CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 EIGHTH STREET, SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950

W11a

A-1-HUM-22-0063

(Nordic Aquafarms California, LLC)

December 13, 2023

CORRESPONDENCE

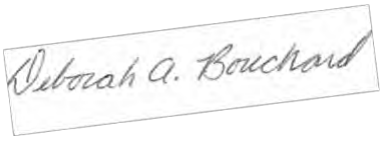
Aquaculture Research Institute

To: California Coastal Commission
455 Market Street Suite 300
San Francisco, CA 94105

Dear Commissioners,

The purpose of this letter is to provide testimony that Nordic Aquafarms has been a long-time supporter and partner of aquaculture research and education in Maine and beyond. I am writing on behalf of the University of Maine's Aquaculture Research Institute whose mission is to serve Maine and the broader US as an objective authority on aquaculture research with the goal of advancing a sustainable aquaculture future. Nordic Aquafarms has been a key member of two of our research consortiums aimed at building a more robust and sustainable land-based aquaculture industry in the US. Through these programs and others, they helped develop work-force proficiencies that will be used to guide academic and workforce development programming. They have also been involved in research addressing key challenges in land-based aquaculture systems. Nordic Aquafarms has repeatedly supported academic institutions' efforts to secure federal grant funding – through letter writing, partnerships and in-kind contributions. It is exciting that Nordic Aquafarms is working to establish a facility in California given that they have been outstanding partners in Maine. We would be happy to collaborate in future research or academic pursuits with your regional institutions using Nordic Aquafarms as a catalyst. Moreover, we are certain that Nordic aquafarms will be an engaged member of your community as they have been in ours.

Sincerely,



Deborah Bouchard
Director, University of Maine, Aquaculture Research Institute

1865 THE UNIVERSITY OF MAINE

November 30, 2023

Members of the California Coastal Commission,

On behalf of EWOS Canada, a Cargill Aqua Nutrition business, I am pleased to write this letter in support of Nordic Aquafarms' project planned for the Samoa Peninsula. EWOS has been servicing the global aquaculture industry for over 90 years. In the emerging marine sector EWOS knows that responsible sourcing of raw ingredients, and sustainability goals and standards are of the utmost importance.

At EWOS we are audited yearly for BAP certification. No fishmeal or fish oil originating from IUU (illegal, unregulated, unreported) catches or from species categorized as vulnerable, endangered or critically endangered according to the IUCN Red List of threatened species are used in feeds manufactured by EWOS Canada.

EWOS recognizes that feed can represent between 60% and 90% of farmer's greenhouse gas emissions. Because of this, we have launched the SeaFurther Sustainability, a program that helps farmers reduce the environmental footprint of their fish by 30% by 2030. According to this plan, the industry would save two billion kilograms (4.4 billion pounds) of carbon dioxide, or the equivalent of removing more than 400,000 cars from the road in a year.

Nordic Aquafarms' project is an important development to our industry and for California. The project proposes to focus on fish welfare and environmental sustainability by employing proprietary recirculating aquaculture systems (RAS) with patented technology. The end-results are modules ready for land-based RAS farming – and a key solution in contributing to increasing domestically produced seafood supply without leaving a material environmental footprint.

The Nordic Aquafarms' project will provide many community benefits, including clean-up of a long-abandoned site containing hazardous materials, abandoned buildings and industrial debris. The project will also stimulate economic activity and provide a wide range of employment opportunities. In addition to what Nordic will directly contribute to our local economy, the Nordic project will be a draw for other aquaculture businesses thereby increasing economic prosperity and employment opportunities for our region.

From our conversations and meetings with the Nordic team we are confident that they will be a benefit to our local economy as well as to our community. Please take this letter of support into consideration as you review the appeal of the Terrestrial Coastal Development Permit before your Commission.

Sincerely,

Kyle Gordon
Aquaculture Sales Representative
Cargill Aqua & Nutrition

Cargill Helping the world thrive

Date: 12.6.2023

Dear California Coastal Commission,

My name is Frank Nelson, and I am a citizen of the County of Humboldt, a graduate of the College of Business at the University of Nevada, Reno, and a homeowner and businessman. I am writing to express my families support for the Terrestrial CDP for Nordic Aquafarms Inc. in the County of Humboldt, State of California. Nordic has been a member of the community, a driving force behind economic growth and support of the fisheries, education system, and a proponent of sustainable aquafarming since their initial interest was presented in Humboldt County.

