



Ecolabels in the Nordic Fisheries and Aquaculture Industry

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Content

Preface.....	7
Summary	9
1. Objective and scope.....	11
1.2 Background	11
1.2 Main objectives and scope.....	12
2. Introduction	13
2.1 What is ecolabels?.....	13
2.2 Why use ecolabels?	13
Environmental Benefits.....	13
Economic Benefits	14
2.3 Organisational aspects of the ecolabeling process.....	14
3. Criteria and methodology	17
3.1 Selection of the criteria.....	17
3.2 Scoring methodology	20
4. Assessment of relevant ecolabels and scorings.....	21
4.1 Overview of relevant ecolabels	21
4.2 Ranking of ecolabels	22
4.2.1 Fishery.....	23
Environmental.....	25
Management system criteria.....	26
Social responsibility criteria.....	26
Organization of the label / certification process	26
4.2.2 Aquaculture.....	27
Environmental criteria.....	29
Management system criteria.....	30
Social responsibility criteria.....	30
Organization of the label / certification process	30
4.2.3 Important system standards not selected for scoring	31
4.3 Interaction of ecolabels with fisheries surveillance and governance	31
4.4 Costs related to ecolabeling.....	32
5. Trends and market accept for various ecolabels	33
5.1 Consumer pressure	33
5.1 Retailers and producers of sustainable fish products	33
5.1 Development of ecolabels	34
6. Main conclusions.....	37
References.....	39
Sammendrag.....	41
Appendices:.....	43

Preface

During the last decade the use of ecolabels to achieve sustainability objectives has increased considerably, and new ecolables are entering the European market. Lack of overview of relevant ecolables affecting the Nordic fisheries and aquaculture industry as well as limited knowledge about the requirements of such labels encouraged the Nordic Council of Ministers to carry out a study on this subject.

The purpose of this study is twofold – (1) to give an overview of ecolables of relevance for Nordic fisheries and aquaculture industry and (2) to evaluate these ecolables according to selected criteria.

The work was carried out as a desk study during May-June 2008 by Det Norske Veritas.

Summary

The Nordic fisheries and aquaculture industry is affected by the increased use of ecolabels in the European market. Labels, schemes and certification provide specific, guaranteed information about a product's source and its production process. Ecolabeling is coming into wide use in a number of sectors and are typically voluntary schemes with the overall objective to contribute to sustainable development.

There is a common understanding in the Nordic countries that ecolabeling is one way of engaging the market in supporting sustainable fisheries and aquaculture. At the same time, lack of overview of relevant ecolabel schemes and their criteria has created confusion among governmental management as well as the industry itself.

The major objective of this report has been twofold – (1) to give an overview of ecolabels of relevance for Nordic fisheries and aquaculture industry and (2) to evaluate these ecolabels according to selected criteria. The intention is that the report and its findings will stimulate to further discussion and development of Nordic initiatives in the context of sustainable fishing and aquaculture.

The criteria used when evaluating the standards were separated into four areas of concern:

- Environmental
- Management system requirements
- Corporate social responsibility
- Organization of the label and the certification process.

The aim of the scoring was to assess to what extent the various ecolabels matched the selected criteria, and not to produce a “best in class” list of ecolabels or standards.

From a Nordic perspective, the ecolabels of main importance to fishery included KRAV, Friend of the Sea, MSC and Naturland. For aquaculture the following ecolabels were considered the most relevant; KRAV, Friend of the Sea, Naturland, Global GAP, Bioland, Debio and Soil Association. In addition, there are various initiatives ongoing in the Nordic countries as well as in the EU.

The evaluation of the ecolabels revealed the following key observations;

- All evaluated standards have a basis in international and national laws, regulations and agreements.

- All standards are fully open to the general public. Essential documents describing the ecolabels are easy accessible online.
- More ecolabels are available for aquaculture than for fishery.
- The ecolabels dealing with fishery has a more extensive involvement of stakeholders than the ones for aquaculture.
- When it comes to focus on energy efficiency and carbon foot printing the overall coverage is very low.
- The ecolabel standards vary to a large extent and the choice of ecolabel is left to the market to decide.

A question asked by both the industry as well as the Nordic fisheries management is to what extent ecolabeling is needed given that Nordic fisheries management is considered sustainable. There is no obvious answer to this question. However, the constantly increasing demand of eco-labeling from the EU market should not be underestimated. Due to strong pressure from European retailers several large seafood companies are presently undergoing assessment for various ecolabels.

1. Objective and scope

1.2 Background

Sustainability in the fisheries and aquaculture industry is high on the agenda in Europe as well as in the Nordic countries. European retailers, through which a large amount of Nordic seafood products are sold, are pressured to demonstrate to an increasingly demanding customer base that they have supply chains free from illegally caught, unsustainable, or environmentally damaging seafood. As such, ecolabeling has been considered one of the easiest ways to communicate a product's fulfillment of certain sustainability criteria.

In a Nordic context, sustainability issues, such as IUU fishing, have been discussed in various meetings and seminars¹. There is a common understanding in the Nordic countries that ecolabeling is one way of engaging the market in supporting sustainable fisheries and aquaculture. At the same time the use of ecolabeling is also questioned. To what extent does ecolabeling really contribute to legally, socially and environmentally responsible fisheries and aquaculture practices? To what extent is there sufficient competition among the various labels on the market today? And furthermore, from a Nordic perspective, is ecolabeling really needed given that Nordic fisheries management is considered sustainable?

This report does not aim to answer all of the above questions. Rather, it is a first step in providing the Nordic fisheries management as well as the industry with an overview of relevant ecolabels and their requirements. The intention is that the report and its findings will stimulate to further discussion and development of Nordic initiatives in the context of sustainable fishing and aquaculture.

¹ The Nordic Council of Ministers had a meeting to discuss these topics in January 2008, hosted by the NAF and the Bioethics Committee. A Nordic Council mini seminar was also held in Riksdagen in the spring of 2008 to draw more attention to these problems.

1.2 Main objectives and scope

The purpose of this report is twofold – (1) to give an overview of ecolabels of relevance for Nordic fisheries and aquaculture industry and (2) to evaluate these ecolabels according to selected criteria.

The evaluated criteria were separated into four areas of concern:

- Environmental
- Management system requirements
- Corporate social responsibility
- Organization of the label and the certification process.

The target group for this report is the Nordic fisheries and aquaculture industry and their branch organisations as well as governmental management representatives within fisheries and aquaculture in the Nordic countries.

The scope of the work was limited by the following:

- Only ecolabels of relevance for the EU market is included.
- Focus is on product labels rather than system standards²
- The report is basically a desk-study, i.e. interviews with relevant stakeholders such as fish producers, branch organisations and government institutions are reduced to a minimum.

² A product label describes certain attributes of a product.. A system standard, like ISO14000, describes a company's environmental management system.

2. Introduction

2.1 What is ecolabels?

An ecolabel is a labelling system for consumer products that are made in a fashion to avoid negative effects on the environment. The system often includes a logo that is put on the product in order to give the consumer a green choice.

Ecolabeling systems exist for both food and other consumer products. The first systems were developed by various NGOs (non-governmental organisations), but nowadays other stakeholders also influence this process. The European Union has its own ecolabel, the EU-flower, used on a wide range of consumer products. It is a voluntary scheme designed to encourage businesses to market products and services that are more environmentally friendly.

Ecolabels relevant for fish and fishery products are normally consistent with the ‘Guidelines for the Ecolabeling of Fish and Fishery Products from Marine Wild Capture Fisheries’ adopted by the UN Food and Agriculture Organisation (FAO) in 2005.

2.2 Why use ecolabels?

Fish production is a global business. In a global food market ecolabels are seen as one way of communicating that good practice is used in fish production, and giving the product added value. Ecolabeling is important both in business-to-business dealings and as information to the consumer. The processes involved in obtaining a label are often used as part of quality management systems for buyers and can be required as a “ticket to trade”.

Labeling schemes can be either mandatory or voluntary. Mandatory labels are normally government-backed quality labels and could be used as a trade restriction for foreign producers.

