



March 23, 2007

Ms. Valerie Frances, Executive Director
National Organic Standards Board
USDA-AMS-TMD-NOP
1400 Independence Avenue, SW
Room 4008 - South Building, Ag Stop 0268
Washington, DC 20250-0001

Docket #: AMS-TM-07-0032; TM-07-05

Submitted via E-mail to: Valerie.Frances@usda.gov

COMMENTS ON THE LIVESTOCK COMMITTEE'S RECOMMENDATIONS ON ORGANIC AQUACULTURE STANDARDS

In response to the notice posted on the National Organic Standards Board (NOSB) website,¹ the Pure Salmon Campaign submits the following comments on the NOSB Livestock Committee's recommendations on Aquaculture Standards. We ask that you consider these comments in addition to our previous comments presented to the NOSB Livestock Committee in October 2006.²

We present our comments in three parts:

- I. Support for the Committee's February 20, 2007 recommendation to exclude open net cages and to exclude species using wild fish for feed from organic aquaculture standards
- II. Request for the permanent exclusion of open net cages and a permanent exclusion on the use of wild fish for feed from organic aquaculture standards; as well as the prohibition of "Organic" claims on imported seafood in the absence of U.S. standards
- III. Request for substitution of the term "Minimize" with stronger, more precise language

We commend the Livestock Committee for its recommendations and we urge the NOSB to ensure that the "USDA Organic" standard is neither modified nor diluted to accommodate carnivorous finfish aquaculture in open net cages. It is our hope that the organic label will continue to provide consumers with a clear and consistent understanding of how their food was produced and ensure them that their choice of an organic food product supports a safer and more sustainable environment.

¹ <http://www.ams.usda.gov/news/048-07.htm>

² <http://www.ams.usda.gov/nosb/PublicComments/Oct06/Livestock.html>

Sincerely,

Andrea Kavanagh
Director, Pure Salmon Campaign
National Environmental Trust
202-887-8800
akavanagh@net.org

Pure Salmon Campaign submits these comments on behalf of the following:

United States

- Pure Salmon Campaign, National Environmental Trust
- East Penobscot Bay Environmental Alliance
- The Institute for Agriculture and Trade Policy
- The Institute for Fisheries Resources
- Organic Consumers Association
- Native Fish Society
- Trout Unlimited

Belgium

- Coalition for Fair Fisheries Arrangements

Canada

- CAAR — Coastal Alliance for Aquaculture Reform
- Conservation Council of New Brunswick
- David Suzuki Foundation
- Friends of Clayoquot Sound
- Georgia Strait Alliance
- Living Oceans Society
- Musgamagw Tsawataineuk Tribal Council
- Raincoast Conservation Society
- Raincoast Research
- T. Buck Suzuki Environmental Foundation
- Watershed Watch Salmon Society

Chile

- Ecoceanos
- El Canelo de nos

- Fundacion TERRAM
- Oceana Chile

Ireland

- The Delphi Fishery
- Federation of Irish Salmon and Sea Trout Anglers
- Save Our Seatrout
- Save The Swilly
- Western Gamefishing Association of Ireland

Norway

- Grønn Ungdom (Green Youth)
- Norges Naturvernforbund (Friends of the Earth Norway/Norwegian Society for the Conservation of Nature)
- Norwegian Salmon Association

Scotland

- Friends of the Earth Scotland
- The Orkney Trout Fishing Association
- Society for the Protection of Salmon and Sea Trout

Switzerland

- Fair Fish

United Kingdom

- Sea Anglers' Conservation Network
- Specialist Anglers' Alliance

I. SUPPORT FOR THE COMMITTEE’S RECOMMENDATION TO EXCLUDE OPEN NET CAGES AND SPECIES USING WILD FISH FOR FEED

The Pure Salmon Campaign fully supports the Livestock Committee’s February 20 recommendation to exclude the temporary feed provision for species requiring fish in their diets (§ 205.252(a)) and open net cages (§205.255(j)) from organic aquaculture standards, at this time. We believe this is a small victory for U.S. consumers who depend on a strong U.S. organic standard not only for seafood, but all organic products. We strongly encourage the NOSB to adopt the Committee’s recommendations to exclude open net cage systems and fish that use wild fish for feed from organic aquaculture standards at this time.