For my family and I, we support Nordic and their initiatives in our community. We believe in their sustainable approach to seafood, and we have seen time and time again that Nordic will do the right thing when it comes to ensuring our biome is protected. We would like to see them given the opportunity to operate in California, the ability to expedite their permitting, and the ability to provide much needed jobs to an overwhelmingly depressed economic area of our great state.

I am happy to show my support, and the support of my family and our businesses, for Scott Thompson as a Manager, and Nordic Aquafarms as a company, for the appeal of their terrestrial CDP.

Thank you,

Frank Nelson
484 Gatliff Ave. Eureka, CA. 95503
franklnelson@gmail.com

Eureka
The Greater Eureka Chamber of Commerce

Agenda Item W11a

December 6, 2023

California Coastal Commission Coastal Development
Sent Via Email to Melissa.Kraemer@coastal.ca.gov

Dear Chair, Vice Chair and Commissioners,

On behalf of the board and staff of the Greater Eureka Chamber of Commerce, I am pleased to write this letter in support of Nordic Aquafarms' project planned for the Samoa Peninsula.

We encourage the Commission to take the Staff recommendation and find "No Substantial Issue" with respect to the grounds on which the appeals were filed under the Coastal Act and that the Commission decline to take jurisdiction over the CDP application for this project. The County's CDP is consistent with the Local Coastal Plan and the Coastal Act.

Nordic Aquafarms focuses on fish welfare and environmental sustainability, and they employ proprietary recirculating aquaculture systems (RAS). The facility will employ industry-leading wastewater treatment systems ensuring only the highest quality effluent will be discharged. The land-based RAS farm is a key solution in contributing to increasing domestically produced seafood supply without leaving a material environmental footprint. We fully support this program.

Should you have any questions, please feel free to contact me.

Respectfully,

Nancy Olson
President | CEO

OPERATING ENGINEERS
LOCAL 3
AFL-CIO
N. CALIFORNIA • N. NEVADA • HAWAII • UTAH
3000 CLAYTON ROAD
CONCORD, CA 94519
PHONE 510.748.7400
FAX 510.748.7412
DAN REDING BUSINESS MANAGER

Dec. 5, 2023

Chair, Vice Chair and Commissioners,

On behalf of Operating Engineers Local 3, the largest Construction Trades Local in North America, I am pleased to write this letter in full support of Nordic Aquafarms' project planned for the Samoa Peninsula. Nordic Aquafarms focuses on fish welfare and environmental sustainability, and they employ proprietary Recirculating Aquaculture Systems (RAS). The construction and maintenance of the facility is where we come into play, as we provide the highest level of training for our Skilled and Trained workforce, meaning they are the most capable to implement this project according to its goals at all levels (infrastructure required to build it, the actual construction work and then the maintenance and operation). The facility will employ industry-leading wastewater treatment systems ensuring only the highest quality effluent will be discharged. The land-based RAS farm is a key solution in contributing to increasing domestically produced seafood supply without leaving a material environmental footprint. The project itself will provide a career path to our local community, which is in dire need of good-paying jobs, as most of our local Skilled and Trained worforce, including our journeymen and apprentices, often have to travel hundreds of miles out of the area for work. What a gift to have this environmentally sustainable facility in our very own backyard (Humboldt County). What an opportunity for apprentices to earn while they learn on such a high-profile, meaningful job.

I encourage the Commission to take the Staff recommendation and find "No Substantial Issue" with respect to the grounds on which the appeals were filed under the Coastal Act and that the Commission decline to take jurisdiction over the CDP application for this project. The County's CDP is consistent with the Local Coastal Plan and the Coastal Act. In short, through careful partnerships that create sustainable projects that are environmentally and socially responsible, Local 3 is completely in support of the Nordic Aquafarms project, planned for the Samoa Peninsula, which has been vacant and a bit of an eyesore in our community for many years. Let's move this project forward, so we can all reap its many benefits!

Respectfully,

Dan Reding
Business Manager

A Cautioned Consideration of Nordic Aquafarms
1246 W 30th St, Los Angeles, CA 90007

October 2, 2023

California Coastal Commission
455 Market Street, Suite 300
San Francisco, CA 94105

Dear California Coastal Commission,

The **Appeal No. A-1-HUM-22-0063 (Nordic AquaFarms California, LLC)** calls for a review of Nordic AquaFarms permit granted by the County of Humboldt to remediate the former pulp mill facility and construct a land-based finfish recirculating aquaculture system including development of five buildings totalling 766,530 sq.ft, installation of a 4.8 megawatt solar array on building rooftops, and ancillary support features at Redwood Marine Terminal II, Samoa, Humboldt County. As an Environmental Studies student from the University of Southern California, I want to express my concerns about the permit for the aquaculture system shared by Redwood Region Audubon Society, Salmonid Restoration Federation, and many others. Though I am clearly not as skilled as they would be nor perhaps have the right to voice my concerns, I hope that my points could be acknowledged to some degree. Thank you!