Governments, NGOs, and industry groups acknowledge both environmental and economic benefits of ecolabeling, some of which are outlined below:

Environmental Benefits

- Improving long-term stewardship and availability of natural resources;
- Improving the aquatic ecosystems and global biodiversity;
- Fulfilling commitments made under international agreements on responsible fisheries and aquaculture;

- Providing political support for improved environmental management;
- Raising environmental standards through consumer choice.

Economic Benefits

- Producers benefit from added-value to already existing products;
- Producers get access to new premium green markets and become more competitive on already existing markets;
- Moving from unsustainable practices to sustainable ones preserve production and jobs in the long run;
- Consumers may benefit as they receive more information about the products they purchase and are able to make better choices;
- Consumers may benefit in the long run by continued availability of their favourite seafood products;

Although there are economic benefits of ecolabelling as outlined above, the costs related to certification vary to a great extent and can be quite extensive. This is further outlined in chapter 4.4.

2.3 Organisational aspects of the ecolabeling process

There are basic differences between various ecolabeling schemes. Some are business to business (B2B) schemes and therefore not directly visible to the end consumer. Others are directed to the final consumer (B2C) and appear on the product package.

In addition, ecolabels differ in terms of being a product and process scheme. Organic aquaculture, for example, follows a process certification programme which indicates that the product was processed in a certain manner. On the other hand, fisheries and conventional aquaculture are mainly covered by product certification schemes.

Environmental organizations and consumers generally prefer ecolabeling schemes verified by a 3rd party. By involving a third party, the actual certification process is considered impartial. Normally, a certification body wanting to be approved for a certain certification scheme needs to be accredited. An accreditation body makes sure that certifiers are trained and qualified to perform audits or assessments against certain standards.

The credibility of an ecolabel is, among others, determined by the certification process. Two aspects are covered in the assessment:

- Procedures to ensure chain of custody;
- Openness of the certification process.

Procedures to ensure chain of custody

Chain of custody shall ensure separation of certified and uncertified products. Without chain of custody products can easily be blended.

Openness of the certification process

Three issues are important when discussing the openness of a certification process:

- *Involvement of stakeholders.* Due to possible conflicts of interests high level of stakeholder involvement is recommended to resolve existing challenges.
- *Procedures for standard development and for complaint resolution.* These procedures should include an independent and impartial committee to respond to any complains.
- *Openness to general public.* Easy access to the standard is necessary to facilitate participation of all interested parties. Standards and criteria should be accessible on internet and available in English.

3. Criteria and methodology

3.1 Selection of the criteria

All relevant ecolabels in this report have been assessed with respect to the four areas of concern:

- Environmental issues
- Management system issues
- Social responsibility issues
- Issues related to the organization of the label and the certification process

The latter area is selected in order to assess the credibility of the certification process and is further outlined in chapter 2.3.

The selected criteria and sub criteria as presented in Table 1 and 2 and are based on criteria found within the following sources:

- FAO “Code of Conduct for Responsible Fisheries”
- FAO “Guidelines for the Ecolabeling of fish and fishery products from Marine Capture Fisheries”
- FEAP “Code of Conduct for European Aquaculture”
- WWF study on Certification Programmes for Aquaculture

Furthermore, the criteria are discussed and acknowledged by the Nordisk arbeidsgruppe for fiskeriforskning, Nordic Council of Ministers.

When evaluating the various ecolabels, certain labels were excluded from the scoring due to the following reasons:

- The standard requires that the product is produced in non-Nordic countries.
- The standard contains very few criteria regarding sustainability, with main focus on fish quality.
- The standard is basically just a standard for where the product has its origin.
- The standard is a general system standard, not fitted for the selected criteria (Examples here are the ISO standards).
- The standard is not relevant for food products (such as the Swan)

Table 1: Criteria for fishery schemes.

Selected area	Criteria	Sub-criteria
Environmental	Energy consumption	Consumption of fuel per tonne of caught fish Optimization of the gear with respect to energy efficiency (towing resistance etc.) Carbon foot printing
	State of the target stock	Robust assessment of target stock Catch levels developed to maintain productivity of the target stock Long-term recovery plan in place if target stock is depleted.
	The fisheries impact on the ecosystem	By-catch control Discard control Impact of marine gear on habitants, with special emphasis on protected, endangered or threatened species. (use of selective gear, no ghost fishing etc.)
Social responsibility	Community commitments	Compliance with local laws Economic and social contribution to local society Land and sea conflicts and rights, access to natural resources
	Labour rights	HMS and first aid system in place on vessels, training of staff included. Employment conditions
Management system	Control, enforcement and surveillance	Establishment of no-take zones when necessary Schemes to prevent IUU (Ship monitoring and reporting systems) Management strategies in place to reduce impact on ecosystem and rebuild affected populations Minimize operational waste and loss of fishing gear
	Credible regulatory framework	Act on the basis of the best available advice and precautionary approach Consistency with national and international laws, regulations and agreements Cooperation with relevant stakeholders on national and international level
Organization of the label / certification process	Chain of custody guarantee	Chain of custody is a part of the certification process or can be obtained as addition to present certification
	Openness of the certification process/ involvement of stakeholders	Procedures for standard development and for complaint resolution Openness of certification process to general public. Involvement of stakeholders in the labeling / certification process

Table 2: Criteria for aquaculture schemes.

Selected area	Criteria	Sub-criteria
Environmental	Energy consumption	Consumption of Energy per kg of fish (kWh per tonne)
		Source of energy Carbon foot printing
	Feed source	Source of fish meal, fish oil and other feed ingredients Feed conversion ratio (kg of feed per kg of fish) Use of GMO products in feed
		Water pollution
	Impact on biodiversity and local wildlife (ecosystem)	Use, handling and discharge of chemicals and hazardous goods Introduction of new species Escape of cultivated species into the wild Spreading of pathogens and parasites into the wild
Fish welfare	Stocking densities Slaughtering procedures Fish health control program and disease prevention (Treatment and medication, use of antibiotics and pesticides)	
	Social responsibility	Community commitments
Labour rights		Compliance with local laws Economic and social contribution to local society Land and sea conflicts and rights, access to natural resources
	Management system	Required management system in place
Credible regulatory framework		HMS and first aid system in place, including staff training. Employment conditions
	Organization of the label / certification process	Waste/pollution identification and action plan Contingency plan Training programs for farmers / work force. Monitoring system to ensure biodiversity
Chain of custody guarantee		Organisation responsibility/authority Consistency with national and international laws, regulations and requirements Cooperation with relevant stakeholders on national and international level
	Openness of the Certification process/ involvement stakeholders	Chain of custody is a part of the certification process or can be obtained as addition to present certification Procedures for standard development and for complaint resolution Openness of certification process to general public. Involvement of stakeholders in the labeling / certification process

3.2 Scoring methodology

The aim of the scoring is to assess to what extent the various ecolabels match the selected criteria, and not to produce a “best in class” list of ecolabels or standards.

Each ecolabeling scheme is reviewed against the various sub-criteria from Table 1 and 2. A score is given to each sub-criterion on a scale from 0 to 2 according to Table 3 below. An *average* score was calculated for each criterion. A *total* score was then calculated for each ecolabel/standard, by adding up all the average scores under each criterion. The *Maximum Total* score that could be achieved by a specific ecolabel was eight (8), resulting from an average score of two (2) on all the four areas.

Table 3: Scoring system for selected criteria

Scoring points	Coverage of the sub-criteria	Description of the scoring
0	Not mentioned	The criterion is not a topic in the ecolabels framework.
1	Partly covered	The criterion is a topic in the standard for the ecolabel. The standard covers some of the areas in the criterion, but no all of them. Although some concerns are included, the standard still has some shortfalls with respect to the criterion.
2	Fully covered	The criterion is good covered by the ecolabel standard.

