

Aloha, Jan,

I am in receipt of an email that you have circulated to a group of people regarding our open ocean fish farm application off Unualoha Point, in Kona. It appears that you have either not received my email of April 29th, 2003 (a copy is attached herewith, but it had not bounced back to me, so I presumed it you had received it), or that you have chosen not to respond directly to us.

We are disappointed if you have chosen the latter path. As I have indicated to you in several previous conversations, we have taken great pains over the last two years to reach out and engage the broader Kona community in education and discussion about our offshore fish farm proposal. It is a new concept, and it is worthy of full and frank consideration. We believe that offshore fish farming offers tremendous promise for building a more diverse economy in Hawaii, and for reducing the ongoing depletion of our ocean's resources, but we wish to address the various issues in an open, constructive manner. We would have greatly preferred it if you had been able to direct your questions and concerns to us, rather than ignoring our standing invitation, and taking a contrary approach.

We recognize that with this new technology, there will be concerns and questions that need to be addressed. Where these issues may be valid - such as where you point out your concerns with our proposed use of active sonar equipment - we are willing to find some ameliorating common ground (please see the more detailed discussion below). However, we also need to dispel some of the misinformation and fear-mongering that might be inadvertently circulated, or otherwise disseminated.

In the vein of trying to address your concerns constructively, I would like to respond to the major issues that you raise in your email, and to also clarify a number of misrepresentations therein. For clarity, I will do this in pointwise fashion, with quotes from your email highlighted in **blue font** :

1. "... **a series of fish pens covering 81 acres in Makako Bay ...**". No, Jan. We are requesting a lease over 81 acres offshore from Unualoha Point, north of Makako Bay. The proposed fish pens will only occupy the central 9 acre area. The rest of the 72 acres of the lease will only be used for the underwater moorings to secure the pens.

2. "**Kona Blue Water Farms is proposing to locate their fish farm in one of the most critical resting areas for spinner dolphins on the Big Island.**" No, Jan. As you are well aware, the fish farm cages will be some 3,000 feet away from the normal resting area of the dolphins. The only potential overlap will be where any "milling" dolphins reach the south-easternmost corner of the lease area. The draft EA clearly states "*Under the current working plans for the net cage design, however, this corner of the lease would not contain any anchors and mooring lines (Figure 3, and Plate 1); in any event, there would be no net pens or other substantive farm structures in this corner of the lease.*"

3. "**Contrary to what the Kona Blue Water Farms states, the spinner dolphins do not migrate through this area. They are a resident population of animals that uses this bay as a resting area on a regular basis. They do not migrate.**" We have relied on the best available scientific evidence in our EA – in this case, the comprehensive studies by Norris and his colleagues which have been published in peer-reviewed journals. In our draft EA, we quoted extensively from Norris and Dohl, 1980. An excerpt (from page 28) is provided below. If you have further scientific information that differs from this study, then we would certainly be interested in reviewing it, and perhaps including it in our final EA.

Our intention here is only to provide the best possible assessment of the environmental setting, and the potential impacts of our proposed project.

From draft Environmental Assessment, p. 28: *"The dolphins that are found north of Keahole are part of "the largest school ... on the lee side of Hawaii" (Norris and Dohl, 1980, p. 827). The school ranges from Honokohau Harbor to Kiholo Bay, and may occur as a single school at times, or "fragmented into three or four smaller schools, separated by a few kilometers of coastline" (ibid). "The dolphins do not seem to occupy any of the small coves consistently, but to congregate over the rather extensive area of shallow water, moving back and forth." (ibid). "The dolphin populations ... are not composed of discrete schools of modest size, but instead of highly fluid groups that may range considerable distances and may be associated in very variable combinations of individual animals" (ibid, p. 822)."*

... and later, also on p 28 ...