Humboldt Bay: Essential Fish Habitat for Coho Salmon

I believe the establishment of an aquaculture system would be deleterious to Humboldt Bay and should be approached with thoroughly researched caution until it could prove to be within California Coastal Commission and environmentally sustainable standards. The bay is home to various juvenile salmon like the Coho and to the largest patch of eelgrass bed in California[8]. It is an essential fish habitat that deserves stringent protection and conservation especially for the coho salmon. According to research by William D. Pinnix in 2013, during coho salmon's migration movement from April to July, coho salmon are found to reside in the bay for an conservatively averaged 14.7 days (2007) and 20.7 days (2008) with the highest detection rate being in the central bay region[5](Figure 1.). Coho salmon smolts migration was found to inhabit the Freshwater Creek for a mean average of 9.3-11.9 days and determined that smolts utilize these ecotones for essential rearing habitats[5]. There have also been records within the study of detection of smolts near floating eelgrass beds around channels as well. Stream-estuary ecotones (SEE) seem to have great impact on the rearing of coho salmon smolts, with observed 40% of coho salmon smolt production from Freshwater Creek SEE[9]. Such smolts were seen to be larger than their cohorts and utilizing such habitat for over-winter rearing, protection, support, and salt-freshwater transitional adaptation. The subbasins, tributaries, streams that feed into such habitats are equally important to protect and ensure conservation of (Figure. 2). Any impact on tributaries upstream and upon lower vs. upper sloughs are worth consideration I believe. Stream-estuary ecotones are non-natal habitats for juvenile coho salmon as part of their life history and evolutionary adaptation[9].

