

Is salmon farming sustainable?

BY CHRIS GENOVALI, SPECIAL TO THE SUN MAY 14, 2010

Mary Ellen Walling's opinion piece (Farmed salmon is more than just another meal option, May 10) conveniently skips over every single substantive problem salmon aquaculture presents to the marine environment, both locally and globally.

One-dimensional economic arguments aside, the first and foremost concern should be whether farming carnivorous species such as salmon is sustainable. In order to farm salmon, harvesting of wild fish and krill for fishmeal is required to produce the feed.

Leading fisheries experts, such as Daniel Pauly of the UBC Fisheries Centre, have cautioned against "farming up the food web" because of the inefficient and wasteful use of biological resources, all of which are already used by humans and other organisms, and some of which are commercially valuable. Estimates indicate that farming salmon requires anywhere from two to four kilograms of wild fish to produce one kilogram of farmed fish. In contrast, farming herbivorous species, like tilapia and carp, requires minimal inputs of fishmeal.

Corey Peet is an ecologist researching the impacts of aquaculture on the marine environment. As he explains: "Natural food webs take the shape of a pyramid. At the bottom of the pyramid lies an abundance of organisms that gain their energy directly from the sun or chemical processes. The next step up the pyramid are the slightly less abundant organisms, mostly herbivores, that feed on those below them. With each step up the pyramid, only 10 per cent of the energy is passed on to the next step, as 90 per cent of energy is lost to heat. Therefore, fewer organisms can be supported as you step up the pyramid, leaving only a few predatory species at the apex. There is a reason why we only see a few carnivores in the wild; nature only has so much energy to go around. Thus, when we consider the farming of salmon against the fundamental basics of ecology, it makes no sense to claim that this practice is sustainable."

With the majority of the world's fisheries in crisis, scientific evidence suggests that salmon farming is hurting more than helping the global fishery problem. In fact, the volume of harvested fish required to support the salmon farming industry in Europe is larger than the productivity of the entire North Sea, requiring the industry to depend heavily on fishmeal imported from South America. The practice of taking protein sources from the Southern Hemisphere raises significant ecological concerns. The aquaculture industry in this province is also accessing, inadvertently or not, B.C.'s wild fisheries to feed its farmed salmon. Although the industry will claim that it is continuing to lower its dependence upon marine derived protein through the development of alternative feeds, such as soy protein, these gains have been offset by the rapid growth of the industry.

Peet also points out that more than 85 per cent of the world's aquaculture production, primarily in Asia, involves the use of non-carnivorous species (freshwater fish, shellfish, and seaweed), and this has resulted in global aquaculture production adding to world seafood supplies. However, while the global aquaculture industry is a net fish protein producer, aquaculture of carnivorous fish is a net fish consumer.

Past and current scientific information suggests that farming salmon and other carnivores is not sustainable, contrary to industry claims. Farming carnivores is inherently illogical from an ecological perspective and layering additional risk factors, such as disease transfer and sea lice infestation, upon B.C.'s salmon via open net-pen aquaculture when our wild stocks are already under a suite of pressures makes no sense at all.

Accommodating salmon aquaculture in B.C., whether it is by eco-certifying "good" farmed salmon versus "bad" farmed salmon, or promoting closed containment or land based systems, will likely prove fruitless, unfortunately, as the industry has shown time and again it has no serious interest in embracing alternative technology. In light of this continuing intransigence, it might be time that multinational aquaculture corporations just got out of B.C. Period.

Chris Genovali is executive director of Raincoast Conservation Foundation.