An example of the scoring is given below:

Example: Scoring of MSC

MSC accomplished the following average scores for the various sub-criteria regarding the environment, as listed in Table 1:

- Energy consumption: 0,3 points
- State of the target stock: 2 points
- The fisheries impact on the ecosystem: 2 points
- Average score for environmental criteria was then: $(0,3 + 2+2)/3 = 1,4$ **points**

The other sub-criteria in Table 1 were evaluated and calculated in the same way as for environmental criteria, giving the followings scores to the other criteria:

- Management system criteria: 2 points
- Social responsibility criteria: 0,5 points
- Organization of the labell/certification process: 2 points

The total score for MSC was then calculated: $(1,4 + 2+ 0,5+2) = 5,9$ **points**

4. Assessment of relevant ecolabels and scorings

4.1 Overview of relevant ecolabels

An outline of the most important labels/ certifications schemes for the fisheries industry is given in the appendix. Some well known labels such as the Nordic Swan and the EU Flower are not included in this study as the labels do not cover food products. The following existing labels are ranked:

- MSC (Marine Stewardship Council)
- Naturland
- Friend of the Sea
- KRAV
- Global GAP
- Bioland
- Debio
- Soil Association

The following existing labels are included in the overview in the appendix but not ranked³.

- AB (Agriculture Biologique)
- Bio Austria
- Bio Suisse
- Label Rouge
- Norway Royal Salmon
- Norge. Seafood from Norway
- The Norwegian "Skrei standard"
- Scottish Finfish Aquaculture
- Ø-mærket
- ISO 14001 (a system standard)
- OHSAS 18001 (a system standard)

In addition to existing labels presented above there are new initiatives under development in the Nordic countries including the following:

³ The reason for not ranking the labels is outlined in chapter 4.2.

- A Norwegian scheme describing the Norwegian fisheries management and regulations is under development. The preliminary name for this project is the “Norwegian solution”, and is lead by the Norwegian Seafood Export Council. The plan is not to develop new standard. Rather, the objective is to describe the Norwegian fisheries management and its control systems, and to present this in the format of a booklet following the fish from producer to retailer. The ongoing work has started with Cod. Implementation and piloting will start in the fall of 2008.
- Iceland is planning its own label for sustainable fish focusing on traceability and sustainable fishing. The Icelandic government is now in the preparation period. Additional information will follow in 2009. The work is lead by the Fisheries Association of Iceland⁴.
- Best Aquaculture Practices (Aquaculture Certification Council) has already prepared a sustainable standard for shrimp. They have announced a new, similar standard for finfish, but the exact time for release is not yet known.
- The European Union has reported progression of an EU-label for sustainable fish. More information will be available in 2009.
- WWF is working with a new standard for sustainable aquaculture to be launched in the end of 2009. This is a global standard focusing on various fish species including salmon.
- MSC has also discussed a standard for aquaculture; however MSC has decided to postpone these plans in order to focus more on fishery.

4.2 Ranking of ecolabels

The ecolabels were ranked according to the criteria and methodology described in section 3. As pointed out in chapter 4.1 several existing labels were not included in the general scoring due to the following reasons:

- The standard requires that the product is produced in non-Nordic countries: Bio Austria, Bio Suisse, Agriculture Biologique, Label Rouge⁵, Code of Good Practice for Scottish Finfish Aquaculture.
- The standard focuses on fish quality only: The Norwegian Skrei standard, Norwegian Royal Salmon.
- The standard is basically just a standard for where the product has its origin, Norge. Seafood from Norway.
- The standard is too general, and can not be scored by the selected criteria: ISO 14001 and OHSAS 18001.

⁴ Unfortunately, their office is closed until July 2008 due to relocation from Akyreiri to Reykjavik and no information is available online.

⁵ Although it is possible for non-French products to achieve Label Rouge, it is not very common, and as such considered less relevant from a Nordic perspective.

4.2.1 Fishery

The scoring of the ecolabels relevant for fishery is summarized in Table 4 and figure 1. In addition, a spider-diagram illustrating the strengths and weaknesses for the various labels is given in figure 2.

Table 4: Scoring of ecolabels for fishery

Various labels:	Various criteria				Total score:
	Environmental	Management System	Social responsibility	Organization of the label / certification process	
MSC 	1,4	2	0,5	2	5,9
Naturland 	0,9	0,5	1,7	1,8	4,8
Friend of the Sea 	1,2	0,9	1	1,5	4,6
KRAV 	1,1	1,3	0,6	1,8	4,8

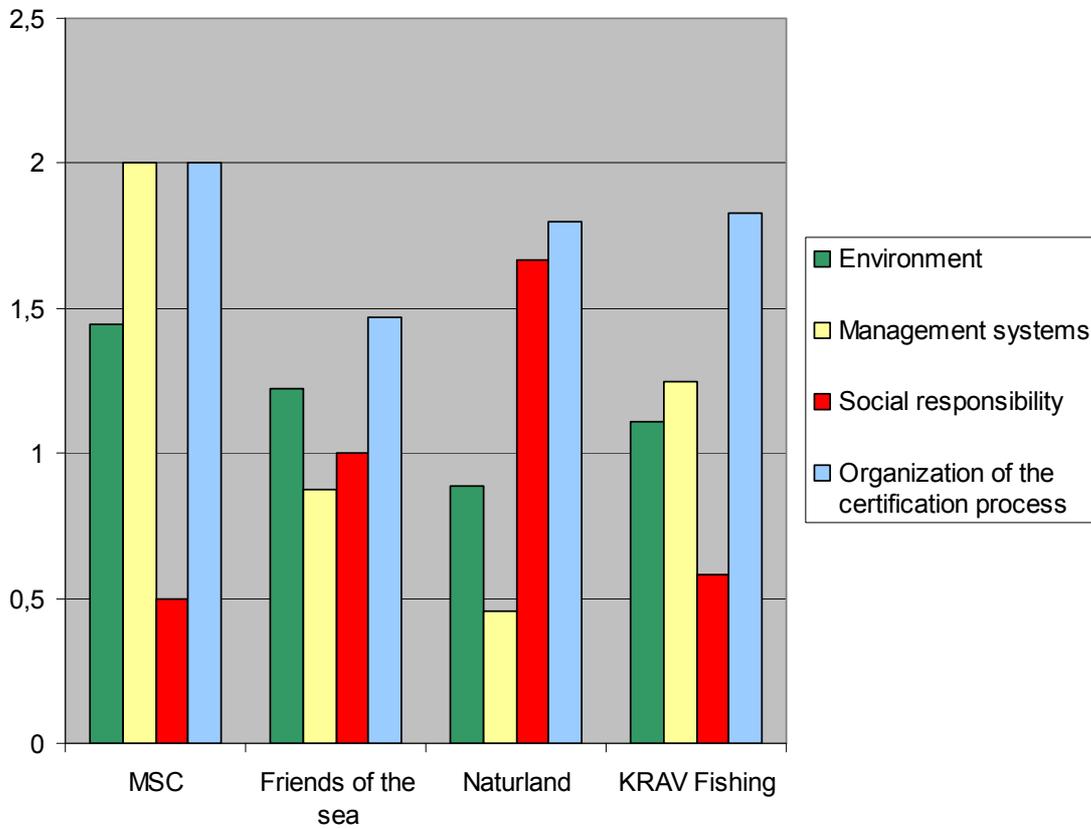


Figure 1: Scoring of ecolabels for fishery.