II. REQUEST FOR THE PERMANENT EXCLUSION OF OPEN NET CAGES AND SPECIES USING WILD FISH FOR FEED FROM ORGANIC STANDARDS, IN ADDITION TO THE PROHIBITION OF “ORGANIC” CLAIMS ON IMPORTED SEAFOOD IN THE ABSENCE OF U.S. STANDARDS

The Pure Salmon Campaign is concerned that the Livestock Committee’s recommendations leave the door open for organic labels for open net cages and for the use of wild fish in feed in the future. While the Livestock Committee has made a prudent decision to defer rulemaking for this type of aquaculture system, we urge the USDA to permanently prohibit open net cages and wild fish as feed from U.S. organic certification in the future.

In response to the AWG’s draft organic standards and specific questions raised by the Aquatic Working Group (AWG), the Pure Salmon Campaign submitted written and oral statements regarding our concerns over the organic label for certain farmed fish and farming systems. While we support organic certification for low food chain, vegetarian fish species farmed in closed systems – such as tilapia and catfish – we have serious concerns over organic certification for carnivorous fish farmed (using wild fish as feed) in open net cage systems.³

The “organic” open net cage system that the AWG proposed be included in the U.S. organic aquaculture standards is essentially the same farming system used by conventional salmon farmers across the globe. Thus, the environmental impacts that have been documented for conventional open net cage salmon farming would largely apply to “organic” open net cage fish farming as well.

In the absence of U.S. organic standards for farmed fish, the U.S. has been allowing imported seafood to be labeled as “organic” within the U.S. marketplace. Not only are we concerned that this practice leads to consumer confusion, but we believe that some of the “organic” seafood in our market today does not meet core U.S. organic principles. For instance, “organic” farmed salmon certified by the Soil Association (UK) allows farmers

³ All public comments, including the Pure Salmon Campaign submission, are available at: <http://www.ams.usda.gov/nosb/PublicComments/Oct06/Livestock.html>

to use toxic chemicals to treat parasites. The Pure Salmon Campaign argues that in order to maintain the integrity of the organic label, only those products for which there is an established USDA organic standard should be allowed to carry an “organic” label in the U.S. market. And, if the USDA decides to abandon or postpone an organic standard for certain seafood such as carnivorous fish or those farmed in open net cage systems, then we urge that there should be no “organic” product of this nature in the U.S. market.

Further Support for Permanent Exclusion of These Categories and Prohibition of “Organic” Claims on Imported Seafood in These Categories

The Pure Salmon Campaign has been collecting information to help assess the impacts of “organic” salmon farming operations across the globe. Some of the information we have obtained quantifies for the first time, some of the environmental impacts of salmon farming operations currently certified as “organic” by European certification bodies. This evidence demonstrates that “organic” open net cage aquaculture differs little from conventional open net cage aquaculture and neither operational method adequately addresses significant ecological impacts including:

- Direct discharge of untreated wastes into the marine environment
- Continued risk of farmed salmon escapes into the marine environment
- Spread of infectious pathogens and sea lice to wild fish
- Impacts on natural marine predators, such as seals and sea lions
- Use of wild fish for feed, leading to increased pressure on wild fish populations

Furthermore, some of the European certification schemes for “organic” farmed salmon currently for sale in the U.S. market allow for:

- Use of toxic chemicals to kill the parasite, sea lice
- Use of antibiotics in certain circumstances to treat disease
- Wild, non-organic feed that is not from a certified sustainable feed source
- Feed that is not tested for or cleaned of PCBs, dioxins, and other contaminants.

The evidence below not only demonstrates that current “organic” salmon farming operations outside the U.S. have many of the same problems or impacts of conventional salmon farming operations, but that the impacts of these “organic” salmon farms may sometimes even be worse than conventional farms. In several cases, there seems to be a Catch-22 situation for “organic” open net cage salmon farms. For instance, where “organic” farms attempt to use less chemicals to treat diseases or parasites they might then suffer higher fish mortalities or sea lice infestations as a result.

