

Pertaining to the Planning Commission hearing to be held July 28, 2022 for Nordic Aquafarms California, LLC, Record Number PLN-2020-16698

To the Planning Commissioners and staff:

The original promise of the Nordic Aquafarm project has significantly dimmed after the EIR process failed to resolve several problems. The GHG emissions from energy use, refrigerant use, and transport remain well above the sustainable threshold. Factor in the GHG emissions of the fish food, and the increase is truly daunting. Perhaps it would be tempting to shout, "Damn the torpedoes. Full speed ahead!" if this were a different time. It may be difficult for many of us to grasp that we must alter our priorities and our approach to business if the current climate emergency isn't to become catastrophic.

The basic concept of RAS aquaculture could be a good fit for the Samoan peninsula if the project were scaled much differently. Growing Atlantic Salmon, in particular, apparently poses such huge challenges that only one company, Atlantic Sapphire, has actually produced salmon, using the RAS technique, and it has lost millions of dollars and hundreds of thousands of fish. Its CEO, Johann Amdreassen, warns that growing Atlantic Salmon on the scale they are attempting is very difficult. Their biggest operation aims for 10,000 tons of salmon--less than half of Nordic's target. The die-offs demonstrate that technology for these gigantic aquaculture factories is not yet well developed. Is a project that hasn't succeeded on a pilot scale yet a good investment for Humboldt county?

The energy efficiency of this proposed operation is also in question, making the climate impacts of its GHG emissions unacceptably high. Nordic's promise to use only renewable energy is somewhat abstract at this time. At best RCEA would procure clean energy contracts from sources somewhere in California that theoretically displace fossil fuel use--at least until the rest of the state completes the transformation of its grid. We hope that happens as soon as possible, and we hope that PG&E will shut down its natural gas operation by 2045. Meanwhile, that's where our energy comes from, not to mention biomass electricity, which is more carbon-intensive than natural gas.

So the reality of our energy supply here in Humboldt county has a very long way to go before we can truly claim that it's a hundred percent clean and renewable. Increasing our energy usage by 25% while complying with SB 32 to decrease our carbon emissions by 40% below 1990 levels by 2030 seems all but impossible. Do we think everyone else should do it but not us? Nordic's proposed 4.8 MW rooftop solar array is a good start, but supplies only a small fraction of its need. What Nordic really needs is access to a giant wind farm, so they might be in luck a few years down the road. Unfortunately, in light of all the uncertainties right now, we cannot count our megawatts before they hatch.

A large, essential operational feature for any fish farm is the use of refrigerants. Commercial refrigeration typically loses 25% of its chemical charge every year. Unfortunately, Nordic has refused to identify which refrigerants they will use or to commit to using the refrigerants with the lowest global warming potential. They say only that they will follow the law--a promise that strikes fear into the heart of anyone who has studied refrigerants. The law currently permits refrigerants that retain two thousand times more heat than carbon dioxide to be used in commercial systems. Without this vital information, how are we to assess a major sector of emissions for this project?

A quite similar lack of concrete detail applies also to the estimates of vehicle miles traveled cited in the EIR. These miles would be incurred by transport of their product and of the fish effluent to Marysville. We have to wonder where they got the number of 2,268, 907 miles when they state in the EIR that "Specific trip lengths (such as minimum, maximum, average, or distribution) for short-hauling and

long-hauling were not known." Such opacity fails to inspire anyone's confidence in the accuracy of their estimate of 2371 metric tons of carbon for their transport--not that that isn't a sufficiently impressive amount.

Perhaps the issue of food for the fish presents the thorniest problem. Guaranteeing a sound food supply is, of course, number one priority for the future. It makes intuitive sense to farm fish to supply high-quality protein and to take pressure off wild stocks which are dealing with worsening ocean conditions. However, Atlantic Salmon need as much food as they supply. Even if we justify converting bottom fish--food for the world's poor--to a high-end product for the middle and upper classes, we need to further justify the expense of so much energy devoted to the process of catching the fish, processing them and shipping them.

Nordic has promised to procure certification from the Aquaculture Stewardship Council, which tracks all aspects of fish farming, including procuring the feed and the subsequent GHG. For the amount of fish food Nordic would require, those emissions would amount to around 150,000 metric tons per year, according to sustainability reports from Skretting and Cargill, two producers of fish feed. That Nordic's EIR leaves out entirely this impact while promising to meet ASC standards throws their credibility, or at least their sincerity, into doubt. Apparently, a CEQA technicality permits Nordic to leave those emissions out of the EIR because they would originate outside of California. Everybody knows this is an unnatural way to define emissions, which have no geographical loyalties.

Humboldt Bay's suitability for sustainable aquaculture is already proven. Twenty-one acres of bay have been pre-permitted for shellfish and seaweed farms, and four farms are active now. Much more is possible. Shellfish and seaweed aquaculture uses very little energy, sequesters carbon, and cleans the water besides. This standard of sustainability is hard to match, but fish farms should aspire to follow as closely as possible.

If Nordic would agree to a much smaller project, raise a less voracious species, and wait until offshore wind energy is a reality, they could truly claim to care about sustainability. No doubt their business is to flourish financially today, but our business is to make sure the future is included. We need new responsible models for how we do business in our imperiled world. Sustainability is not a pc catch word. It's a stark necessity, and the costs of ignoring that are becoming more and more evident, pointing to a disastrous outcome if we fail to re-tool our approach to business.

Thank you for considering these remarks.

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editor of 350 Humboldt LookOut