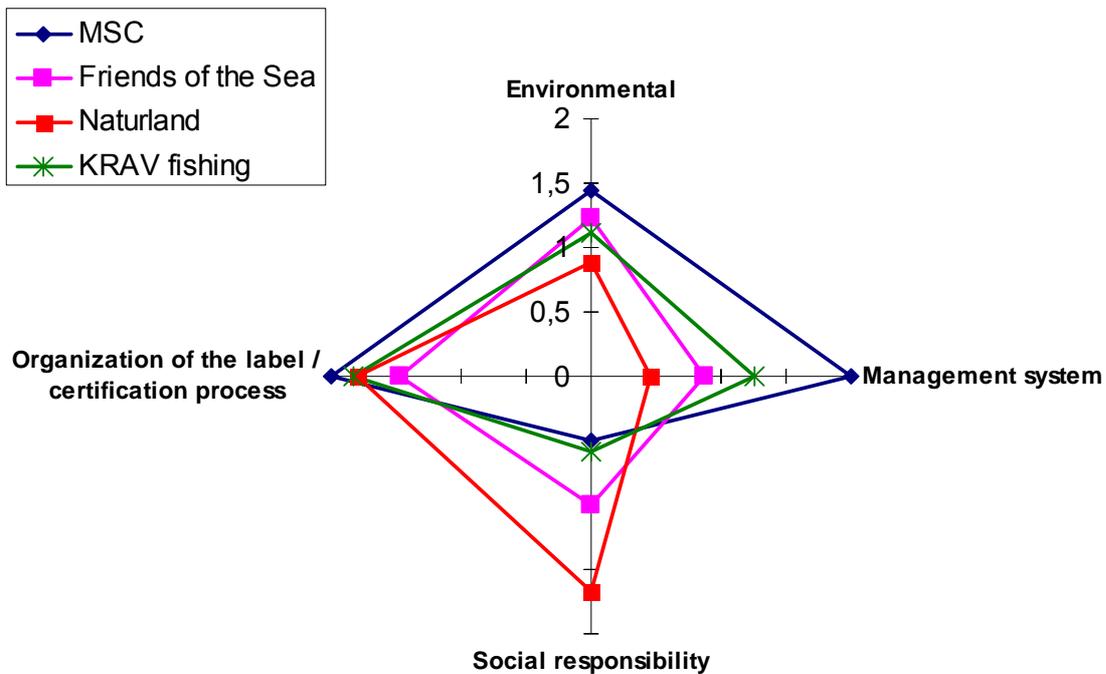


Figure 2: Spider-diagram illustrating the strengths and weaknesses for the various ecolabels for fishery.

As illustrated in figure 1 and 2 the standards covering fishery have different strengths and weaknesses. A more detailed assessment is given below:

Environmental criteria

Regarding environmental issues, Naturland has the lowest score, while the other standards are slightly better. As seen in figure 3, the standards cover concerns about the target stock in a proper manner. All four standards require a robust assessment and that catch levels are developed in order to maintain long term productivity. MSC in particular has a very detailed framework dealing with this issue, and is the only one that also requires a long-term recovery plan in place if target stocks are depleted.

The overall focus on energy consumption is surprisingly low for all of the standards. Friend of the Sea is the only one mentioning carbon foot printing in addition to fuel efficiency. All the other standards have serious shortfalls on this area. MSC only touches upon optimization of the gear with respect to energy efficiency, and includes no other aspects.

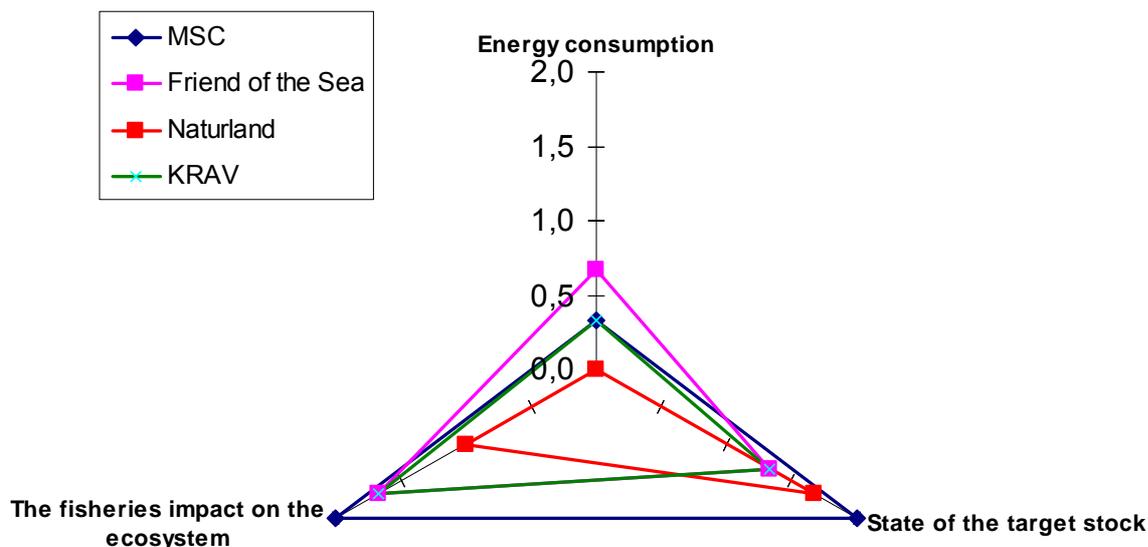


Figure 3: Spider-diagram illustrating the strengths and weaknesses for the ecolabels regarding the various environmental criteria for fishery.

When it comes to the fisheries impact on the surrounding ecosystem, most of the standards cover this in a proper way. The focus on by-catch control is high. KRAV has the best coverage of the impact of various types of fishing gear, and even gives separate criteria for different types of gear. The only one with serious shortfalls regarding the ecosystem is Naturland, with low requirements regarding by-catch and discard control. This standard appears to focus more on the people involved in the seafood operations than the impacts on the surrounding ecosystem (as seen in figure 3).

Management system criteria

All of the standards touch upon requirements for the management system to prepare a regulatory framework in order to minimize IUU-fishing, and to reduce the fisheries impact on the ecosystem. However, Naturland has the most shortfalls in this area, with almost no focus on control, enforcement and surveillance. Furthermore, this standard is missing important criteria regarding vessel monitoring, quota control and reporting of catch.

All of the standards state that they are acting in consistency with national and international laws and regulations. MSC and KRAV have the highest focus on this topic. These two standards are the only ones requiring the establishment of none-take zones when necessary, and also give important attention to operational waste and loss of fishing gear.

Social responsibility criteria

When it comes to the criteria regarding social responsibility, Naturland is in an exceptional position (as seen in figure 2). MSC has the overall lowest score, with no attention on health, safety or employment conditions. KRAV also falls short on this point, only slightly better than MSC.

Friend of the Sea covers some important criteria in the framework, such as requirements of no child labour, no forced labour and wages according to legal standards. Naturland incorporates claims regarding access to trade unions, health and safety, training of the staff, payment in kind, and social benefits such as coverage of maternity, sickness and retirement.

Organization of the label / certification process

The last criteria considering the organization of the certification process gives the highest score to MSC and KRAV. This is based on the sub criteria described in section 3. All of the standards in the ranking had a system where chain of custody was a part of the certification scheme.

The openness of certification process to the general public was also considered to be good for all the standards. By a simple search online it was possible to find all the certification schemes, with detailed information regarding the criteria and the certification procedures. All of the standards touch upon standard procedures for complaint resolution. Friend of the sea, for instance, has a separate form online where objections can be sent to the organisation via email. MSC, Naturland and KRAV are also publishing all inspection reports online at least 4 weeks before the certificate is given. This gives other stakeholders a possibility to generate additional information that may be relevant for the fishery subjected to inspection. In general, this criteria was the one with the highest overall score (1,8) when all standards were considered.

4.2.2 Aquaculture

The scoring of the ecolabels relevant for aquaculture is summarized in table 5 and figure 4. In addition, a spider-diagram illustrating the strengths and weaknesses for the various labels is given in figure 5.

Table 5: Scoring of ecolabels for aquaculture.