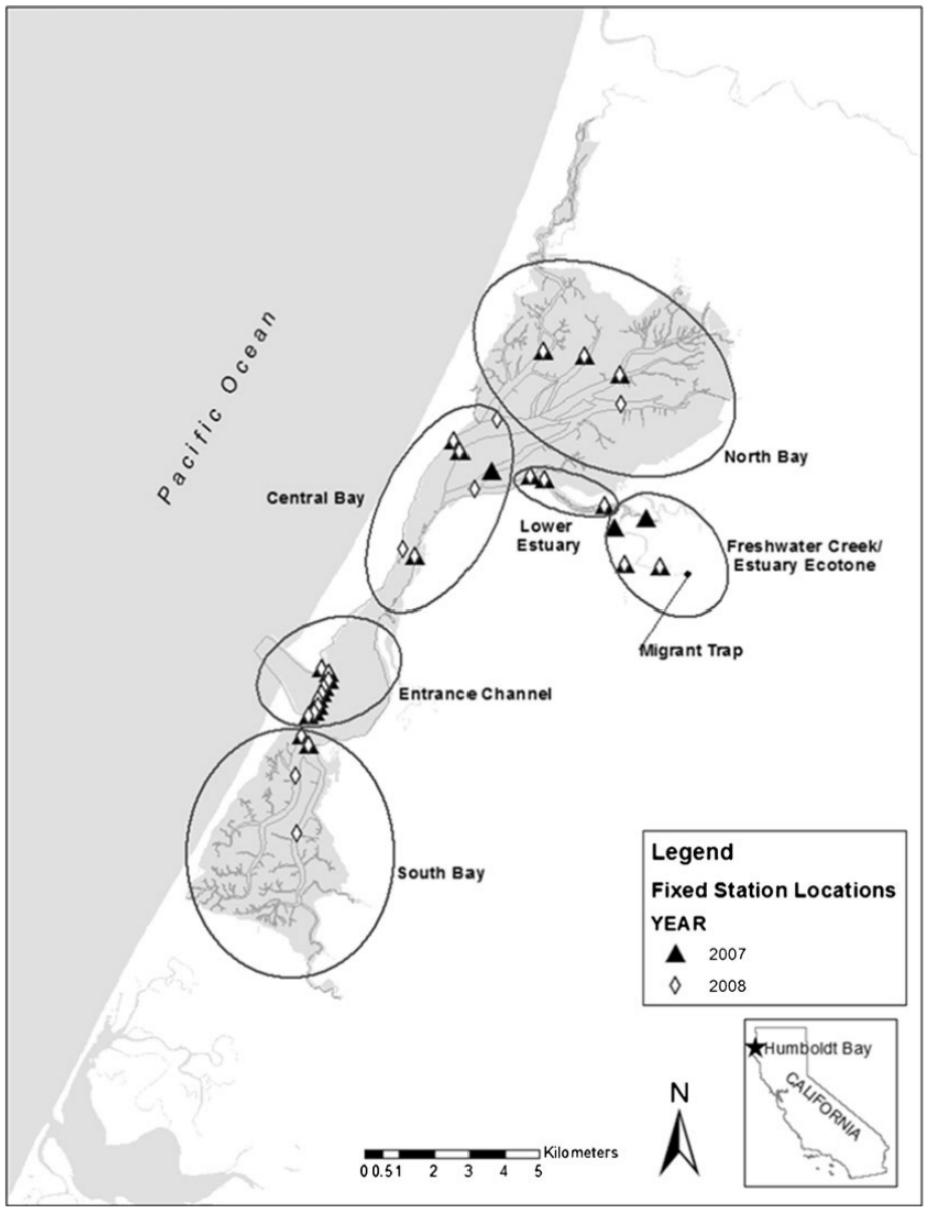


Figure 1. Location mapping of the study sites within Humboldt Bay and habitat use by Coho Salmon[5].

