

**How green is your eco-label? Comparing the Environmental Benefits of Marine Aquaculture Standards.** University of Victoria, Seafood Ecology Research Group. December 2011. *Seafish comments in italics.*

## 1. PRESS RELEASE

### **Environmental Standards for Farm-Raised Seafood Often Fall Short.**

A new report by the University of Victoria (supported by the Pew Environment Group), ranks eco-labels intended to distinguish seafood produced with less damage to the environment. “How Green is Your Eco-label?” is designed to help seafood buyers sort through competing sustainability claims and better identify those labels that result in farming methods with less damage to the ocean. Key findings include:

- ‘Organic’ labels lead the pack, although a few fall noticeably short;
- Many eco-labels are not much better than conventional farmed seafood options when it comes to protecting the ocean environment;
- Scale is a big challenge for eco-labels: For the most part, eco-labels are awarded based on an individual farm’s environmental footprint. However, the cumulative environmental effects of many farms can quickly overwhelm the benefits of reductions in impacts by a single farm or small group of certified farms.
- Most eco-labels for farmed marine fish offer no more than a 10 percent improvement over the status quo. With the exception of a few outstanding examples, one-third of the eco-labels evaluated for these fish utilise standards at the same level or below what is considered to be conventional or average practice in the industry.

According to Pew this review uses a well-established quantitative methodology derived from the 2010 Global Aquaculture Performance Index to determine numerical scores of environmental performance for 20 different eco-labels for farmed marine finfish, such as salmon, cod, turbot, and grouper (not pangasius or tilapia). These scores were used to rank performance among the various eco-labels. 10 environmental factors were used to assess the eco-labels, including antibiotic use, the ecological effect of farmed fish that escape from pens, sustainability of the fish that serve as feed, parasiticide use, and industrial energy needed in aquaculture production. <http://www.stage.pewenvironment.org/news-room/press-releases/new-study-puts-eco-labels-to-the-test-85899367114> <http://web.uvic.ca/~gapi/> [http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting\\_ocean\\_life/GAP%20Executive%20Summary.pdf?n=299](http://www.pewtrusts.org/uploadedFiles/wwwpewtrustsorg/Reports/Protecting_ocean_life/GAP%20Executive%20Summary.pdf?n=299)

*This press release has been re-produced pretty much verbatim across the media. The article on the Guardian website ‘M&S eco-label farmed fish ‘not better for environment’ – report’ was removed. <http://www.guardian.co.uk/environment/2011/dec/07/marks-spencer-eco-label-fish?newsfeed=true>*

## 2. VIEWS *(limited views have been published on this).*

### **Friend of the Sea**

- Commented on their own performance – better than Global GAP, GAA, AquaGAP and also better than some bio standards (Bio Suisse, Australia Certified Organic) and retailer standards (Whole Foods Market and Marks & Spencer).

- While it is clear that 'Bio' is not a valid alternative to 'sustainability', we are proud that our standard has often scored better than most of the major Bio standards. In particular salmon standards, according to this study, perform even better than Naturland.

<http://www.friendofthesea.org/news-doc.asp?CAT=1&ID=496>

### **M&S**

- M&S have reportedly refuted the study which puts them second to last in the eco-label performance table. Emma Johnson (told World Fishing): “The research uses out of date information from 2006 and includes a product we haven’t sold for over five years. We consider ourselves to be in an industry leading position in terms of environmentally friendly farmed fish, not just in our fresh fish offerings but for the ingredients that go into our products too.”

<http://www.worldfishing.net/news101/m-and-s-refute-eco-label-study>

### **Global Aquaculture Alliance**

- The study understandably reflected Pew's limited scope: environmental issues at the farm. However, it failed to consider social responsibility, food safety, animal welfare and traceability. For the study report's rankings to have greater meaning, it may be helpful for the underlying analysis to be broadened to include these additional indicators so that a more balanced assessment can be made of how standards contribute to sustainable aquaculture. It would also be helpful to consider impacts at other links in the aquaculture production chain. BAP's comprehensive program includes not only farms, but also hatcheries, feed mills and processing plants.
- The approach of quantifying standards is useful, but the utility of the comparative scores is limited by the study's scope, interpretation and inferred equivalency of organic, draft and operational mainstream standards.