Various labels:	Various criteria				Total score:
	Environmental	Management-system	Social responsibility	Organization of the label / certification process	
Friends of the Sea 	1,3	1,3	0,5	1,2	4,3
Global GAP 	1,3	2	1	1,8	6,2
Bioland 	1,3	0,8	0,8	1,3	4,1
Debio 	1,4	0,8	0,8	1,5	4,4
Krav 	1,4	0,8	0,8	1,5	4,4
Naturland 	1,1	1,3	1,8	1,3	5,5
Soil Association 	1,5	1,7	0,5	2	5,7

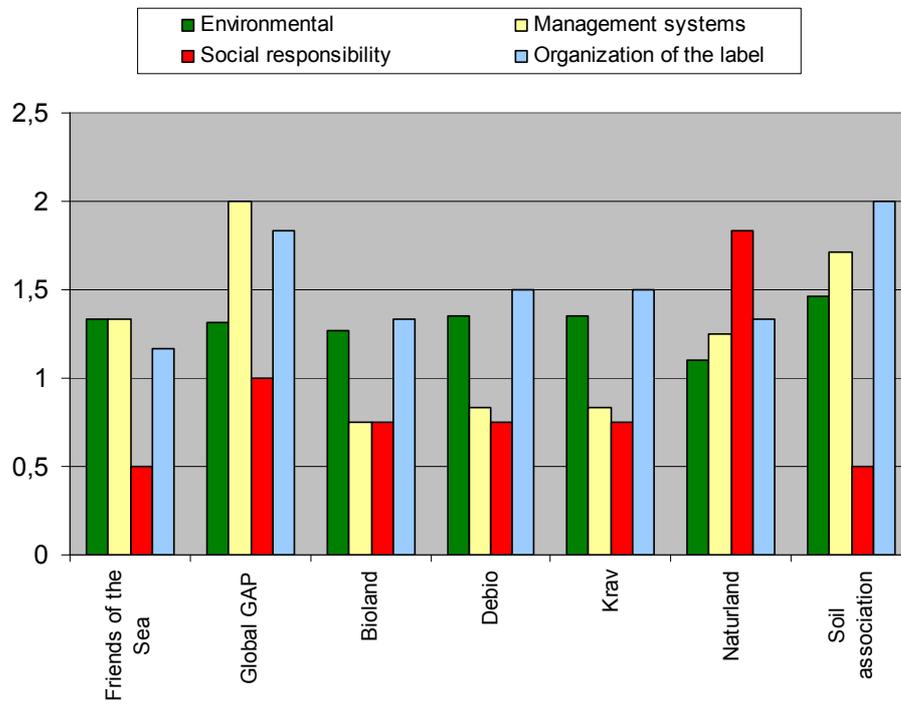


Figure 4: Scoring of ecolabels for aquaculture.

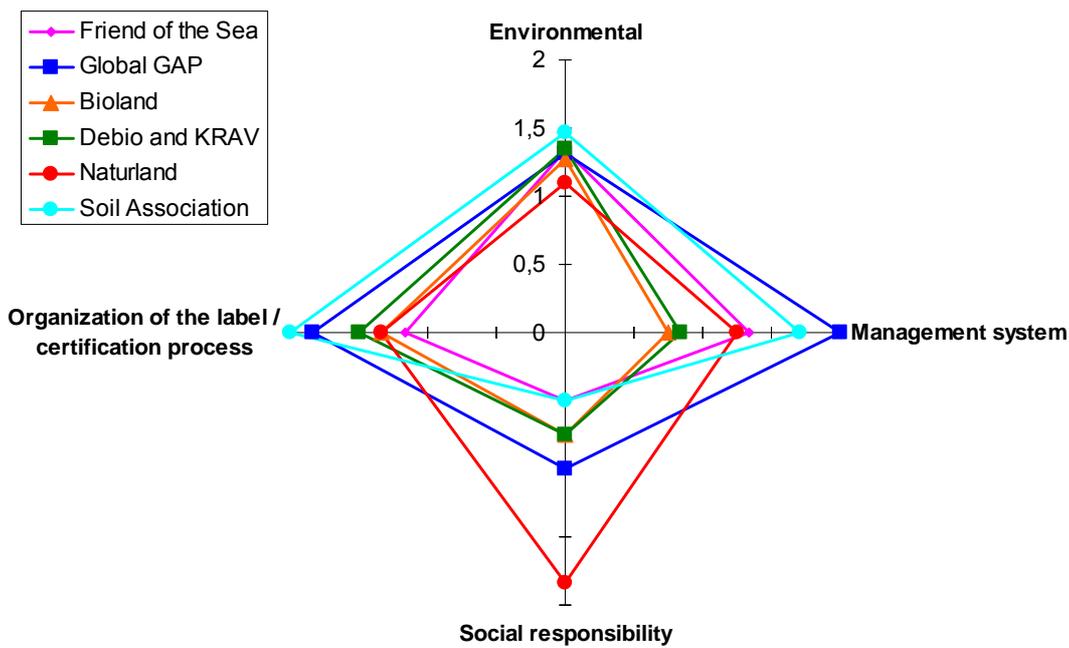


Figure 5: Spider-diagram illustrating the strengths and weaknesses for the various ecolabels for aquaculture.

As illustrated in figure 4 and 5 the focus area of the various standards differ. A more detailed description on how they differ is given below:

Environmental criteria

Figure 6 illustrates the strengths and weaknesses of the ecolabels with respect to the various environmental criteria for aquaculture. As for fishery, the coverage of energy efficiency in the standards is rather limited. Friend of the Sea and the Soil Association are better from this point of view, touching upon the areas of carbon foot-printing and energy source. Naturland has no coverage of this criterion at all.

The seven different standards all have the same focus on water pollution, and all of them get a full score when it comes to covering the quality of water. Debio, KRAV and Friend of the Sea reach a high score when it comes to concerns about the feed source, while Global GAP is considered the weakest on this point. In fact, Global GAP is the only standard not questioning the use of GMO. Bioland and Global GAP are also the only aquaculture standards with no focus on the feed conversion ratio.

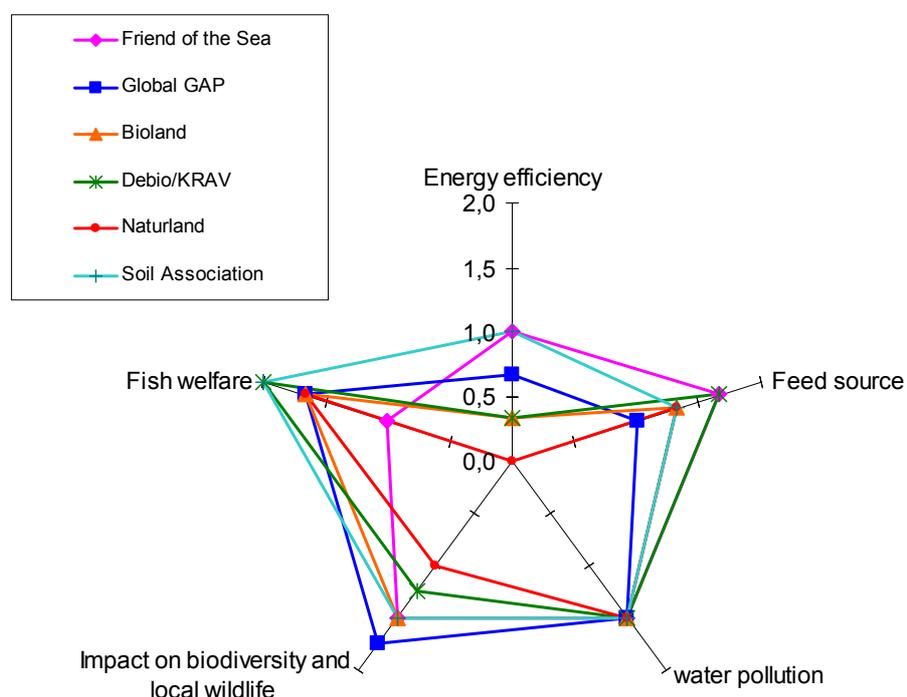


Figure 6: Spider-diagram illustrating the strengths and weaknesses for the ecolabels regarding the various environmental criteria for aquaculture.

However, Global GAP has the framework with most details regarding the impact on biodiversity and wild life. This standard is the only one covering the handling and discharge of chemicals and hazardous goods in a

proper manner. When it comes to the welfare of the fish, dealing with topics such as slaughtering, fish health and stock densities, Soil Association, KRAV and Debio stand out by positive means. The standard with shortfalls on fish welfare is Global GAP.

Management system criteria

When it comes to management system criteria Global GAP is given the highest score. The standard requires a management framework for waste and pollution identification, contingency plans, training of the staff, monitoring systems for impact on the ecosystem, and that the aquaculture farm has cooperation with relevant stakeholders. Soil Association is considered rather well at this area, and is only missing a proper waste and pollution identification and action plan.

