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P-I Focus: Farming is a net-loss proposition -- ecologically, socially and economically

A Salmon Scare

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By JOHN VOLPE

From the perspective of the specialist, it is a mixed blessing when the world turns its attention to your chosen area of endeavor. You feel somehow legitimized when, if only briefly, the public shares your own intense interest in the issues to which you have devoted your professional life. However, initial excitement quickly gives way to exasperation as rhetoric overshadows the substantive deliberation necessary to move from knowledge to understanding.

As a university professor dealing with issues surrounding seafood ecology, I toil in relative obscurity. The bread and butter of my research is how the relationship between the fishing and aquaculture industries is altering ecological, social and economic checks and balances the world over.

The landmark study detailing the greatly increased toxin loads found in farm salmon relative to their wild counterparts has thrust me and my colleagues around the world into the media limelight for a few moments. A seemingly endless parade of cameras and microphones has passed through my lab recently at the University of Alberta in search of expert opinion to put these startling data in perspective.

On average, farm-raised salmon have an order of magnitude higher load of cancer causing POPs (persistent organic pollutants) than wild caught salmon. This is not new. In fact over the last few years three other such studies -- albeit much smaller -- have come to nearly identical conclusions. As the dust settles around the current research, attention is shifting to consumer reaction and what effect this news will have on the aquaculture industry.

What I have not seen in any of the worldwide coverage is anyone asking "Why?" By this I don't mean, "Why are toxin loads higher in farm salmon?" The answer is straightforward and was predicted long ago from well-established bioaccumulation principles. Nor am I referring to the implied paradigm of the existence of such a thing as a safe level of carcinogen. No, my frustration is rooted in the deafening absence of what should be a vigorous debate -- "Why industrial aquaculture?" -- or more specifically -- "Why industrial salmon aquaculture?"

Consider the following:

- Current production methods adopt maximum economies of scale. Thus, feedlot style, open net-pens

in the oceans simultaneously maximize consumption of marine (read: public) resources (i.e. fresh, oxygenated water) while offloading production wastes (feces, uneaten food) and byproducts (toxins, antibiotic residues, escaped fish, bioamplified parasites and pathogens). Each net-pen (numbering in the hundreds on both of Canada's coasts) is tantamount to an untreated sewer outfall introducing solid and dissolved wastes directly into the marine environment. This is in every way "industrial waste," disposed of at no charge.

- The unnaturally high densities of animals in the feedlot environment of net-pens make that environment a breeding ground for disease and parasites. Recently in British Columbia, farm-derived parasites were implicated as the causal agent leading to the largest salmon cohort collapse on record anywhere in the world, ever.

- Three to five kilos of edible fish are used to make one kilo of farm salmon; a net loss of protein badly needed by humanity.

- The contribution of the salmon aquaculture industry to British Columbia's gross domestic product in 2001, as calculated by the Canadian Centre for Policy Alternatives, was $87 million. Marine-based industries directly jeopardized by salmon farming, including commercial and sport fisheries and marine tourism, contributed $582 million, or 51 percent of the provincial total.

- Salmon farming in Canada is dominated (greater than 80 percent of B.C. production) by foreign-owned multinational companies seemingly intent on liquidating Canada's natural marine capital for a very small profit. A similar arrangement characterizes the Washington state industry.

- Farm salmon overproduction (principally from Chile and Norway) has driven the price of all salmon to all-time lows. This forces Canadian and American farms to slash jobs to remain competitive and has brought ruin to coastal fishing communities across the Northern Hemisphere (which depend on a fair price for their wild catch).

So, even a cursory review of the available information leads to the question of why we are engaging in this activity? This industry is clearly a net-loss proposition, whether viewed from the ecological, social or economic perspective. Consumers have either been uninformed or have opted to turn a blind eye to these facts. Admittedly, the cause-and-effect relationship between the viability of the world's oceans and your choice of entree is not as obvious as it could or should be but that does not make it any less real.

The take-home message of the recent research is that we can no longer ignore the natural law that what is bad for the environment is bad for your health. Perhaps if industrial salmon aquaculture really held promise to feed the world's hungry or revitalize our struggling coastal communities or even provide a worry-free epicurean experience, there would be reason to give that industry the benefit of the doubt.

Alas, the farm-raised salmon destined for your dinner plate arrives with overwhelming environmental and social baggage, in addition to -- as we now know -- not being as healthful as you've been told.

As with most enviro-social dilemmas, there is hope, and options are available to consumers. The wild Pacific salmon fishery, contrary to popular belief, is not dead. Its major problem has not been lack of

wild salmon, which have been plentiful in recent years. Rather, the problem has been to remain viable in the face of rock-bottom prices from the farms offloading costs of production to our coastal habitats. There are five wild Pacific salmon species, each unique in taste and texture.

Advances in flash freezing at sea have resulted in continent-wide availability of a prime product 12 months of the year. In fact, for anyone who cares about what she/he eats, Internet communication and entrepreneurial spirit have combined to make it possible to buy fish (not just salmon) directly from the fisherman, regardless of location (some even have on-board Web cams). Supporting these fisheries not only does your body a service but also helps to support the dozens of coastal communities hurt by plummeting salmon prices.

The major hurdle to the informed consumer is the current lack of labeling in supermarkets and restaurants. Without consistent labeling (farmed or wild, country of origin), the consumer cannot make an informed decision. Currently grocers and restaurants are not required to provide this information, a situation that is unfair to consumers and must change.

The moral of this story resonates far beyond the farm salmon debate, coloring all of industrial agriculture: There are no shortcuts. So long as market forces alone shape how our food is produced, we will be faced with similar reality checks with increasing frequency and magnitude. Market forces only work when truthful product labeling and public understanding of all the costs accompany them.

Indeed, the current crop of toxic farm salmon stories appearing in this paper compete for page space with mad cow disease coverage, transgenic crops and the like -- all born of the shortsighted demand for more with less.

In light of the remarkable shortcomings of this industry, it is time consumers *and* bureaucrats recognize that industrial salmon farming is a solution in search of a problem. Aquaculture in general has a bright future to be sure, but farm-rearing salmon is no one's idea of sustainability. The story is not just that farm salmon have greatly elevated toxin loads, but that this is actually the thin edge of the wedge.

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