<http://www.gaalliance.org/newsroom/news.php?Alliance-Finds-Pew-Green-Aquaculture-Report-Useful-But-Limited-51>

### **Neil Sims, co-founder, president and co-CEO of Kampachi Farms in Hawaii.**

- We all could use some objective evaluation of the multitude of standards and seals and certificates..... However, the interpretation....of the results of this study, and their pronouncements to the press on their findings, are deeply disappointing.
- The study finds that there is very little difference between conventional marine fish farming practices and the sustainability certification standards, and implies that this is a bad thing. This lack of “value added” to the labels, the study authors say, means that certified farms are not greatly outperforming “status quo” operations. This reflects, they conclude, a “lack of strong, measurable standards.” But this interpretation appears to be based on a presumption that conventional marine fish farming is itself “bad.”
- Let us presume that the sustainability standards reviewed by the report were, in the main, earnest attempts by well-meaning stakeholders to define what they collectively considered to be acceptable environmental impacts. Many of these standards were developed through multi-stakeholder processes; eight of them are organic standards
- So then, if conventional marine fish farms are actually very close to our collective aspirational ideal of a sustainable food system, perhaps that is rather a very good thing. The close similarities between “status quo” and “certified sustainable” might, in fact, reflect that marine fish farms have relatively low impacts, compared with our expectations for an animal protein production system. This was indeed the finding of the “Blue Frontiers” report by Conservation International and WorldFish Center earlier this

year, which concluded that (I'm paraphrasing loosely here) of all the animal protein production systems on the planet, aquaculture was hands down the lowest impact.

- I think that we should be celebrating such findings, instead of bemoaning them.

<https://www.seafoodsource.com/newsarticledetail.aspx?id=13240>

### 3. THE REPORT

[http://web.uvic.ca/~serg/papers/GAPI\\_Benchmarking\\_Report\\_2011.pdf](http://web.uvic.ca/~serg/papers/GAPI_Benchmarking_Report_2011.pdf)

AIM - This study uses a well-established methodology, refined by the 2010 Global Aquaculture Performance Index (GAPI), to determine numerical scores of environmental performance for 20 marine finfish aquaculture standards. While a number of previous assessments have offered important insight on the sustainability of standards, this is the first to quantitatively assess their ecological impact..... GAPI distills the best available data on the impacts of fish farming into a sound yet simple score of environmental performance.

The GAPI approach is not new. It is based on a well-established methodology — the Environmental Performance Index (EPI) — created by a team of researchers at Yale and Columbia universities to calculate numerical scores that reflect the environmental performance of countries across a range of environmental impacts. The results of their work are released every two years at the World Economic Forum Annual Meeting in Davos, Switzerland. With input from EPI researchers and other scientific experts, the GAPI project translated EPI into a tool specifically designed to evaluate the performance of marine finfish aquaculture across different countries and species.

The Global Aquaculture Performance Index (GAPI) was released in October 2010. (Developed by Dr. John Volpe, University of Victoria). The project was supported by the Lenfest Ocean Program and managed by the Pew Environment Group. It is an environmental impact assessment tool measuring the environmental performance of finfish aquaculture. It provides a simple score of environmental performance against 10 indicators of environmental impact for the top 20 global marine finfish aquaculture species (accounting for 93.7% by weight & 91% by value) for each country of significant production. An overall performance score is provided for each species-country across all 10 indicators. *At the time this was well received by the industry.*  
<http://www.lenfestocean.org/publications/gapi.html>

#### Which standards have been reviewed – 20 in total

##### Third party/Industry:

AquaGAP	
A Code of Good Practice for Scottish Finfish Aquaculture (CoGP)	Atlantic salmon only
Debio	
Federation of European Aquaculture Producers (FEAP)	Atlantic salmon only
Friend of the Sea	
Global Aquaculture Alliance	
GLOBALG.A.P.	Atlantic salmon only
Label Rouge	
Salmon Aquaculture Dialogue (Draft)	Atlantic salmon only
SIGES (SalmonChile)	Atlantic salmon only

##### Organic:

Australia Certified Organic	
BioGro	
BioSuisse	
Canadian Organic Standard (Draft)	Atlantic salmon only