As seen in figure 4, Debio, KRAV and Bioland have a rather poor coverage of these areas. These standards are all missing important aspects, and have no coverage at all of waste/pollution plans, staff-training or stakeholder cooperation in their frameworks.

Social responsibility criteria

Regarding social responsibility Naturland is given the highest score. The criteria here are the same as for fishery, as previously mentioned in section 4.2.1. Global GAP also covers this criterion well with specific requirements regarding health, safety and first aid systems in place for the fish farmers.

All of the ecolabels in the ranking require compliance with local laws. However, many of the standards have serious shortfalls when it comes to social responsibility. Soil Association and Friend of the Sea have no focus on health and safety, first aid training or employment conditions like working hours and sickness coverage.

Organization of the label / certification process

As seen in figure 4, Soil Association and Global GAP get the highest score when it comes to the organisation of the label and the process of the certification. All of the standards touch upon a chain of custody and/or a traceability system in place in order to demonstrate that there is no possibility of mixing with other products.

The standards were generally open to the public, and the frameworks were easy accessible online. However, some of the information regarding Bioland was only found in German. It should be noticed here that the FAO guidelines require all standard to have the information available in English.

The degree of involvement of stakeholders differs between aquaculture and fishery. Overall the requirements for stakeholder participation are lower in aquaculture ecolabeling. This is specifically noticeable for the ecolabels that cover both fishery and aquaculture, such as Naturland and KRAV.

4.2.3 Important system standards not selected for scoring

In addition to the standards exposed to ranking in section 4.2.1 and 4.2.2, two important system standards should be mentioned as their primary focus are environmental management and occupational, health and safety management.

- *ISO 14001* is the international standard for environmental management systems, developed over ten years ago. The generic standard is applicable to any type of organisation in any industry sector, including the fishery and aquaculture industry. The standard provides a clear management framework based on well-established management system principles. It requires an organisation to assess the operations impact on the environment, understand how those impacts can be managed, and set clear objectives and targets to continually improve on environmental performance. ISO 14001 is highly respected and recognised worldwide. Around 120 000 certificates are issued globally up to this date.
- *OHSAS 18001* is an international standard (comparable to ISO) for Occupational Health and Safety management. It is applicable to any type of organisations – large or small – within any business sector. It requires the organisation to investigate its health and safety risks related to its activities and products/services, to evaluate and control the risks, and to set clear objectives and targets to improve on its performance. The OHSAS 18001 has been designed for compatible integration with ISO 14001. Like ISO 14001 it is highly respected.

4.3 Interaction of ecolabels with fisheries surveillance and governance

The assessment of the various standards revealed that MSC is the only ecolabel with a vast scope of requirements to fisheries management. The MSC certification has a conservation-oriented approach which has caused concerns among governments and fish producers.

The MSC standard consists of the following three principles:

1. Status of the target fish stock
2. Impact of the fishery on the ecosystem

3. Performance and effectiveness of the fishery management system.

The Principle 1 requires that the fishery is basically conducted in a manner that does not lead to over fishing or depletion of stocks and managed according to the best available advice.

Principle 2 points towards fishing operations that safeguard the ecosystems structure, productivity, function and biodiversity.

Principle 3 requires an effective management system that respects the national and international agreements and incorporates operational frameworks that require sustainable use of the resources.

The requirements to fishery management systems defined in the MSC standard are similar to those already defined in the 1995 Code of Conduct for Responsible Fishing.

In general, fisheries in the Nordic Countries are considered fairly well managed and have the required management systems in place to comply with international agreements and FAO's Code of Conduct for Responsible Fishing.

4.4 Costs related to ecolabeling

The cost of ecolabeling is determined between the certifier and the client, and depends on the size and complexity of the labelling scheme. For more details on the actual costs related to each ecolabel, please refer to the attached table in the appendix.

In general, fishery certification is more expensive than those related to aquaculture. The costs of fishery certification involve three major steps:

1. Pre-assessment costs
2. Actual certification costs and
3. Use of logo (eco-label)

Indirect costs such as necessary company upgrading in order to be certified are excluded.

Aquaculture certification costs normally consist of the following:

1. Application fee
2. License fee
3. Annual inspection costs

Annual inspections are the major expenses and depend on the time spent on the audit and the type of aquaculture practices. For example, audit costs related to organic aquaculture are relatively high during the first 3-5 years due to complexity of the production process and the conversion period.

5. Trends and market accept for various ecolabels

5.1 Consumer pressure

An increasing number of consumers want to know the history of the food products they buy, but have no way of testing ecological and sustainability attributes based on physical appearance. Labelling is one of the easiest ways to communicate that the food has certain attributes. The consumer does not have time or the capability to check all data on all products, but expect this information to be available as part of their decision making process. Which labels are most effective and how they affect shopping habits is still being studied.

Sustainability of fish products is one area where there is documented consumer concern, at least in the developed country markets. For example, a survey in 2005 found that 80% of respondents were concerned about the oceans and 56% were very aware of overfishing (Seafood Choices Alliance). The press has taken up the sustainable fisheries theme in the US and Europe. A number of NGOs have provided pocket guides to choosing sustainable fish in stores or restaurants. The trend of consumer interest in sustainable fish products has started in some countries, and the trend setting retailers are following up consumer demands.

5.1 Retailers and producers of sustainable fish products

Retailers need to demonstrate to an increasingly demanding customer base that they have supply chains free from illegally caught, unsustainable, or environmentally damaging seafood. Retailers also want to be able to take a price premium for products with specific attributes. Labeling is the most efficient way to communicate to consumers and develop a differentiated market for products that otherwise could appear as nearly identical to the consumer. Consumers, however, are not always willing to pay more for products but may avoid products which they feel are not ethically produced or retailers who do not address the issue.

Ecolabels correspond to consumer expectations in terms of information and transparency. Given that the consumers will pay more or show a preference to buy labeled products based on sustainability criteria, then this can serve as a financial incentive for producers to switch to more responsible fishing practices.

“Sustainability is a critical business issue that is quickly becoming a mandatory requirement. Unlike other business issues, sustainability is being shaped by drivers outside the industry's control”

International retailers are known to require documentation from their suppliers, so called business to business certification or contracts as part of ensuring the products delivered have the attributes required by the purchaser. Retailers can be trend leaders, as was seen in food safety issues where retailers in the UK set requirements that were, in time, followed by many other retailers. For businesses, requiring ecolabels is part of safeguarding brand and reputation, and makes purchasing ‘safer’ for the corporate buyer.

Food producers are required and/or expected to provide correct information about products sold. Certification systems are seen by many as a necessary business to business tool, as part of ensuring that requirements to the producer are clear and that practices can be documented. Currently the greatest focus for producers in the seafood industries is to meet certification requirements to meet demands for export to consumers and buyers in developed countries. Given that many of the global and/ or large retailers, such as Wal-Mart, Ahold, Carrefour, Metro, Sainsbury's, Tesco, Marks and Spencer, Waitrose, are using sustainable seafood products as part of their green product profiling, the drivers from the retail level are such that they will occur even without consumer demand in all countries.

Captured fish may be perceived as a standard for natural products which farmed fish is measured against, a perception that may add to the motivation of the aquaculture industry to implement ecolabeling: “The numbers of applications we are receiving from all over the world evidence the strong interest of aquaculture companies in a sustainability certification which can position them on the same level of wild-caught products, in terms of environmental performance.” (Dr Paolo Bray, director of Friend of the Sea.)

5.1 Development of ecolabels

Development of ecolabels in fish has been aggressively promoted by NGOs and interest organizations. This has most certainly added to the interest for ecolabels from consumers and provided an added pressure on the retailers, who then require eco-certification from their suppliers. Ecolabels need to be designed and developed such that the market can use the information and assurance of quality so that the industry will be profitable in the long run. Ecolabeling, as other types of certification, is voluntary. It is argued that only fishing companies that stand to profit from adopting a certified product are likely to do so, and that eco-friendly product certification is happening in markets where food security and safety requirements have already been met. There are concerns that

small-scale fishers will be left to sell the unsustainable fish by default and that encouraging the consumption of "sustainable caught" fish will put additional pressure on presently healthy fish stocks.

