labeling, Fishery management, Fisheries - Economic aspects, Sustainability, Consumer, Ecolabel, International Trade, Aquaculture, FAO



2007

**Sustainable Marine Aquaculture: Fulfilling the Promise; Managing the Risks. Report of the marine aquaculture task force**

Marine Aquaculture Task Force  
6930 Carroll Avenue, Suite 400  
Takoma, Park, MD 20912

January 2007, 142p.

Aquaculture is a diverse, worldwide industry. Although the United States is the world's second largest seafood importer, it produces less than one percent of worldwide aquaculture output. For this study, Task Force chose to focus on aquaculture in marine waters of the United States because it is the industry sector most likely to expand significantly in this country and because of the potential effects of that expansion on the health and vitality of marine ecosystems, which are already threatened by a variety of human activities. The Task Force offers its analysis of the environmental risks presented by marine aquaculture and its recommendations for addressing those risks. The function of the Task Force is neither to promote aquaculture nor to hamper its development. Rather, our goal is to provide a blueprint for environmentally responsible, sustainable development of the industry so that it can continue to grow, in this country and worldwide, without harming the already-fragile health of marine ecosystems.

**Keywords:** Sustainable Aquaculture, Sustainable Harvesting, Environmental Impact, Sustainability, Labelling, Certification, Ecolabelling, Ecolabel

**Seafood Safety, Quality and Trade**

David James, Lahsen Ababouch and Sally Washington (Editors)  
Food and Agriculture Organization of The United Nations, Rome

FAO Fisheries Proceedings, Number 7, Rome, FAO, 2007, 206p.

**ISBN: 978-92-5-105808-4 / ISSN: 1813-3940**

It presents the report of Sixth World Congress on Seafood Safety, Quality and Trade. Sydney, Australia, 14–16 September 2005.

Fish and fish products are among the most traded food commodities: close to 40 percent by volume ends up in international markets. About half of those exports by value originate in developing countries. Yet around three-quarters of fish exports finish up in just three markets; the European Union, Japan and the United States of America. China is an increasingly important player both as an exporter and an importer. Consumers expect that the fish they have access to will be safe and of acceptable quality, regardless of where it is produced or ultimately consumed. Measures to encourage the harmonization of safety and quality standards and to facilitate international trade are part of the regulatory framework



generated by the World Trade Organization (WTO). The Codex Alimentarius Commission also plays an important role in setting international standards for food safety. Despite international agreements, fish exporters still face safety and quality regimes that vary from one jurisdiction to another. The current multitude of approaches imposes significant costs on exporters, especially those from developing countries where there is limited capacity to develop comprehensive safety and control infrastructures.

Progress on harmonization has been slow. While there are steady gains in the implementation of Hazard Analysis and Critical Control Point (HACCP) systems, there is still too much reliance worldwide on testing end products. More emphasis needs to be put on developing risk analysis approaches to food safety and encouraging good practices across the food chain. Safety and quality standards, codes of practice, and risk-management strategies need to be based on robust scientific data. This requires investment in research into the epidemiology and prevention of food-borne hazards, including those associated with new products entering international markets.

New players and new relationships are also influencing international trade in fish products. As trade liberalization dismantles tariffs and governments streamline regulation, private sector stakeholders are entering the arena with new health and safety standards, typically linked to their marketing, quality management or corporate social responsibility programmes. These impact on exporters and may impose new compliance costs and influence trade patterns. On the other hand, new forms of collaboration between industry and government regulatory agencies, and in some cases even community groups, are driving innovations and new partnerships in managing fish quality and safety.

These and other issues are addressed in this document, which represents the proceedings of the Sixth World Congress on Seafood Safety, Quality and Trade held in Sydney, Australia from 14 to 16 September 2005. The Congress was held under the auspices of the International Association of Fish Inspectors (IAFI), in collaboration with the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Industrial Development Organization (UNIDO).