Naturland	Atlantic salmon only
Organic Food Federation	Atlantic salmon only
Soil Association	Atlantic salmon only
U.S. National Organic Standard (Proposed)	
<b>Retailer:</b>	
Marks & Spencer	Atlantic salmon only
Whole Foods Market	

- *Does the survey compare like-for-like? Not all of these standards are eco-labels.*
- *Two of the organic standards, and the Salmon Aquaculture Dialogues, are a work in progress and could change.*
- *Both SIGES and FEAP are both industry codes of conduct (there are others not mentioned) and not eco-labels.*
- *Label Rouge is a French quality label that covers all types of foods not just fish.*
- *Why have Whole Foods and M&S been selected as the only two retailers?*

**Species covered - 11 Marine Finfish Species**

- Atlantic cod
- Atlantic salmon
- Barramundi
- Chinook salmon
- Cobia
- Coho salmon
- European seabass
- Gilthead seabream
- Grouper
- Milkfish
- Turbot

*Although 10 of the standards only cover Atlantic salmon.*

**Which environmental impacts have been considered and how have they been weighted.**

<b>Impact</b>	<b>Weighting</b>
Antibiotics	15%
Biochemical Oxygen Demand	5%
Capture-Based Aquaculture	5%
Copper-Based Antifoulants	5%
Ecological Energy	15%
Escapes	8%
Sustainability of Feed	15%
Industrial Energy	8%
Parasiticides	8%
Pathogens	15%

*The report clearly states that some standards consider impacts such as social issues, human health, and animal welfare, traceability, wildlife control and land and freshwater impact - this study assesses a standard's performance as it relates to environmental impacts only. This is a clear limitation. I am sure there will be those who would question the weighting.*

## How have the standards been assessed?

### By two indicators

- Absolute Performance Score - How each standard scores on an overall zero to 100 scale, where zero is the worst performance of all standards assessed and 100 is perfect performance or zero impact. The higher the score, the better the performance.
- Value-Added Performance Score - How much better or worse a standard scores compared to average industry practice (as defined in 2010 GAPI). Value-added score determines which standards are driving the most change in their industry or region. Value-added scores reflect the ability of a standard to drive improvement within the marine aquaculture industry. A standard with a significant value-added score can be a catalyst for improvement.

### Ranking

- In terms of absolute performance, four of the five top-performing standards are organic standards.
- Salmon-Specific Standards have an advantage. While Atlantic salmon continues to receive much of the attention regarding the negative environmental impacts of aquaculture, the 2010 GAPI demonstrated that the per-unit environmental impact of conventional salmon farming is lower than most marine finfish species in production. Those standards that focus solely on Atlantic salmon — such as Soil Association and Salmon Aquaculture Dialogue — have the advantage of a stronger starting position than those focused on less-developed industries, such as barramundi or gilthead seabream.
- Three of the five top value-added performance scores are for organic standards as well. These standards seem to be less influenced by concerns regarding feasibility and industry adoption than multi-stakeholder aquaculture standards are. Thus, organic standards have the potential to be set well above average industry practice, even if those standards can only be achieved by a small (or perhaps zero) percent of the industry at the time of adoption.

## Comparison with other Guides

Instead of establishing yet another benchmark for what “green” is, this study relies on two well-established seafood guides — the Monterey Bay Aquarium’s Seafood Watch guide (MBA) and the Blue Ocean Institute’s seafood guide (BOI). To the extent seafood buyers feel comfortable with the seafood guides, this section provides a look at how well standards perform relative to these red/yellow/green rankings. These leading buyers’ guides are translated into the GAPI scoring system in the same way the 20 standards are translated.

- None of the standards were able to achieve a green ranking although the large majority of the standards (15 out of 17 salmon standards) fall into MBA’s yellow category. MBA defines the yellow category as products that “did not evaluate well against one or more of the criteria, but are better choices than seafood on the Avoid list.” The result of most concern: two of the salmon standards — GlobalG.A.P., and Marks & Spencer — are in MBA’s red or “avoid” category. According to MBA, “these seafood products evaluated very poorly against one, or poorly against many of our sustainability criteria, and are thus deemed to not be sustainable.”
- While this study highlights some of the “better” choices in farmed Atlantic salmon, it suggests that options are slim to none for those buyers who are committed to sourcing “green” seafood only.