New evidence on the environmental impacts of open net cages and “organic” farmed salmon is presented by region, below:

Scottish “Organic” Fish Farming

The certification of Scottish salmon and cod farms as “organic” has been quite controversial, due to the use of toxic chemicals to control sea lice infestations and high

numbers of escapes. Based upon information obtained under Freedom of Information (FOI) by the Pure Salmon Campaign from the Scottish Environment Protection Agency (SEPA) and the Soil Association, “organic” salmon farms in Scotland were responsible during 2005 for at least:

- 6 exceedances of SEPA biomass limits
- 4,371 tonnes of feed used
- 220.4 tonnes of nitrogen discharges
- 30.4 tonnes of phosphorus discharges
- 706.9 tonnes of organic carbon discharges
- 370 tonnes of mortalities

In 2005, a portion of the “organic” salmon farms in Scotland – certified by the Soil Association – were also responsible for the use of various chemicals including at least the following (a full list of “organic” salmon farm sites was not made available to the Pure Salmon Campaign):

- 26,540 grams of Slice (Emamectin benzoate)
- 10 kilograms of copper
- 209 kilograms of zinc
- Use of Iodophor, Para Bleach, Sodium Hypochlorite, Tegodyne, MS-222, FAM 30, and Oxofoam

In 2005, this SEPA data indicates that 44% of all Scottish salmon farming companies (largely conventional farms) did not use any sea lice chemicals, yet the data show that at least two “organic” salmon farming companies employed these toxic chemicals to control sea lice outbreaks.

Partial information obtained from SEPA for 2006 (through September) reveals that “organic” salmon farm sites used 11,649 grams of the parasiticide, Slice (Emamectin benzoate). Mainstream’s Kirk Noust site on Rousay in Orkney used 11,625 grams, and Lewis Salmon’s Arbhair site used 23.9 grams. Lewis Salmon’s Arbhair site also reported the use of parasiticide, Excis (Cypermethrin) at 0.6 litres in 2006. Lewis was one of only eight fish farming companies in Scotland that reported using Excis in 2006 (through September).

The figures presented above represent only a partial picture of “organic” salmon farming in Scotland. First, some of the farm sites certified as “organic” by the Soil Association did not appear with in the SEPA data for 2005 and 2006. Furthermore, another certification body, the Organic Food Federation (OFF), has declined to provide the Pure Salmon Campaign a list of the salmon and cod farms it certifies as “organic.” According to the UK government, “the OFF organically certifies between thirty-five and forty aquaculture units mainly situated in Scotland or Shetland with several in Northern Ireland.”⁴

⁴ “Six new Scottish farms & a hatchery converted to organic fish; UK organic market worth £1.6 billion” (Seafood Intelligence, 1st March 2007): www.seafoodintelligence.com

The use of toxic chemicals such as Emamectin benzoate (Slice) and Cypermethrin (Excis) by “organic” salmon farmers may come as a surprise to many consumers who pay a premium for what they believe is an environmentally friendly and chemical-free product. Writing in the October 2006 issue of *The Observer Food Monthly*, food writer Joanna Blythman said:

Organic fish farmers are at liberty to use many of the same chemicals routinely employed by their conventional equivalents such as the pesticide-based, commercial anti-sea lice treatments, Cypermethrin and Emamectin benzoate. These can be used up to twice in the organic salmon's 30-month life even though there is a body of research to show that such treatments can have negative effects on sea creatures and the marine ecosystem. Organic salmon farmers can also treat their fish with up to three courses of veterinary medicines in this same period.⁵

For example, the Soil Association's organic standards for Atlantic salmon (January 2007)⁶ state:

With our permission, you may use: chloramine T; formalin for salmonids; antibiotics in clinical cases where no other treatment would work, or after major trauma such as surgery or accident, or with vet prescription, anaesthetics not licensed for use in fish where licensed treatments can be shown to be ineffective

With our permission, when the trigger levels in section 31.5.7 are exceeded, you may use licensed emamectin benzoate or cypermethrin based treatments. You must follow the manufacturer's guidelines for treatment. You must provide justification from your vet or a copy of your Area Management Agreement and any other relevant supporting information

You must **not** sell your fish as organic if you treat them with more than two courses of veterinary medicines per production cycle directed against *Lepeophtheirus salmonis*, or three courses of veterinary medicines directed against any species of sea louse