**Keywords:** Eco-labeling, Fishery management, Fisheries - Economic aspects, Sustainability, Consumer, Ecolabel, International Trade, Aquaculture, FAO, Seafood Safety, Seafood





**International Trade, Eco-Labeling, and Sustainable Fisheries – Recent Issues, Concepts and Practices** Tavis Potts<sup>1</sup> and Marcus Haward<sup>2</sup>

1. Antarctic Climate and Ecosystems Cooperative Research Centre, Private Bag 22 Hobart, 7001, Tasmania, Australia
2. School of Government and Institute of Antarctic and Southern Oceans Studies, University of Tasmania, 7001, Tasmania, Australia

Environment, Development and Sustainability, Volume 9, 2007, 91–106p.

**ISSN: 1573-2975 | 1387-585X**

Certification of where, when and how fish are caught is emerging as an important fisheries management tool. The history of eco-labelling in the fisheries sector is relatively short and actual experiences of eco-labelling are limited, although an emerging trend is shaping in European and US markets. Eco-labelling in fisheries gained increased impetus with the development of the non-government Marine Stewardship Council (MSC) in 1996. This paper reviews the emerging importance of certification and eco-labelling in the fisheries sector, the development and operation of the MSC, identifying particularly the role of 'third party certification' as promoted by the MSC, and notes the opportunities and challenges for the MSC and eco-labelling in general.

**Keywords:** Marine Stewardship Council, MSC, Sustainability, Aquaculture, Ecolabel, Label, Seafood, Fisheries, Product Certification, Ecolabelling, International Trade, WTO, Certification





2006

**Study on Eco-labelling of Aquatic Products: General view and future considerations for the ASEAN region**

Martin Bjerner, Mali Boonyaratapalin, Rattanawan Mungkung and Niklas Wennberg  
Southeast Asian Fisheries Development Centre  
Bangkok, Thailand

SEC/SP/87, February 2006, 26p.

Eco-labelling, also known as Environmental labelling, is a symbol, logo, text or data sheet of environmental profiles attached to a product to indicate its origin from environmentally-sustainable practices. It has emerged as a tool to provide environmental information of products to consumers. Eco-labelling is seen as a mean to differentiate the products to assist consumers in their purchasing decisions for environmentally-friendly products. The eco-labelling issues have been received a special interest in the international fish trade forum. It is seen as a potential tool to stimulate more responsible fisheries and aquaculture practices and hence improving sustainability. Whilst the ecolabelling principles are consistent with the sustainability concepts, there are however major concern given to its impacts on trade Due to the many questions raised over advantages and disadvantages of ecolabelling implementation to the ASEAN countries, a regional study on Eco-labelling of aquatic products was initiated by SEAFDEC. The study was conducted with technical support from the Swedish Board of Fisheries and financed by the Swedish International Development Cooperation Agency (Sida), from November 2005 to February 2006. The information regarding eco-labelling issues was obtained from 12 questionnaires, interviews/meetings with 450 people, and 10 site visits in nine countries. It has been compiled to represent the general views and future consideration for the region. This report was published by Southeast Asian Fisheries Development Centre (SEAFDEC) with technical support from the Swedish National Board of Fisheries (Fiskeriverket).

**Keywords:** Certification, Eco-label, Aquaculture, Ecolabel, Aquatic Products, SEAFDEC , Sustainability, Fisheries



## **The Role of Ecolabeling in Fisheries Management and Conservation**

Michel J. Kaiser<sup>1</sup> and Gareth Edwards-Jones<sup>2</sup>

1. School of Ocean Sciences, University of Wales-Bangor, Menai Bridge, Anglesey LL59 5AB, United Kingdom
2. School of Agricultural & Forest Science, University of Wales-Bangor, Deiniol Road, Bangor, Gwynedd LL57 2UW, United Kingdom

Conservation Biology, Volume20, Issue2, April 2006, 392-398p.