"There is a "fluidity in school structure and variability of school movement" (Norris and Dohl, 1980, p. 828). "Dolphin schools are not always in these rest localities, and the number of animals using a given cove may vary widely from day to day (ibid). Norris and Dohl (1980, p.830) "reject(ed) the idea of a given cove having a definable resident school", with individual animals moving from Keahole Point school as far south as Kamilo Point. School size also often varies, with one individual dolphin associated with schools ranging from 6 to 150 animals (ibid)."

4. *"These subgroups mill independently and spread out over most of the area of Makako Bay. The effect of this subdivision, is that these schools require a large area to rest. The location of the proposed 81-acre facility right on the edge of this critical resting habitat is likely to crowd these large resting schools and disrupt the dolphins' rest."* See point 2., above. There is only minimal overlap between the "milling about" areas and the proposed lease area. The mooring lines and anchors will not be in this overlapping corner. In any case, all our moorings will be stationary. All of the available evidence suggests that stationary moorings present no significant obstacle or impediment to dolphin resting (see draft EA excerpt, below). Of more concern, I think, is the presence of boats and divers intruding directly into the resting schools of dolphins.

From draft Environmental Assessment, p. 37: *Norris, et al., (1994, pp 51 – 52) expressed concern that the direct encroachment of yacht moorings may "displace the dolphins from their habitual resting areas" in Kealakekua Bay. The proximity of the moored yachts on more than half of the available sandy area in Napo'opo'o, however, did not appear to disrupt the resting of the dolphins on the remainder of the shallow bay. The dolphins in Kealakekua Bay reacted to foreign objects "in much the same way as we have come to expect from fish schools" (Norris and Dohl, 1980, p 841; i.e. a school approaching an obstruction moves around it, on either side, and reforms once they are past the obstruction).*

5. *"My comments are misrepresented in the Draft EA, which makes it appear as if I concur with the proposed location of the fish farm, when nothing could be further from the truth."*

We apologize if you feel that we have misrepresented your views, but we believe that we cited you accurately and honestly. We have repeatedly asked for your further comments on this draft EA. When we first posted an earlier version of the EA draft on our web page, we sent a notice out to all those

interested parties that we had engaged through community meetings – including yourself. We received no comments from you to clarify the statements that we attributed to you.

The two areas where we did cite you as a personal communication are :

In the caption for Figure 5 (i.e. “*The migration by spinner dolphins (*Stenella longirostris*) through the area suggests that the farm will not interfere in any significant manner with the animals' movements. Dolphins may move into the SE corner of the lease area during resting (Jan Ostman-Lind, pers. comm.), but will not encounter mooring lines, anchors, or net cages under the present farm mooring design.*”, and again,

On page 37 (i.e. *Jan Ostman-Lind (pers. comm.) indicated that resting schools sometimes move out into deeper water, and may at times intrude on the SE-most corner of the proposed lease area, in 50 m depth. Under the current working plans for the net cage design, however, this corner of the lease would not contain any anchors and mooring lines (Figure 3, and Plate 1); in any event, there would be no net pens or other substantive farm structures in this corner of the lease.* ”

Please let us know how you would like us to revise these references in the final Environmental Assessment, and we would be happy to do so.

6. “[In addition, my suggestion to move the fish pens farther offshore was brushed off as impossible, since the current technology would not allow for these pens to be located in deeper waters.](#)”

We did not say that it would be impossible to locate cages farther offshore. It probably is theoretically possible, but it certainly would be much more expensive, very impractical, much more difficult to manage, and nearly impossible to maintain any security over the site. The fact that the Ahi Nui Tuna Farming company has indicated that they will conduct an EIS to examine relocating their tuna farm to waters over 100 fathoms (600 feet) deep does not mean that it is now practical or reasonable to do so. There are huge increments in costs for such a change. The cage designs would have to be different and much more robust. Greater-sized anchors and heavier mooring lines would be necessary, and larger boats would be required to service the farm in the rougher waters. Further offshore locations would also reduce access days to the farm because of the greater weather exposure.