You must treat your stock promptly, even if the only treatment available is prohibited by these standards and will result in your stock losing organic status

You should only sell your stock as organic if there are no detectable residues of veterinary medicines in the fish

⁵ “Why organic salmon is causing a nasty smell - What's the difference between organic farmed salmon and the much-demonised variety that's kept in cages, stuffed with colours and pesticides, doomed to swim in its own faeces and prematurely slaughtered? Surprisingly little, discovers Joanna Blythman” (The Observer Food Monthly, 22nd October 2006): <http://observer.guardian.co.uk/foodmonthly/story/0,,1925040.00.html>

⁶ “Soil Association standards for Atlantic salmon” (January 2007): http://www.soilassociation.org/web/sa/saweb.nsf/Library?OpenForm&Cat=_Fish

The Soil Association, in particular, has been criticized for watering down its organic principles to accommodate open net cage salmon farms. In April 2006, Peter Kindersley (owner of Sheepdrove Organic Farm) described “organic” standards for farmed salmon and farmed cod as “betrayal of everything the organic movement stands for.”⁷ In October 2006, after he resigned as a trustee of the Soil Association over the salmon farming issue, Mr. Kindersley told *The Guardian*: “Salmon farming breaches all the basic principles drawn up by the founders of the organic movement; animal welfare, biodiversity, recycling of pollution and the avoidance of agripesticides.”⁸

Escapes from “organic” salmon farms in Scotland have also been a problem. Information obtained from the Scottish Government by the Pure Salmon Campaign in February 2007 under FOI reveals that at least six escape incidents from “organic” salmon farms have been reported by salmon farming companies to the Scottish Government since 2002 (when it became law to report escapes). Of the 80,000 escapees from “organic” salmon farms since 2002 a total of zero were reported as recovered.

The following escape incidents occurred from salmon farms certified as “organic” by the Soil Association (further escapes may have occurred from salmon farms certified as “organic” by the Organic Food Federation, but they have refused to provide a list of salmon farms they certify as “organic” so we are unable to match other escape incidents with “organic” farms):

- Mainstream's Kirk Noust site (34,500 farmed salmon on May 29, 2006 - zero recovered)
- Lewis Salmon's Arbhair site (10,000 farmed salmon on August 11, 2004 - zero recovered)
- Balta Island Seafare's Balta Island site (400 farmed salmon on August 11, 2004 - zero recovered)
- Balta Island Seafare's Balta Island site (11,300 farmed salmon on April 29, 2004 - zero recovered)
- Balta Island Seafare's Huney site (13,500 farmed salmon on November 3, 2002 - zero recovered)
- Balta Island Seafare's Huney site (14,000 farmed salmon on December 24, 2002 - zero recovered)

Concerns over sea lice infestation on wild sea trout in the vicinity of “organic” salmon farms have also been reported to the Soil Association by the Orkney Trout Fishing Association,⁹ one of the Pure Salmon Campaign’s global partners in Scotland. Mainstream, the world’s number two salmon farming company (owned by the Norwegian

⁷ “This is a betrayal of all that we should stand for” (The Daily Telegraph, 14th April 2006): <http://www.telegraph.co.uk/news/main.jhtml?xml=/news/2006/04/14/ncod114.xml&sSheet=/news/2006/04/14/ixhome.html>

⁸ “Supermarkets accused over organic foods” (The Guardian, 4th October 2006): <http://www.guardian.co.uk/frontpage/story/0,,1887918,00.html>

⁹ “OTFA Environment Subcommittee Report for 2007” (Orkney Trout Fishing Association, 2007): http://www.orkneytroutfishing.co.uk/envirionment/e_annualreport.html

multinational, Cermaq), which has had problems with mortalities and escapes in Orkney, is now cutting back on their “organic” production in Scotland.¹⁰

Irish “Organic” Salmon Farming

Irish salmon farms, certified as “organic” by various European certification bodies, have been the subject of various environmental and public health concerns.

