

Testimony by John Forster – Seattle Nov. 17, 2005

Chairman members of the Commission. Thank you for this opportunity to address you. You asked me to comment on the impacts of aquaculture on coastal communities, the commercial fishing industry and the environment. I offer the following.

Coastal communities

Aquaculture, like agriculture, is a primary industry. As such it needs inputs of services and raw materials and produces outputs that require processing and distribution to end users. The economic activity created by this can be substantial and some of it can and, in some cases, necessarily does, provide opportunity to local communities.

Studies on salmon and catfish farming suggest on average that 15-20 full time jobs are needed to service, grow, process and distribute every one million lbs of aquaculture products.

In essence then, that is what aquaculture offers. Clearly, not all of the jobs will occur in the community where the farming is done and, in some cases, communities don't need or want the jobs anyway.

But where they do and by way of example, I can tell you when I was asked to set up a salmon farm in Port Angeles 20 years ago, in addition to jobs on the farm itself, I needed services for transportation, machine repair and fabrication, marine supplies, legal and accounting, fish processing and real estate. And I was able to meet most of these needs locally.

I see nothing in the future of marine aquaculture that will require anything less. If some coastal communities would find such activity beneficial, then I submit that this is what aquaculture can do to help them.

Fishing Industry

First, let me say that I don't think there is any avoiding the fact that products from aquaculture are a competitive source of supply to products from commercial fishing – just as cars made by Toyota are competition for General Motors.

But, to me, the term 'fishing industry' means more than just the capture of the fish themselves. The fishing industry, surely, includes as well, all the seafood companies who own boats, buy fish, process it and sell it?

Most of them are already in aquaculture, because they already buy, process and sell aquaculture products.

So, as I see it, the competition is mostly with those who actually catch fish, not the 'fishing industry'. And, since our natural fisheries can't supply all the fish we need, it's, surely, not a zero sum game and, therefore there should be room for both fishing and aquaculture?

So it's not clear to me that this is reason to reject aquaculture. Whereas it is clear that the fishing industry in a broader sense, needs more aquaculture. That's why it already imports large volumes of aquaculture products and it has the support of the National Fisheries Institute.

I'll make one other point on competition if I may. People say, "even if we permit aquaculture here, we can't compete with lower wage competitors overseas". I disagree.

As evidence, I point to our extraordinarily competitive terrestrial livestock industries and our catfish farming industry. Through technology, first class husbandry, mechanization and streamlined product flow, they compete perfectly well.

And, perhaps even more important, as we contemplate aquaculture in the open sea, is that we can be sure that this will provide a level playing field. In fact it plays to our strengths.

No one is going to be able to farm fish safely and efficiently offshore without the best technology, the best equipment and the best-trained people. None of which should give us reason to be fearful.

Environment

If you'll permit me, I'd like to use my remaining minutes to look at this question from a perspective that seems to get set to one side these days in most aquaculture discussions.

I'll be pleased to answer questions on the usual issues later, but I'd like to go back, now, to a time, over 40 years ago when I was 18 years old and in the English equivalent of 12th grade. And I decided that aquaculture was something I might like to do.

There were writers and ocean explorers at the time who were talking about the idea that the supply of fish in the sea was not inexhaustible. And that, sooner or later, we would have to learn to put back as well as taking out.

Jacques Cousteau wrote eloquently about this in the 1970's. And he captured what has since become a text for many of us in aquaculture, when he wrote: "*We must farm the sea as we farm the land, by sowing as well as reaping*"

To me, this was a noble and inspiring idea. Those of us who went into aquaculture at the time felt a sense of mission, an ideal that at some time in humanity's future we would learn to put back, and that the sea, as well as the land, could be cultivated for the benefit of man.

I don't think we were under any illusions about the technical challenge. We fully realized it would be decades, in fact centuries before a mission this big could be completed. But, as Lao-Tzu once observed - a journey of a thousand miles must begin with a single step, and we started.

I look back at what's been accomplished in the last 40 years as just a few initial steps. That they have been stumbling is no surprise.