Also, as the water gets deeper, the lease area grows geometrically larger. For every 100 ft deeper, the anchor lines need to spread out at least a further 300 ft in each direction. E.g. if we were in 300 ft deep water, we would need to have a lease of 144 acres; if it was in 400 ft, the anchor spread would cover 225 acres, and so on. Actually, as you go further offshore, you would also need to increase your anchor scope from 1:3 to maybe 1:5, because it's deeper, and you would also be more exposed to the Waikoloa winds. A 1:5 scope would mean that a farm in 400 ft deep water would need a lease area to accommodate the anchor spread of 530 acres Now that is starting to sound like a significant impact! Equally, or more importantly, is the additional risk and difficulty in running a project exposed to much rougher conditions and deep water. It is possible to have divers inspect moorings at 150-200 feet, although it is dangerous. Any deeper than that is extremely risky, requiring very specialized professionals. We are not ready to risk people's lives like that.

Furthermore, your insistence on conducting an EIS and pushing fish farming into deeper water will exclude local involvement in this industry. Open ocean fish farming in Kona will then be the exclusive

domain of mainland investment companies and international agribusinesses. We believe that local Kona companies - and local Kona fishermen - should be able to emulate our efforts, and get involved in developing open ocean fish farming. Very few local ventures could sustain the costs of an EIS. Virtually no local ventures could afford the capital costs for locating a farm out in waters over 600 feet deep. To insist on these two criteria as prerequisites for any fish farm in Kona is therefore to exclude local participation in this promising industry. Mainland or foreign-owned operations will also demand bigger economies of scale, to provide higher returns ... and so the farms will have to be significantly larger.

Our farm, as proposed, is small (only 6 cages, of 80 ft diameter), and it is locally owned (our company has been at NELHA now for nearly 11 years). My business partner and I both surf, fish, and dive along this stretch of coastline. We are accountable to our community, in a way that a large, foreign-owned venture never could be. What style of offshore fish farming would you like to encourage in Kona, Jan?

7. “There will be a fair amount of human activity and noise generated from this operation on a daily basis, in the near vicinity of the largest resting school of spinner dolphins on the Big Island.”

Again, we think that there should be far greater concern focused on the presence of commercial dive boats, snorkelers and SCUBA divers who actively pursue the dolphins while they are resting. Some people go out to Makako Bay with the express purpose of diving with the dolphins.

By contrast, we envisage that our work boat would arrive at the site early in the morning - around 7 - 8 am. This is well before the transit of the dolphins past the farm site into the Bay. The main activities during the day would be feeding of fish. On two or three days a week we would undertake grading and harvesting as well. All of these activities would take place inside of the cages, and therefore would offer little chance of disturbing the dolphins.

You may be correct in supposing that the use of active sonar would be a cause for concern, but our understanding is that the impacts of sonar depend on the power of the transducer. We only intend to use echo-sounders of the same power as are used on the average fishing boat. The sonar would only be activated if there was evidence of an intrusion into the cage area. This would be used almost exclusively at night, when the cage is left unmanned. The dolphins are not found around the Makako Bay site or near the fish farm site at night.

During the day, the farm would usually be manned, or we can maintain adequate security from shore, or by using radar. We would be happy to discuss with NMFS or other responsible agencies the security measures that we would propose to use, prior to their installation, to minimize any negative impacts on the dolphins or other marine mammals.

8. “It is clear that there is a strong potential for harassment of at least one marine mammal species protected under the MMPA.”

I think that this might perhaps be an overstatement, Jan. It is certainly unfounded, and its inflammatory tone is not helpful to well-intentioned considerations. There is no evidence of any potential for harassment. Harassment involves active pursuit of schools, such as occurs with some of the dive operations or whale-watch folk. A self-contained, stationary farm operation cannot constitute

harassment. There is not even any evidence for potential negative impact on the dolphins, based on all of the available evidence at hand. Perhaps we should let the NMFS officials make an objective assessment of this evidence, and draw their own conclusions. I am happy to do so.