Sea lice infestation on Irish “organic” salmon farms has been a problem despite claims that a high tidal exchange rate at farm locations “prevents the accumulation of parasites and pollutants.”¹¹ According to sea lice data collated by the Irish government, Mannin Bay Salmon’s Corhoughagh “organic” salmon farm site in November 2006 had the highest sea lice counts **of any salmon farm operating in Ireland**. Mannin Bay Salmon’s Hawks Nest “organic” salmon farm site also had the third highest sea lice counts with Muirachmhainni Teo’s Daonish salmon farm site the fifth highest for sea lice infestation (see enclosed Excel spreadsheet). Mannin Bay Salmon and Muirachmhainni Teo are certified as “organic” by Naturland (Germany), Bio Suisse (Switzerland), Qualité France, and IOFGA (Ireland).¹²

The Irish government also found sea lice problems at “organic” salmon farms during 2005 in a report published in May 2006.¹³

- Levels at Daonish (Muirachmhainni Teo), Kilkieran Bay, were in excess of treatment trigger levels for all inspections, 6 in the spring period and 2 outside the spring period.
- At Hawk’s Nest (Mannin Bay Salmon Co. Ltd.), Mannin Bay, levels exceeded treatment trigger levels at the start of the spring and remained so for the whole spring period even as the fish were moved to Corhounagh in April. These fish dropped below treatment trigger levels for August and September but rose again for the last inspection prior to harvest in October.
- Lice levels at Portlea (Clare Island Seafarms Ltd), Clew Bay, were in excess of treatment trigger levels for 4 of the 5 inspections in spring and again in June, August, September, October, and November.

Sea lice infestation from salmon farms has been shown to infect wild fish. Scientific research published in 2002 by the Irish government, for example, identified sea lice infestations from open net cage salmon farms as contributing to the collapse of wild sea

¹⁰ “Organic salmon harvest” (Mainstream): <http://www.mainstream-group.com/production.htm>

¹¹ “What makes a salmon organic?” (Atlantic Fare): <http://www.atlanticfare.com/products.php?id=7&lang=1>

¹² “The Organic Process” (Mannin Bay Salmon): <http://www.manninbaysalmon.com/organic.html>
“Irish Organic Salmon” (Atlantic Fare): <http://www.atlanticfare.com/products.php?id=7&lang=1>

¹³ “National survey of sea lice (*Lepeophtheirus salmonis* Kroyer and *Caligus elongates* Nordmann) on fish farms in Ireland – 2005” (Department of the Marine Ireland, May 2006): <http://www.marine.ie/NR/rdonlyres/8C18F011-D4C2-4709-BD56-1DA37EEE5E3A/0/NationalSurveyonsealice2005.pdf>

trout.¹⁴ Dr. Paddy Gargan of the Central Fisheries Board in Ireland testified before the Special Committee on Sustainable Aquaculture in British Columbia in January 2007:

We've shown that, on average, close to salmon farms — less than 20 kilometres from a salmon farm — there will be a very high level of lice. Once you get 60 kilometres, a hundred kilometres, these are background levels — two or three lice per fish. These are the different stages — the juvenile and the adult, in the black. There's no question that we have shown statistically that sea trout stocks close to salmon farms will have very high or much higher lice levels on average than from rivers away from farms.¹⁵

Mannin Bay Salmon's "organic" sites, for example, are on a migration route for wild salmon and in a nursery area for wild sea trout. Mannin Bay Salmon admit that: "Salmon are indigenous to this area and for generations have attracted anglers to the area from all over the world".¹⁶ Sadly, wild salmon and sea trout stocks have collapsed on the West coast of Ireland leaving anglers with few wild fish to catch.

In 2006, Save Our Sea Trout (one of the Pure Salmon Campaign's Irish partners) revealed that there had been a major recovery in wild fish populations once salmon farms and the sea lice problem were removed from the local estuary.¹⁷ Locating open net salmon farms – whether they are certified as "organic" or not – on migratory routes for wild salmon and in sea trout nursery areas is an open invitation for sea lice infestation.