### Comments

- *Why have the MBA and the BOI been chosen for benchmarking?*
- *FAO released new Technical Guidelines for Responsible Fisheries on the Ecosystem approach to aquaculture (EAA) in November 2010. The main objective is to assist*

*countries, institutions and policy-makers in the development and implementation of a strategy to ensure the sustainability of the aquaculture sector, integration of aquaculture with other sectors and its contribution to social and economic development.*

<http://www.fao.org/docrep/013/i1750e/i1750e.pdf>

- *FAO Global Guidelines for aquaculture certification were published in January 2011. The guidelines, which are non-binding, cover animal health, food safety, the environment and socio-economic issues relating to aquaculture workers.*  
[ftp://ftp.fao.org/FI/DOCUMENT/aquaculture/TGAC/guidelines/Aquaculture%20Certification%20GuidelinesAfterCOFI4-03-11\\_E.pdf](ftp://ftp.fao.org/FI/DOCUMENT/aquaculture/TGAC/guidelines/Aquaculture%20Certification%20GuidelinesAfterCOFI4-03-11_E.pdf)

### General comments

- *No comments are made on the individual assessments or the rankings.*
- *The study clearly states that it only assesses those standards with criteria that are publicly available. In several cases, a standard exists in name only with no criteria available for review. either did not set standards in key impact areas or did not set measurable limits for these impacts. In all of these cases, without measurable standards, there is no evidence to support claims that a farm certified to these specific standards is required to perform better than conventional producers. Without clear thresholds for performance in a particular impact category, the study assumes that farms perform no better than conventional industry performance (average GAPI score).*
- *There is a very useful table at the end which sets out how each standard has been translated into GAPI. This shows how the standard measures up against the 10 environment impacts and how a judgement is made on compliance according to: whether a measurable standard has been set; whether a quantitative standard has been set, but it couldn't be translated into GAPI; if there is no relevant standard; if there is no measurable limit of impact; where standards have been set at a conventional level, applied standard's criteria but same as industry or country standard practices. For each standard, it also identifies those impact areas for which relevant or measurable standards do not exist or where the metric used could not be adequately translated into GAPI. This is where the M&S standard fell down with little published information on relevant standard or anything to show measurable limit of impact.*
- *Comments from Neil Simms on page 2 could be supported. Many of these standards were developed through multi-stakeholder processes; eight of them are organic standards. So then, if conventional marine fish farms are actually very close to our collective aspirational ideal of a sustainable food system, perhaps that is rather a very good thing. The close similarities between "status quo" and "certified sustainable" might, in fact, reflect that marine fish farms have relatively low impacts, compared with our expectations for an animal protein production system.*
- *In support of aquaculture the Blue Frontiers report - Managing The Environmental Costs Of Aquaculture. 14 June 2011. The WorldFish Center and Conservation International investigated the environmental impact of the world's major aquaculture production systems and species, and offers a first-ever global assessment of trends and impacts of cultivated seafood. It states the environmental impact of aquaculture varies dramatically by country, region, production system and species and that aquaculture production is more efficient and better for the environment than other forms of animal protein production such as livestock.*  
[http://www.conservation.org/publications/Pages/blue\\_frontiers\\_aquaculture.aspx](http://www.conservation.org/publications/Pages/blue_frontiers_aquaculture.aspx)
- *Also agree with Daniel Lee on the need for the underlying analysis to be broadened to include these additional indicators so that a more balanced assessment can be made of*

*how standards contribute to sustainable aquaculture. It would also be helpful to consider impacts at other links in the aquaculture production chain.*

- *There is a lot of work going on in this area and equivalency of standards is a big issue for the industry – industry and consumers would welcome clarification.*

*A report was published in May 2011 to determine what eco-labels really mean. Food & Water Europe examined various seafood certification programs and found that, unfortunately, labels do not always represent what consumers expect. The new report *De-Coding Seafood Eco-Labels: Why We Need Public Standards* compares and contrasts existing private certifications including those of The Marine Stewardship Council, Global Aquaculture Alliance, and Friends of the Sea. An example:*

<http://www.foodandwaterwatch.org/tools-and-resources/de-coding-seafood-eco-labels-europe/>