The Marine Stewardship Council (MSC) regulates the ecolabeling of products from fisheries with the aim of promoting sustainable fishery practices. To date 11 fisheries have attained full certification and a further 7 are under review. Together these fisheries offer 220 ecolabeled marine products to consumers. Despite great potential to encourage sustainable fisheries, and thereby bring conservation benefits to marine systems, a range of issues may limit the wider uptake of MSC ecolabeled products. These include a general lack of consumer concern for marine fishes and sustainable fisheries, an absence of guaranteed continued financial benefits to participating fishers, and difficulties of quality assurance that are related to complexities of monitoring compliance of marine fisheries. In addition, it is apparent that property rights over the fishery seem to be an essential prerequisite for engagement in MSC, and this is one major impediment to wider uptake of the scheme in current marine fisheries, which tend to be open access. Some modifications to the current scheme may be needed if wider participation of marine fishers is to be achieved. These may include a tiered approach to certification, certification of fishers rather than fisheries, governmental facilitation to assist the latter and greater engagement with retailers and buyers rather than individual consumers. None of these changes will occur without constructive engagement of government, retailers, and the fishing industry.

**Keywords:** Certification, Eco-label, Aquaculture, Ecolabel, Aquatic Products, Marine Stewardship Council, Sustainability, Fisheries





## **Seafood Certification and Ecolabelling: A New Wrapping on Fisheries Resource Management?**

James A Young<sup>1</sup>, Helen T. Sturrock<sup>2</sup> and James F Muir<sup>3</sup>

1. Department of Marketing , University of Stirling, Scotland FK94LA
2. Department of Marketing & Stirling Aquaculture, University of Stirling, Scotland FK94LA
3. Institute of Aquaculture, University of Stirling, Scotland FK94LA

IIFET 2006 Portsmouth Proceedings, 2006, 12p.

With heightened media attention on the poor state of world fish stocks and the environmental impacts of aquaculture production methods, both governments and seafood industries are keen to demonstrate support for improved management measures. This paper includes results from a DFID funded project concerned with seafood certification, ecolabelling and developing economies. The focus is upon the potential implications of the shift in management power throughout the seafood value chain and the increased reliance upon market-based measures to encourage sustainable production. Certification of fishing and aquaculture operations gives consumers a cue to help distinguish between products on criteria such as sustainability, welfare, health and safety etc. The increased prevalence of certification schemes internationally can be seen as a shift in power, and potentially responsibility, from governments to consumers. It is suggested that this drift may widen as the traditional national regulators lose the power to determine international certification criteria and the public uses purchasing power to determine how their food is produced. Whilst there may be proclaimed benefits of certification and ecolabelling, the paper suggests there could also be adverse consequences for the future development of aquatic food sectors. The advent of certification as a prerequisite for international markets can impose costs, particularly in developing countries without corresponding benefits for all others along the value chain. Mixed fisheries and trans-boundary stocks present particular challenges to certification, whilst also being more demanding of conventional resource management measures. New species, and those new to markets, where consumers have yet to accurately signal their emergent value may encourage less stringent management measures. Improved understanding of these potential problems is vital if more effective management measures are to be delivered.

**Keywords:** Certification, Ecolabelling, Marketing Management, Eco-Certification, Aquaculture, Seafood, Ecolabel, Fisheries, Sustainability, Fisheries Management, Sustainable Production





2005

## Mark of Sustainability? Challenges for Fishery and Forestry Eco-labeling

Lars H. Gulbrandsen

Climate and Energy Research Group, Fridtjof Nansen Institute, Norway

Environment: Science and Policy for Sustainable Development , Volume 47, Issue 5, 2005, 8-23p.

The Forest Stewardship Council and the Marine Stewardship Council were formed in the mid-1990s as the first eco-labeling schemes for forest products and seafood, respectively. The goal was to harness market forces to steer these industries toward sustainable practices. Authors explained the importance of ecolabelling and how consumers face a seeming endless array of choices. Eco-labels such as these offer information on the environmental impact of particular products or services and are increasingly used to help consumers make informed choices. The growth of ecolabelling is discussed and what are the international forest processes after UNCED (United Nations Conference on Environment and Development). It discusses the case study of “Dolphin-Safe” Tuna Eco-Labels. A table depicts the Comparison of certification and labeling schemes in forestry and fisheries.

**Keywords:** Seafood, Eco-Label, Sustainability, Certification, Tuna Eco-Labels, Dolphin-Safe, UNCED), Mariculture



2004

**Picture This: Promoting Sustainable Fisheries through Eco-Labeling and Product Certification**

Tracy Cooper

Florida State University College of Law

425 W Jefferson St, Tallahassee,

FL 32301, United States

Ocean and Coastal Law Journal, Volume 10, Number 1, Article 2, 2004, 72p.