The FAO (the Food and Agriculture Organization of the United Nations) published a set of voluntary guidelines for the ecolabeling of wild fish products in 2005. To what extent FAO can push for ecolabelling is being discussed – in particular because ecolabelling in developing countries is challenging. It is seen that public profiling from NGOs (notably Greenpeace and WWF) may not be the best way to drive ecolabeling forward, although The Marine Stewardship Council (MSC, established in 1997 by WWF and Unilever) seems to be the label with the most traction in the marketplace.⁶

There are a number of global initiatives for development of eco-standards or ecolabels for aquaculture, including: World Wildlife Fund (WWF), Global Aquaculture Alliance, GLOBALGAP, Friend of the Sea, ISO (International Standards Organization), and the Global Aquaculture Alliance (GAA) and their associated certification body, the Aquaculture Certification Council. Shrimp standards are developed or close to completion while standards for tilapia, catfish, molluscs, pangasius, cod, halibut, salmon, sea bass, sea bream, sea trout, sturgeon, rainbow trout, turbo as well as caviar are under way.

The development of new standards and focus from all stakeholders are driving the ecolabeling and certification process forward. Success will depend on a global acceptance of the labels, equivalency or minimization on the number of labels, and ultimately, that labeling schemes really do result in sustainable produced fish.

6. Main conclusions

During the last decade the use of ecolabels to achieve sustainability objectives has increased considerably, and new ecolabels are entering the European market. In addition, some countries build up their own systems based on governmental framework with focus on the products origin. However, the basic criteria and credibility of the various ecolabels are often vague and complicated to people engaged in the fish industry, as well as for the regular customer.

The report gives an overview of the most relevant ecolabels for the Nordic fish industry, with four standards for fishery and seven standards for aquaculture. Naturland, Friend of the Sea and KRAV are the only ecolabels that have frameworks for both fishery and aquaculture.

The standards with a detailed framework are scored according to a set of criteria with the aim of evaluating their strengths and weaknesses.

In short, the ecolabel scorings revealed the following key observations:

- All evaluated standards have a basis in international and national laws, regulations and agreements.
- All standards are fully open to the general public. Essential documents describing the ecolabels are easy accessible online.
- More ecolabels are available for aquaculture than for fishery.
- The ecolabels dealing with fishery has a more extensive involvement of stakeholders than the ones for aquaculture.
- When it comes to focus on energy efficiency and carbon foot printing the overall coverage is very low.
- The ecolabel standards vary to a large extent and the choice of ecolabel is left to the market to decide. However, when considering the various ecolabels, the following should be noted:
 - Naturland has the lowest coverage of environmental criteria, but is strong on social responsibility issues.
 - Friend of the Sea (both aquaculture and fishery) is scoring high when it comes to coverage of energy efficiency.
 - Among the fisheries standards, MSC has the most detailed framework when it comes to environmental criteria. This is also the one with the highest global market acceptance. However, the costs of this standard are high, and the implementation is rather time-consuming.
 - KRAV-fishery has the best coverage of the impact of various types of fishing gear, and is also strong when it comes to management system criteria in the framework. It should also be

noticed that KRAV-aquaculture and Debio have the exact same framework.

- The aquaculture standard Global-GAP has low coverage of fish welfare and feed source compared to Debio, KRAV, Friend of the Sea and Soil Association. On the other hand, Global-GAP is strong on biodiversity and wild life.
- In general, the organisation and the certification processes in relation to the various ecolabels are considered well documented.

Overall, the study showed that all ecolabels have a fairly detailed framework and requirements. The assessment of the various standards revealed that MSC is the only ecolabel with a vast scope of requirements to fisheries management. Aquaculture ecolabels tend to focus more on the aquaculture farm's management and environmental policy.

With respect to fishery certification in particular, both the industry as well as the Nordic fisheries management have questioned the need for ecolabeling given that Nordic fisheries management is considered sustainable. As previously mentioned, there is no obvious answer to this question. However, what is seen is a strong drive in the market for ecolabeling fuelled by requirements by European retailers. The trend of consumer interest in sustainable fish products is strong in Europe – and will most likely increase in the years to come. In this context, the Nordic fisheries and aquaculture industry will have to adapt to this trend – in particular as some ecolabels now are emerging as a “ticket to trade”.

References

- Further details regarding the standards evaluated in this report are found at the following WebPages:
 Marine Stewardship Council: www.msc.org
 Friend of the Sea: www.friendofthesea.org
 KRAV: www.krav.se
 Naturland: www.naturland.de
 GlobalGAP: www.globalgap.org
 Bioand: www.bioland.de
 Debio: www.debio.no
 Soil Association: www.soilassociation.org
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www.ohsas-18001-occupational-health-and-safety.com/
[www.seafood.no /](http://www.seafood.no/)
www.sustainablefoodlab.org/article/articleview/16815/1/2372

Sammendrag

Den nordiske fiskeri- og havbruksnæringen blir påvirket av den økende bruk av miljømerker i det europeiske markedet. Merker, merkeordninger og sertifisering formidler spesifikk og garantert informasjon om råvarer og produksjonsprosessen bak de ulike produktene. Omfanget av miljømerking er økende i en rekke sektorer. Karakteristisk for denne typen merking er at den er frivillig, og har som overordnet formål å bidra til bærekraftig utvikling.

Det er en utbredt oppfatning i de nordiske land at miljømerking er en måte å få markedsmekanismene til å bidra til bærekraftig utvikling i fiskeri- og havbruksnæringen. På den andre siden fører manglende oversikt over relevante merkeordninger og kriteriene for disse til uklarhet i forvaltningen og blant næringsaktørene.

Hovedmålet med denne rapporten er tosidig; - (1) å presentere en oversikt over miljømerker relevante for den nordiske fiskeri- og havbruksnæringen og (2) å vurdere disse merkeordningene i forhold til utvalgte kriterier. Ambisjonen er at rapporten vil stimulere til videre diskusjon og utvikling av nordiske initiativer innenfor området bærekraftig utvikling.

Kriteriene for vurdering av merkeordningene ble delt inn i fire kategorier:

- Miljømessige kriterier
- Forvaltningssystem
- Bedriftens samfunnsansvar
- Organisering av merke- og sertifiseringsprosessen

Målsettingen for vurderingsprosessen var ikke komme frem til noen ”best i test”-liste, men å kunne fastslå i hvilken grad de ulike miljømerkene tilfredstilte kriteriene i de ulike kategoriene.

Fra et nordisk perspektiv ble KRAV, Friend of the Sea, MSC og Naturland vurdert som de mest relevante miljømerker for fiskerinæringen. For havbruksnæringen ble KRAV, Friend of the Sea, Naturland, Global GAP, Bioland, Debio og Soil Association vurdert som de mest aktuelle. I tillegg er flere merkeordninger under utvikling både i de nordiske land og i EU, men disse er ikke vurdert i denne sammenheng.

Vurderingen av miljømerkene har avstedkommet følgende nøkkelobservasjoner:

- Alle de vurderte standardene er basert på internasjonalt og nasjonalt lovverk, reguleringer og avtaler
- Alle standardene er åpne for offentlig innsyn. Sentrale dokumenter er tilgjengelige på internett
- Det er flere aktuelle miljøstandarder tilgjengelig for havbruksvirksomhet enn for fiskeri
- Miljømerker som er aktuelle for fiskeri stiller strengere krav til interessentmedvirkning enn de som er aktuelle for havbruk
- De fleste merkeordningene har lite fokus på energieffektivitet og karbonspor
- Miljømerkene er svært ulike og valg av merke er i stor grad overlatt til markedet

Et spørsmål som har vært reist både fra næringen og forvaltningen er om det egentlig er behov for miljømerking dersom den nordiske fiskeriforvaltning er bærekraftig i seg selv. Det er ikke noe opplagt svar på dette spørsmålet. Det stadig økende kravet om miljømerking fra EU-markedet bør imidlertid ikke undervurderes. På grunn av sterke krav fra mange europeiske importører blir allerede en rekke større sjømatprodusenter vurdert med tanke på miljømerking..