Sea lice infestation is not the only problem associated with Irish "organic" salmon farms. In May 2005, the European Commission's Health and Consumer Protection Directorate (DG SANCO) reported a 'Rapid Food Alert' for "malachite green in organic salmon," with the country of origin listed as Ireland.¹⁸ Malachite green, a suspected genotoxic carcinogen, is banned from use on salmon farms. In June 2005, it was reported that: "The Irish authorities were told last week that the supplier of the salmon was Clare Island Sea Farm, operated by Marine Harvest, one of the world's leading fish farming companies."¹⁹

Chilean "Organic" Salmon Farming

In February 2004, it was reported that at least one salmon farm in Chile, operated by Fiordo Blanco and then owned by the Canadian company Heritage, was certified as

¹⁴ "Sea lice and sea trout survival in Ireland, 1992-2001" (Central Fisheries Board, 2002): http://www.cfb.ie/fisheries_research/sea_lice/seatrout.htm

¹⁵ "Special Committee on Sustainable Aquaculture – Report of Proceedings, 29th January 2007": <http://www.leg.bc.ca/cmt/38thparl/session-2/aquaculture/hansard/W70129x.htm>

¹⁶ "Location" (Mannin Bay Salmon): <http://www.manninbaysalmon.com/location.html>

¹⁷ "Ballynahinch rod catches prove a point – no salmon farm, no sea lice, no problem!" (Save Our Sea Trout, 13th December 2006): <http://www.puresalmon.org/ireland.html#story3>

¹⁸ "Rapid Alert System for Food and Feed" (European Commission's Health and Consumer Protection Directorate, May 2005): http://ec.europa.eu/food/food/rapidalert/reports/week22-2005_en.pdf

¹⁹ "New safety alert as cancer dye is found in salmon" (The Sunday Times, 5th June 2005): <http://www.timesonline.co.uk/tol/news/uk/article530168.ece>

“organic” by the German certification body Naturland.²⁰ In 2005, the Canadian Food Inspection Agency reported an ‘Import Alert’ for the illegal chemical (and suspected genotoxic carcinogen) malachite green in salmon farmed by Fiordo Blanco in Chile.²¹

As of 2007, it is understood that there are currently no “organic” salmon farms in Chile. Fiordo Blanco – now owned by the Chilean company Camanchaca – told the Pure Salmon Campaign in March 2007 that they have abandoned their “organic” operations in Chile. Naturland has, thus far, refused to provide the Pure Salmon Campaign with a list of salmon farms in Chile (as well as in Ireland and elsewhere) it certifies as “organic.”

Norwegian “Organic” Salmon Farming

There are several salmon (and perhaps cod) farms certified as “organic” in Norway. The Norwegian certification body Debio, however, has declined to supply the Pure Salmon Campaign with a list of Norwegian fish farms certified as “organic.” Debio does have information on “organic” salmon and cod farms on its website, but only in Norwegian.²²

Information published in *Environmental Science & Technology* in 2006 revealed that Norwegian farmed salmon, labeled as “organic”, was contaminated with chemicals including polychlorinated biphenyls (PCBs), dioxin-like PCBs, polychlorinated dibenzo-*p*-dioxins (PCDDs), dibenzo-*p*-furans (PCDFs), and chlorinated pesticides.²³ According to this study, co-authored by scientists at the Marine Environmental Research Institute in Maine and the Institute for Health and the Environment and Department of Environmental Health Sciences at the University at Albany:

Organically farmed Norwegian salmon had the highest concentrations of PCBs (mean: 27 ng/g, ww) and WHO PCB TEQs (2.85 pg/g,ww); their TEQ values are in the higher range of those reported in farmed salmon from around the world.....In this study, the highest concentrations of PCBs, dioxin-like PCBs, and DDT were found in organically farmed Norwegian salmon, which poses additional issues for the consumer. Moreover, these samples were found to contain a higher proportion of penta-CB 126, suggesting that the toxicity of fish should be assessed on a congener-specific basis. These observations suggest that purchasing higher priced organically farmed salmon, even when monitoring

²⁰ “Empresa chilena Fiordo Blanco obtiene certificado para producir salmón orgánico” (Aquanoticias, February 2004): http://www.aqua.cl/ver_noticias.php?doc=3101

²¹ Canadian Food Inspection Agency ‘Import Alert’ list: http://active.inspection.gc.ca/scripts/fispoi/ial/IALresults.asp?FormReq=Y&lang=e&frmCountry=CHILE&frmProduct_Type=&frmProcessor=&frmProduct=&frmDate_On_IAL=&frmLast_Reject=&m=20