**ISSN: 1073-8843**

This Article explores the potential utility of eco-labeling in promoting marine fisheries sustainability. Part I of this Article describes the current status of marine fisheries management, discusses relevant international law, and explains the difficulties surrounding the creation of a sustainable marine fishery. Part II explains in greater detail the concept of eco-labeling, how it works, its relationship with international law, and its general advantages and disadvantages. Part III discusses the application of ecolabeling techniques to the promotion of sustainable marine fisheries, including the demand for “sustainably harvested” seafood, the current ecolabeling efforts underway by the Marine Stewardship Council (MSC) and other organizations, and the issues that may ultimately impact program effectiveness.

**Keywords:** Sustainable Aquaculture, Sustainable Harvesting, Marine Stewardship Council, MSC, Environmental Impact, Sustainability, Labelling, Certification, Ecolabelling

**Ecolabelling and Fisheries Management**

P.R. Gardiner and K. Kuperan Viswanathan

WorldFish Center

P.O. Box 500, GPO,

10670 Penang, Malaysia

Malaysia: WorldFish Center, 2004, 52p.

**ISBN 983-2346-23-1**

National and intergovernmental regulation of fisheries has not prevented many failures of fisheries management around the world.

New approaches to improving the environmental sustainability of fisheries have included the certification of fisheries harvested by sustainable means, and the ecolabelling of fish and seafood products from certified fisheries. The intention is to use the power of markets as an incentive to induce more sustainable fisheries. To date, only a relatively small number of fisheries have been certified, and these have been predominantly in developed countries.



Critiques from developing countries of ecolabelling, as currently formulated, focus on five general areas: a) legitimacy and credibility; b) a mismatch between certification requirements and the reality of tropical small-scale fisheries; c) potential distortions to existing practices and livelihoods; d) equity and feasibility; and e) perceived barriers to trade.

This paper reviews these developing country concerns on the basis of already certified fisheries, and on experiences from forestry, aquaculture and the aquarium industry, and also examines precedents and trends in international environmental and trade issues. It suggests that ecolabelling as currently practiced is unlikely to be widely adopted in Asian countries. Certification may have sporadic success in some eco-conscious, or niche, markets but it is unlikely to stimulate global improvement of fisheries management.

The paper argues that to avoid the controversy that accompanies ecolabelling, the focus should be on revision of national fisheries management and not on an ad hoc approach to individual fisheries. Improvements in fisheries management, the equitable treatment of fishing sub-sectors and stakeholders within management schemes, and the prospect of reaping increased value-added from fisheries all require government acceptance of needs and actions. Governments should be encouraged to enter into broad coalitions to improve aspects of fisheries management, and to enhance efforts to develop locally relevant indicator systems for fisheries and for the ecosystem approach. Governments of developing countries must also first address the difficult questions of access to and tenure arrangements for their fisheries, as these are essential prerequisites for successful certification and product labeling. They will also need to legislate on the form and conduct of the post harvest chain and product control, as, in export markets, these are outside the control of the fishing communities. International agreement and clarity on trade, environmental (and health) standards affecting fisheries will augment national efforts. Advocacy coalitions that include governments, rather than extraterritorial imposition of labelling schemes, are required.

Paying for sustainable management will be costly, but it will go some way toward acknowledging the real environmental costs of fish harvesting. True pricing of fish in the world market will be of advantage to developing countries in trade terms. Sustainable fisheries management will be of advantage to all

**Keywords:** Eco-labeling, Fishery management, Fisheries - Economic aspects, Sustainability, Fish Harvesting, International Trade





2002

### Ecolabelling in fisheries management

UN Atlas of the Oceans  
United Nations Foundation

<http://www.oceansatlas.org/subtopic/en/c/1295/>, 2002

The idea that ecolabelling would lead to improved management of marine capture fisheries is of recent origin. It was first publicly promoted by Unilever PLC/NV and the World Wide Fund for Nature (WWF) at their Marine Stewardship Council (MSC) initiative in early 1996.