That our present methods of fish farming are imperfect and were even more so in the 70's 80's and 90's, is no surprise either. That's just the normal path of human progress, where we learn as we try.

Especially, we have learned from the salmon farming industry, which I know people love to hate, but which has shown us that we really can go to sea and farm to produce large volumes of high quality, nutritious food at a cost that meets the demands of the modern market place.

That's an amazing achievement, especially when you think that it has been done, despite concerns that have been raised, with relatively minor environmental impact.

I know that there are people that will dispute this. But I encourage those who do, not to hold aquaculture to standards that they don't apply to our other human activities. Since we're talking about the production of food, this would include especially commercial fishing and all our traditional agriculture.

Of course salmon farming, indeed all of aquaculture, can and will be done better, but those who only look back disapprovingly miss the point. Instead, I think that what the salmon farmers have done is to prove an extremely important point and, in doing so, have lighted a way for the journey ahead.

NOAA's Offshore Aquaculture Bill is another step. It simply asks Congress for permission to put in place a regulatory framework that will then allow investors and entrepreneurs to take further steps.

I find it hard to see why a bill like this shouldn't get unanimous support - from Congress, Environmental NGO's and everyone else who cares about the Earth and its ability to support our human needs.

One of the things that has perplexed me in recent years, as we have fought the salmon farm wars, is that, though salmon farmers and NGO's seem poles apart, we actually care about the same things.

We care about how an exhausted Earth can continue to support ever increasing human demands. We care about the environments, in which we live and work, and that they should remain healthy and fully capable of supporting what we ask of them.

We worry, that as 2.3 billion people in China and India begin to consume as we do, that we really don't have a clue, nor are we facing up to, how we are going provide for them.

But we differ about solutions.

John F Kennedy once said, *"There are costs and risks to a course of action, but they are far less than the long range risks of comfortable inaction"*

Clearly there has to be a balance and I understand that debate between action and precaution helps to find it. But what I see with aquaculture in America today, in contrast

to much of the rest of the world, is that this balance, though comfortable, is heavily skewed to inaction.

In aquaculture, we find this especially strange because we see what we do as a solution to the challenge of future seafood supply and of maintaining healthy fisheries - not a threat.

Let me conclude by offering the following:

- 70% of the Earth's surface is covered by sea
- 30% is land from which we produce 4.7 billion metric tons of food per year
- We do this by cultivating about 24% of the space it provides.
- From the oceans we take less than 100 million tons every year of wild caught seafood, less than 2% of our total food supply by weight and less than 7% in terms of protein.

I find myself asking how can such an extraordinary disparity continue between the way we use the land and the way we use the sea.

If I look forward to a time when I won't be here any longer, but when there may be 8 or 9 billion people on the planet, all of them expecting more from it, I have to think that we must find a way to make more productive use the other 70% of our planet's surface.

If you do the math, it would require the farming of just 10% of it to double our global capacity to produce food.

Now, you may be thinking this is way too fanciful and optimistic and bears little relation to the status of marine aquaculture today. I fully realize that this IS a journey of a 'thousand miles' and that we haven't got very far yet.

There's a huge amount to do and huge opportunities in waiting. But, in my view, the 'ecological fundamentals' are in place and the 'ecological necessities' are all too apparent. And at some time in our future, this will have to happen.

Especially, I think one of the things that will happen is that, in the longer term, the future science and practice of what we might call 'Ocean Agronomy' will be based on the cultivation of plants, not animals, to be used for feedstuffs, biofuels or direct human consumption – just like agriculture today.

Marine aquaculture could then become a 'zero emissions' industry, in the process sequestering CO₂ and producing a wide range of useful products.

But just as agriculture started when man first corralled some animals 10,000 years ago, so we've started in the same way. And we won't get to where we need to go without going through a similar evolution.

So I urge you in your deliberations:

- To judge aquaculture in the context of all our various efforts to provide for ourselves, not in isolation.
- To look forward to where it can go, not back to where it has been.
- And to encourage the development of an industry whose potential we have only begun to glimpse, not to stifle it by precaution and prescription when the challenges we face call for boldness and imagination.

JF
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