Appendices:

Overview of relevant eco-labels selected for the Nordic fishery and aquaculture industries

	Relevance for Fishery orland Aquaculture	Type of Standard Holding Body	B2B or B2C	Market Range	No. of Issued Certificates	Accredita-tion by 3. party	Independence of the standard	Transparency and Stakeholder Involvement	Duration of certificate	Requirements to Manage-ment System	Costs
 Bioland (Germany)	Organic Fresh-water (Carp) Aquaculture In Europe	Organic farmers' assosiation	B2C	Europe	6 fish farms in Germany, non in other countries	Accredited by IFOAM	Limited: - Certification conducted by the same legal entity (Bioland-commission)	Low: - lack of informa-tion available in English	Information is Not Available (No response on e-mail)	Medium	Not Available (No response on e-mail)
 Debio (Norway)	Organic Aquaculture in Nordic coun-tries	Private Mem-bership Organi-sation	B2C	Norway, Sweden, UK and Ger-many	3 aquaculture operations	Accredited By IFOAM	Limited: - Certification conducted by the same legal entity (Debio)	Medium	1 year	Medium	Enrolment fees and various annual fees. For detailed informa-tion see: http://www.de-bio.no/ upl/kontrollge-byr akvakultur 2008. pdf
 Friend of the Sea (Italy)	Fishery and Aquaculture Globally	International, Independent and non-profit humanitarian and environ-mental organisa-tion	B2C	Global	Information is Not Available (No response on e-mail)	Accredited	High: - Certification conducted by independent and approved certification bodies	Medium	Information is Not Available (No response on e-mail)	Medium	Yearly fee of 2.000 € (4.000 € on first year) per product with same origin.
 Global GAP (Ger-many)	Aquaculture Globally	Private Sector Body	B2B	Global	81 000	Accredited	High: - Certification conducted by independent and approved certification bodies	High	3 years	High	The costs are comple-tely market driven. They depend on the offer, demand on certification in the country and time spent on the audit.

	Relevance for Fishery or Land Aquaculture	Type of Standard Holding Body	B2B or B2C	Market Range	No. of Issued Certificates	Accreditation by 3. party	Independence of the standard	Transparency and Stakeholder Involvement	Duration of certificate	Requirements to Management System	Costs
 KRAV (Sweden)	Fishery and Organic Aquaculture in Nordic countries	Private Membership Organisation	B2C	Europe (Sweden)	To date, there has been no certification for aquaculture products under this label.	Accredited by IFOAM	Limited: - Certification conducted by KRAV's subsidiary Aranea Certification AB and SMAK)	Medium in Aquaculture High in Fishery	18 months	Medium	There is a standard fee to the certification body; see www.krav.no In addition comes a fee to KRAV, approximately 400- 700 Swedish Kroner.
 Naturland (Germany)	Fishery and Organic Aquaculture Globally	Non-Profit Association	B2C	Global	46 certified companies	Accredited by IFOAM	Limited: - Certification conducted by internal Naturland-Commission	Low in Aquaculture High in Fishery	1 year	Medium	License Fee about 1% on the net-sale-price. For detailed information see: http://www.naturland.de/fileadmin/MD_B/docu-ments/Erzeuger/Englisch/costs_new.pdf
 MSC (UK)	Fishery Globally	Independent, Non-Profit Organisation	B2C	Global	26 certified fisheries, 857 MSC-labelled seafood products. 7% of the world's wild-capture fisheries are now engaged in the program.	Accredited	High: - Certification conducted by independent and approved certification bodies	High	5 years (annual audits)	High	High 35K-500K (USD) for Fishery assessment and certification. Use of logo- 0.05% of the first point-product value
 Soil Association (UK)	Organic Aquaculture In Europe	Campaigning and Certification Organisation	B2C	Europe (UK)	45 Soil Association certified farms and aquaculture projects in UK.	Accredited by IFOAM	Limited: - Certification conducted by SA's subsidiary Soil Association LTD.	High	1 year	High	Annual fee of 420£, application fee of 233£ and 350£ for a full day inspection. For detailed information see: http://www.soilassociation.org/web/sa-cert/sacertweb.nsf/e8c12cf77637ec6c802-56a6900374463/9c30f0e8249cfb45802573d700821e24!OpenDocument

Overview of eco-labels which were not selected

	Relevance for Fishery or Land Aquaculture	Type of Standard Holding Body	B2B or B2C	Market Range	No. of Issued Certificates	Accreditation by 3. party	Independence of the standard	Reason for not selecting
 AB (France)	Organic Aquaculture in France	Government (National French consumer label)	B2C	Europe (France)	8 aquaculture operations in France (in 2007)	Accredited by IFOAM	Limited: - Certification conducted by the same legal entity (AB-commission)	It is a national consumer label and applicable for French operations only
 Bio Austria (Austria)	Organic Aquaculture in Austria	Association of Austrian Organic Farmers (Membership based body)	B2C	Europe (Austria)	32 aquaculture farms in Austria (in 2006)	Accredited by IFOAM	Limited: - Certification conducted by the same legal entity (Bio-Austria - commission)	Standard applicable for Austrian operations only
 Bio Suisse (Switzerland)	Organic Aquaculture in Switzerland	Association of Swiss Organic Farmers (Membership based body)	B2C	Europe (Switzerland)	8 fish farms in Switzerland, (in 2006)	Accredited by IFOAM	Limited: - Certification conducted by the same legal entity (Bio-Suisse - commission)	Standard developed mainly for Suisse operations and marketed in Switzerland
 ISO 14001	General international standard for environmental management	Private non-profit organisation	B2B	Global (140 countries)	130 000	Accredited	High	The framework is very general, since the standard is applicable to any type of business sector.
 OHSAS 18001	General international standard for health and safety management systems	Private non-profit organisation	B2B	Global	Information was not available from the accreditation body.	Accredited	High	The framework is very general, since the standard is applicable to any type of business sector.

	Relevance for Fishery or/and Aquaculture	Type of Standard Holding Body	B2B or B2C	Market Range	No. of Issued Certificates	Accreditation by 3. party	Independence of the standard	Reason for not selecting
 Label Rouge (France)	Food quality label	Governmental (issued by the French Ministry of Agriculture and Fishing)	B2C	Europe (France)	8 products of agriculture origin (in 2007)	Accredited	High: Certified products inspected by independent bodies accredited by COFRAC	It is a food quality label developed for certification of agricultural products in France.
 Seafood from Norway (Norway)	Fishery and Aquaculture In Norway	Governmental (managed by the Norwegian Seafood Export Council)	B2C	Global	Not applicable (It is not a standard) But 484 exporters sell their products under Seafood from Norway label	Not applicable (It is not a standard)	Not applicable (It is not a standard)	Norge Seafood is not a standard, but a national, governmental promotion programme for seafood, based on national regulations
 Norway Royal Salmon (Norway)	Aquaculture in Norway	Membership based organisation of Norwegian Farmers	B2C	Global	Information is Not Available	Not applicable (It is not a standard)	Not applicable (It is not a standard)	Norway Royal Salmon is not a standard, but a sales and purchasing company which uses its label for promotion and distribution of high quality Norwegian salmon
 CoGP, Scottish Finfish Aquaculture (Scotland)	Aquaculture in Scotland (UK)	Membership based organisation of Scottish Farmers	B2B: entry point to Scottish Salmon Producers' Organisation	Europe (UK and France)	Covers 95% of all Scottish farmed salmon	Not applicable (It is not a standard)	High: Audit by UKAS-approved independent inspection services	It is not a standard, but a Code of Good Practice (CoGP) specially developed for Scottish Aquaculture
 Skrei standard (Norway)	Fresh cod in Norway	Private non-profit organisation	B2C	Europe	35	3. part verification	Certified products inspected by the independent certification body Det Norske Veritas	The standards is basically a quality standard, with few environmental criteria