The article covers the information on the usefulness of ecolabelling in creating a market-based incentive for environment-friendly production. It provides the definition on ecolabelling given by OECD and narrates possible solutions 'How ecolabelling works' and its role on international fish trade. It discusses action taken by FAO and by other agencies like Marine Aquarium Council, the Nordic Council of Ministers, Organization for the Promotion of Responsible Tuna Fisheries

The UN Atlas of the Oceans is an Internet portal providing information relevant to the sustainable development of the oceans.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability, WTO, International Trade, FAO, UN Atlas



2001

### Product certification and ecolabelling for fisheries sustainability

Cathy Roheim Wessells<sup>1</sup>, Kevern Cochrane<sup>2</sup>, Carolyn Deere<sup>3</sup>, Paul Wallis<sup>4</sup> and Rolf Willmann<sup>5</sup>

1. Professor, Department of Environmental and Natural Resource Economics, University of Rhode Island, Kingston, USA
2. Senior Fishery Resources Officer, FAO Fisheries Department, Rome, Italy
3. Assistant Director, Global Inclusion, The Rockefeller Foundation, New York, USA
4. Senior International Advisor, New Zealand Ministry of Fisheries, Wellington, New Zealand
5. Senior Fishery Planning Officer, FAO Fisheries Department, Rome, Italy

Rome: Food and Agriculture Organization, FAO Fisheries Technical Paper 422, 2001, 92p.

**ISBN: 92-5-104697-2**

Product certification and ecolabelling are tools that can be used to support fisheries management. These tools, while inter-related and serving the same goal, have important differences as currently applied in fisheries. Product certification is commonly a measure mandated by governments, often mutually agreed upon by regional fisheries management organizations, in order to ensure that only legally harvested and reported fish landings can be traded and sold in the domestic or international markets. The principal objective of product certification (and catch documentation) is to prevent, deter and eliminate illegal, unreported and unregulated fishing in accordance with the 2001 FAO International Plan of Action. Product certification does not necessarily involve a product label at the retail level. Where product certification comes with a label to inform consumers, however, it can influence consumers' choices. This technical paper provides information on important institutional features and characteristics of product certification schemes including: the linkage with management objectives; the level of government involvement; their validation procedures; and, in the international context, how they deal with nonparticipants of regional fisheries management organizations and arrangements.

Product labels can be mandatory or voluntary and may refer to different kinds of product characteristics or attributes including the product's composition or contents, product quality or form, as well as environmental or social aspects of the product's production process or method. The focus in this publication is on voluntary product labelling that conveys environmental information to consumers. The principal objective of an ecolabelling scheme is to create a market-based incentive for better management of fisheries by creating consumer demand for seafood products from well-managed stocks. This technical paper provides information on the theoretical foundation, institutional arrangements and relationship with international trade law of ecolabelling programmes for fish and fishery products. It also discusses trade access concerns with ecolabelling programmes and examines their operational features including certification criteria, certification costs and chain of custody. The document includes a list of related sites on the Internet

**Keywords:** Sustainability, Aquaculture, Ecolabel, Label, Seafood, Fisheries, Product Certification, Ecolabelling, Consumer, FAO, Food and Agriculture Organization, United Nations



2000

## **Ecolabeling Seafood for Sustainable Production: Implications for Fisheries Management**

Eyjólfur Gudmundsson<sup>1</sup> and Cathy R. Wessells<sup>2</sup>

1. University of Akureyri, Akureyri, Iceland
2. University of Idaho, 875 Perimeter Dr, Moscow, ID 83844, United States

Marine Resource Economics, Volume 15, Number 2, Summer 2000, 97-113p.

**ISSN: 0738-1360 | 2334-5985**

Demand for environmental quality of a fishery product and its effect on the incentive to manage fisheries sustainably is analyzed using bioeconomic modeling. The paper examines the effectiveness of an ecolabel in achieving sustainable fisheries production under open-access, limited-access and optimally managed fisheries with price premiums for ecolabeled products that are either constant or a function of sustainability criteria. In addition, the paper investigates the effect of placing an ecolabel on the rate of recovery of an overfished stock.