²² <http://www.debio.no/text.cfm?id=0-0-435-1&type=3207>

<http://www.debio.no/text.cfm?id=0-0-68-1&type=3207>

<http://www.debio.no/text.cfm?id=0-0-566-1&type=3207>

<http://www.debio.no/text.cfm?id=0-0-183-1&type=3207>

²³ “PCBs, PCDD/Fs, and Organochlorine Pesticides in Farmed Atlantic Salmon from Maine, Eastern Canada, and Norway, and Wild Salmon from Alaska” (*Environmental Science & Technology*, July 2006): <http://pubs.acs.org/cgi-bin/abstract.cgi/esthag/2006/40/i17/abs/es061006c.html>

results are provided, does not necessarily protect the consumer from toxic exposure.

The Marine Environmental Research Institute in Maine informed the Pure Salmon Campaign in December 2006 that the Norwegian “organic” farmed salmon in question was fed on feed certified by the UK’s Soil Association and distributed into the U.S. market via Polaris Enterprises in Houston, Texas. Despite repeated requests for information, Polaris Enterprises has refused to provide the Pure Salmon Campaign with further information.

Canadian “Organic” Salmon Farming

The following information was provided by one of our global allies based in British Columbia, Canada - the Coastal Alliance for Aquaculture Reform:

According to the most recent government statistics, 77% of the farmed salmon produced in British Columbia was exported in 2003; 92% of which was destined for the United States. In volume this represents over 50,000 metric tonnes of farmed salmon entering the US from BC in a single year, making BC one of the largest suppliers of farmed salmon to American consumers. As such, the development of NOSB regulations that could affect farmed salmon production must consider the case of BC production.

The organic certification of farmed salmon was presented to the provincial regulatory body, the Certified Organic Association of British Columbia (COABC), in 2005 when the Pacific Organic Seafood Association (POSA)²⁴ approached them with their proposed standards. After careful consideration of the initial draft of standards the COABC replied with extensive comments including concerns such as the following:

Organic principles require that animals are provided with living conditions that allow them to express the basic aspects of their innate behavior. The Board feels that the long-range migratory instinct of salmon is part of their innate behavior that is distinct from their sexual maturity and that meeting this need cannot be adequately addressed in current net-based technology. The Board recognizes that this requirement may make it unfeasible for farmed salmon to be certified organic (COABC 2005).²⁵

Given the incompatibility between organic principles and current salmon rearing practices the COABC decided not to pass organic standards for farmed salmon and POSA intended to re-draft their proposal. In the meantime, a national organic program has been developed in Canada which will from this time onward set organic standards rather than the provincial bodies. Neither POSA, nor any other group, have put forth a proposal for Canadian organic aquaculture standards.

²⁴ The Pacific Organic Seafood Association is a consortium including a salmon farming company and salmon feed company.

²⁵ Certified Organic Association of British Columbia. (2005).
<http://www.certifiedorganic.bc.ca/standards/src.htm#updates> Updated: 2005.

In BC the impacts of salmon farming on marine resources including wild salmon continues to be a high profile issue soliciting much public concern. For this reason, the response of British Columbians to the prospect of USDA approved organic certification for the salmon farming industry has evoked tremendous trepidation, particularly from organic farmers, fishermen and chefs. As one organic farmer describes, current salmon farming practices in BC are at odds with his experience of what organic standards demand:

Organic farmers are held responsible for the environment, the land they use, their animals' health and freedom, waste handling and overall well-being of their surroundings. It is a way of life.

Organic farming has nothing to do with feedlot operations like fish farms, they do not use deadly chemicals to kill unwanted pests, do not treat their livestock containment systems with preservatives or chemicals to retard growth, do not dump manure and unused feeds in the environment.

Organic farmers do not confine and crowd their livestock in such numbers that they breed disease and parasites only to pass the diseases to the wild animals that share their environment (Bergh 2007)²⁶.

Another organic farmer echoed the same concerns:

As the operator of a certified organic livestock farm I know that two of the corner stones of organic farming are animal welfare and sustainability. Open net salmon farming does not meet either of these criteria.