9. “This includes the impact of high levels of organic and nutrient pollution (unused feed & fish feces) likely to come from this operation.”

This statement does not reflect the available evidence as presented in the draft EA. All of the data from the Ewa Beach fish farm cage indicates that the nutrient levels downstream of the fish cages are usually undetectable, even right at the very edge of the cage (see Professor Emeritus Chuck Helsely’s article in Hawaii Fishing News, March, 2003 – there is a copy of this article on our web site). The beauty of farming fish in sites such as this, in deep water in the tropics, is that firstly, there are strong long-shore currents to dilute any effluents, and secondly, at these high ambient temperatures, the natural breakdown of any nutrients occurs very quickly. This situation is therefore vastly different to a salmon farm stuck in the back of a fjord in Norway, which has almost no current, and where the water temperature is close to freezing.

10. “Although there is a strong current in this region given the total volume of waste that will be produced in such close proximity to the shoreline (2000 feet) there is a strong possibility that these nutrient poor waters will be highly impacted by the influx of nitrates, nitrites and phosphates.”

This does not reflect the reality of the water movements at our proposed site: all of the currents past Keahole are long-shore. Currents do not run from the cage farm inshore onto the dive sites. Under a north-setting current, the nearest down-current reef is near Mahaiula, some three or more miles away. Under a south-setting current, the nearest down-current reef is at Keahole Point, one mile away.

We are very, very concerned that there be no negative impacts from this operation. We are both marine biologists who live and work here in Kona. Our hatchery relies on the cleanliness of the surface waters at NELHA. All of our work to date – and our future livelihoods – depends on us running an ecologically sustainable, minimal-impact operation.

We fully expect to - indeed, we embrace the idea of having to - conduct comprehensive environmental monitoring of our fish farm site. Federal and State law mandates that we obtain and maintain an NPDES permit from the EPA and State Department of Health Clean Water Branch. If we exceed the allowable limits under this permit, we either have to instigate immediate mitigation measures - such as reducing feeding rates or reducing the fish densities - or we are shut down. They pull our permit and we're out of business. We would expect the same standards to be imposed on any other fish farm operation that might be set up in Kona, and we expect the monitoring and compliance information to be made publicly available.

11. “A comprehensive environmental impact study (EIS) is needed to more fully disclose any potential environmental issues that may not be readily apparent at this time.”

Jan, this draft Environmental Assessment represents the culmination of a two-year process of research, writing, discussions and meetings. We have consulted extensively with kupuna, shoreline conservation groups, and community interests, as well as State agencies, Federal experts and the local County. We

have circulated earlier drafts of our EA to interested parties, and we posted it on the web over 6 months ago, to ensure that we obtained maximum exposure and full and complete input from the public. There has not been any suggestion of any other “potential environmental issues”. It is highly unlikely that an EIS would uncover anything else that is not already “readily apparent”.

12. “To quote some of the reviewers of the EA for a similar project off the Kohala Coast prepared by Ahi Nui, (<http://www.kamakani.org/ahinui.html#anchor536094>) my overall impression of the Draft EA is that it is "a tool of justification for the project rather than a discovery and study of actual impacts".”

Jan, I think that it is inappropriate for you to attempt to taint our proposal by association. We believe that our draft EA is a comprehensive, detailed and honest assessment of the likely impacts – or lack thereof – resulting from our offshore fish farm proposal. We fully expect to be actively involved in ongoing monitoring, and that this further data will affirm our EA’s conclusions. If there are any impacts that unexpectedly become apparent during this monitoring process, we will, of course, respond rapidly to mitigate and reduce the extent of the impacts. There is a well-established process for this monitoring and compliance oversight.

Again, if you would like to help further the Environmental Assessment review process in a constructive way, then please respond directly to us. We would welcome any information obtained from reliable sources that might challenge that which we have already written. We would also appreciate hearing any other questions or concerns that might need to be addressed.

Thank you, and aloha,

NAS