**Keywords:** Eco-Certification, Aquaculture, Seafood, Certification, Ecolabel, Ecolabelling, Fisheries, Sustainability, Fisheries Management, Sustainable Production



1999

### **Eco-labeling and Sustainable Fisheries**

Carolyn Deere

Policy Fellow for Trade and Biodiversity

IUCN Washington Office

Washington, DC, USA

IUCN: Washington, D.C. and FAO: Rome, 1999, 36p.

**ISBN: 28317-0507-X**

The need for sustainable fisheries and the conservation of marine biodiversity are both internationally recognised. Both IUCN and the FAO share the goals of supporting and strengthening international and national efforts to improve the management of fisheries, coastal areas and marine biodiversity. In principle, eco-labelling has been endorsed by the international community as one of the tools that can help improve environmental management through market-based means. However, its application to natural resource sectors has proven complicated and often controversial. The goal of this publication, jointly supported by IUCN and FAO, is to outline clearly some of the complications and concerns as well as the benefits in an objective fashion to provide an informed basis for moving forward. This paper is divided into three parts: Part One reviews the current international framework and rationale for eco-labelling, the different types of eco-labelling schemes and examples of current eco-labelling initiatives in the fisheries sector and the relationship of eco-labelling to international trade rules. Part Two highlights the particular concerns and opportunities that eco-labelling schemes may present for developing countries. Part Three presents the case for stronger engagement in eco-labelling discussions by all stakeholders and examines the rationale for international technical guidelines.

There are clearly a number of issues regarding eco-labelling that deserve elaboration and discussion by the international community. It is vital that all governments as well as interested industry and civil society groups engage in these discussions to ensure that their interests are heard and appropriate responses developed and that proceeding for developing standards and systems for eco-labelling are transparent and advance the ultimate goal of ecologically responsible fisheries. Participation in the process of formulating sustainability criteria and certification processes is one way to ensure that the diversity of fisheries and interests in developing countries are considered.

**Keywords:** Ecolabelling, Fisheries, Seafood, Ecolabel, Sustainability



## Consumer Education and Research Centre

Consumer Education and Research Centre (CERC), set up in 1978, is a non-political, non-profit and nongovernment organisation dedicated to the education and empowerment of consumers as well as promotion and protection of consumer interests through effective uses of education, research, the media and law. CERC has three major roles-to make consumers aware of their rights, to help them protect themselves and to make providers of goods and services accountable. Its activities include complaints handling, legal advice and litigation, consumer education and awareness programmes, library and information service, publication, comparative testing of products, advocacy, investor and environment protection.

## CERC-ENVIS Resource Partner

Ministry of Environment, Forest and Climate Change, Government of India has recognized Consumer Education and Research Centre (CERC) as ENVIS (Environmental Information System) Centre in 2005. The focus of ENVIS is to provide environmental information to decision makers, policy planners, scientists and engineers, research workers, etc. across the country. ENVIS was conceived as a distributed information network with the subject-specific centers to carry out the mandates and to provide the relevant and timely information to all concerned.

Subject assigned to the CERC- ENVIS Centre is “Environmental Literacy - Eco-labelling and Eco-friendly Products.” The Centre launched the website <http://cercenvis.nic.in/> on NIC (National Informatics Centre) platform with the theme ‘Ecolabelling and Eco-Friendly Products’. The website furnishes the information on national and international scenario on this subject.

It publishes theme based quarterly newsletter named “Green Insights”. It also circulates bi-monthly e-bulletin “Green Alert”. Since Social Media is very popular among youth and to attract them and sensitise them towards sustainable consumption and lifestyle, we are active social medias such as on Facebook, Instagram, Twitter and Youtube Channel.



## Consumer Education & Research Centre

507-8, 5th Floor Sakar II Building, End of Ellisbridge, B/H  
Ellisbridge Shopping Centre, Ellisbridge,  
Ahmedabad 380006, Gujarat, India.  
Phone: 079-68181600/28/29



[cerc-env@nic.in](mailto:cerc-env@nic.in)



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