There are many ways to farm fish in an environmentally friendly and sustainable manner but open net salmon farms are neither. It takes at least 4 lb of wild fish to make one pound of farmed salmon and they are raised in very close containment which causes the outbreak of diseases and sea lice infestations which are having a devastating effect on wild salmon populations (Larson 2007).²⁷

Given outstanding issues such as sea lice transfer from farmed salmon to wild salmon²⁸ and the impact of untreated waste released from open net-cages²⁹, the BC case demonstrates the failure of open net-cage aquaculture production to meet organic principles.

²⁶ Bergh, Steve (2007). Excerpt from email communication from Agate Creek Farm, Black Creek, BC.

²⁷ Larson, Kathy (2007). Excerpt from email communication from Poplar Park Farm, Hazelton, BC.

²⁸ Cf: Orr, Craig (2007). Estimated Sea Louse Production from Marine Harvest Canada Farmed Atlantic Salmon in the Broughton Archipelago, British Columbia, 2003-2004. *North American Journal of Fisheries Management*. 27:187-197.

²⁹ Cf: DeBruyn, A.M., M. Trudel, N. Eyding, J. Harding, H. McNally, R. Mountain, C. Orr, D. Urban, S. Verenitch and A. Mazumder. (2006). Ecosystemic effects of salmon farming increase mercury contamination in wild fish. *Environmental Science and Technology*. 40(11): 3489-3493.

While organic certification has been able to achieve remarkable gains in sustainability for other production systems, the problems associated with carnivorous finfish production can be better addressed through other means.

III. SUPPORT FOR SUBSTITUTION OF THE TERM “MINIMIZE” WITH STRONGER, MORE PRECISE LANGUAGE

Within sections of the Aquaculture Working Group task force report, which the Livestock Committee has recommended for rulemaking, the term “minimize” appears six times. The AWG recommendations include the following language on organic aquaculture rulemaking:

- “[M]inimize the environmental impact of released nutrients on receiving waters and adjoining ecosystems”³⁰
- “[M]inimize animal stress and pain...”³¹
- “[M]inimize the risk of losses of cultured stock, stress to cultured aquatic animals caused by predators, and harm to predators”³²
- “Potentially adverse environmental impacts from aquaculture production must be **minimized**”³³
- “Adverse environmental impacts associated with harvest operations must be **minimized**”³⁴
- “Aquatic animals transported to slaughter and processing facilities, or to live haul markets, shall be transported under conditions appropriate to the species and in such manner to **minimize** the adverse effects of: (1) water quality; (2) time spent in transport; (3) animal density; (4) metabolic substances; and (5) escape.”³⁵

The Pure Salmon Campaign is concerned that the term “minimize” when used on its own to dictate the level of environmental and welfare impacts is too weak, and in most cases too vague to be included in the organic aquaculture standard. In only one case, (§ 205.255 (f)), do the recommended rules extrapolate on or further define the term “minimize” by providing a quantitative limit on impacts.

To reiterate earlier comments submitted by Eric Sideman, Maine Organic Farmers and Gardeners Association, in April 2006, the Pure Salmon Campaign is concerned that the term “minimize” does not offer the “same higher standard as any other livestock system” and therefore, Pure Salmon recommends that the terms “does not contribute to” or

³⁰ § 205.252 (b)

³¹ § 205.253 (a)

³² § 205.254 (b)

³³ § 205.255 (f)

³⁴ § 205.259 (b)

³⁵ § 205.259 (c)

“eliminate” be substituted for the term “minimize.”³⁶ We note that in its “Responses to Public Comments with Interim Final Report (Revised) from February 1, 2007,” the AWG appears to have proposed changes in verbiage which include substituting “with the goal to minimize to the extent practical escapes due to predators” with stronger language that states: “with the goal to eliminate escapes due to predators.”³⁷ The Pure Salmon Campaign requests that similar substitutions be made in all cases where the word “minimize” appears in the draft organic aquaculture standards.

³⁶ <http://www.ams.usda.gov/NOP/PublicComments/AquacultureWorkingGroupInterim/SidemanE.pdf>

³⁷ Page 23. Proposed § 205.255 (i). Available at:

http://www.ams.usda.gov/nosb/CommitteeRecommendations/March_07_Meeting/Livestock/AquacultureRec.pdf