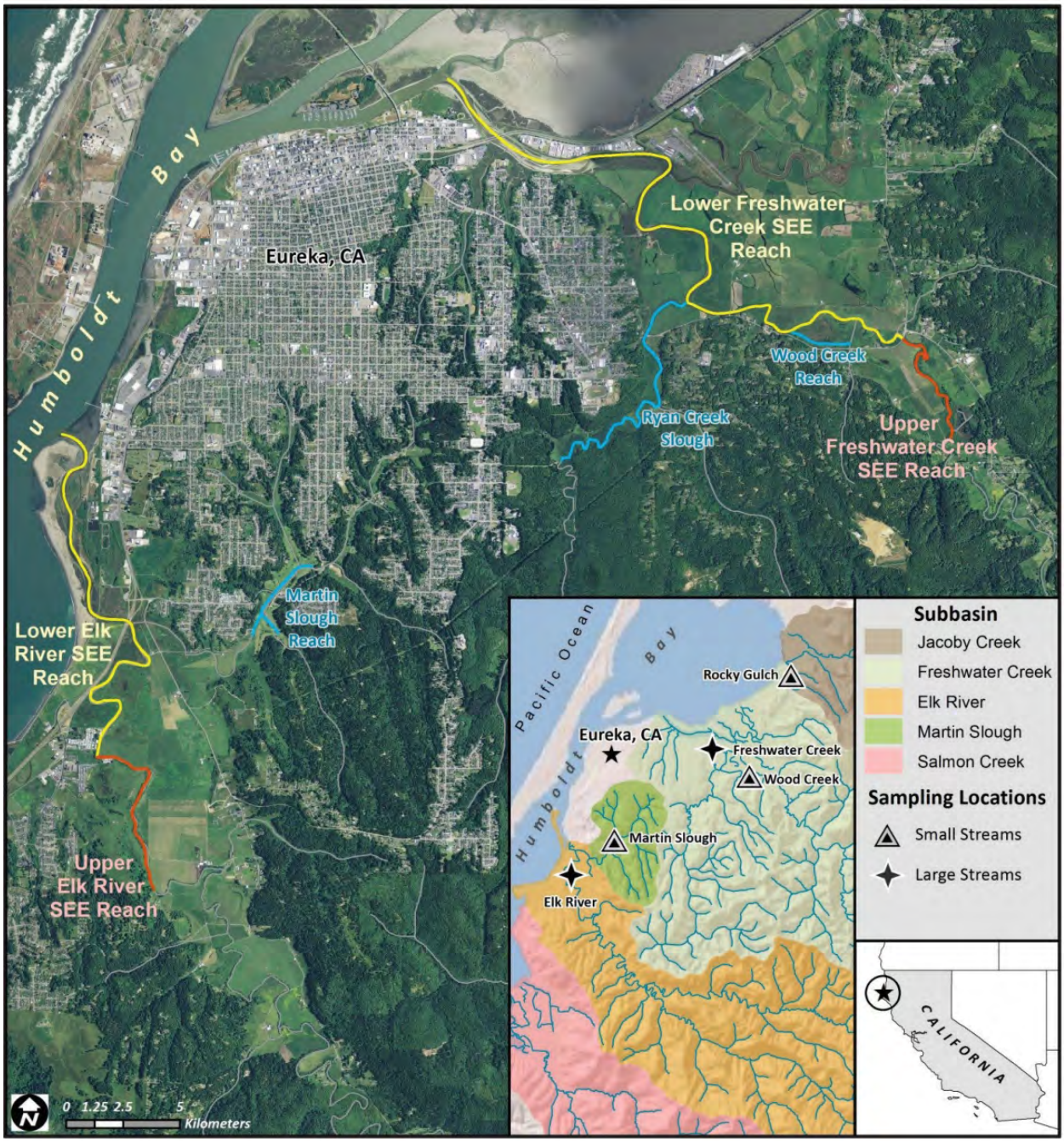


Figure 2. Location of Humboldt Bay tributaries, watersheds, and subbasins[9].

Seawater and Freshwater Extraction Concerns:

To this end, the pulp mill facility location stands directly near the coastline and facing the central bay of Humboldt Bay. The effects the aquafarm may have on the bay could affect a critical region for coho salmon smolts and thus should require proper monitoring of how it plans to develop. Aquacultures may demand large amounts of freshwater even with a recirculating system aside from fin-fish rearing such as feed production, maintenance, cleaning, antibiotics needed, additional resources etc. Nordic Aquafarms, to my awareness, had proposed in 2020 to divert freshwater from the Mad River, part of the many basins that provide freshwater to various estuaries and potential ecotones of coho salmon[8]. This could alter the stream-estuary ecotones that coho salmon smolts depend on and degrade the stream system through decreasing available freshwater, proper water flow, and water depth. This goes in hand with another recent, upcoming item is in regards to **Application No. 1-21-0653 (Humboldt Bay Harbor District, Humboldt County)** by Humboldt Bay Harbor District to redevelop and improve two seawater intake system to pump up to 11.88 million gallons of seawater *daily* from the bay for aquaculture use of which I could only assume is likely for Nordic Aquafarms since both projects are located at Redwood Marine Terminal II, Samoa, Humboldt County. This, too, presents another additive concern to the health of Humboldt Bay and essential habitat of Coho Salmon. I am unsure if the extracted seawater, once used, would be pumped back out into the bay for replenishment or if it is treated and affected in any way. There could be intended and unintended consequences of diverting that much seawater for use, potentially impacting estuarine salt-freshwater interactions as well as water velocity dynamics not to mention eelgrass, local ecosystems, and populations. Coho salmon juveniles have shown significant water velocity-dependent prey detection and capture. As an example, they're shown a decrease from capture probability of 65% to 10% with a change of water velocity of (0.29 to 0.61$m \cdot s^{-1}$)[4]. Loss of water depth (if it occurs) could also affect water column composition, ecology of eelgrass and prey of Coho Salmon, as well as water shed channels, flow regimes etc[3]. Lest we risk the endangered Coho Salmon and the health of the local ecosystem, there is need for robust and plentiful research around the impacts of such proposals including the aquafarm itself upon Humboldt Bay, coho salmon dynamics, and overall watersheds interactions.

Waste and Antibiotics Impact:

To further call for careful review, questioning, and clear research. There are many critical factors, to my knowledge, not addressed yet by Nordic AquaFarms such as where the aquafarm waste are to be disposed of, transportation, infrastructure, risks of outbreak, disease, invasive species, eutrophication, with many more unknown variables to name. In one of their original proposals, it has been said that Nordic Aquafarms had planned to pump waste about a mile offshore which raises questions[8]. One of the highest environmental impacts of fish farms include the added organic waste to the ocean ecosystem which can create eutrophication, leading to hypoxic or anaerobic conditions along with lower oxidation-reduction potential of sediments[6]. Such wastes include feces, uneaten feed, and excretion from finfish aquafarms which could contribute nutrients to the local ecosystem. While the study by Quiñones showed that open water salmon farms in Chile had created local eutrophication underneath cages and impact on benthic communities, I feel it would be likewise to research how disposed waste of onland salmon aquafarm waste could impact the coastal ecosystem of Northern California[6].

There is another consideration of the antibiotics that may be used by Nordic Aquafarm. An estimated 75% of antibiotics fed to fishes are released into surrounding coastal waters which can produce selective pressure upon the marine bacteria[1]. This could not only disrupt the natural biogenic processes and nutrition cycling of the coastal ecosystem but also pave the way for antibiotic resistance genes in bacteria[1]. Certain natural bacteria may die off while more generalist, resistant bacteria would persist and spread. Such a development would pose a threat to both consumers and local fauna/flora. Even potentially to bacteria beneficial to salmon like those that produce carotenoids that salmon depend heavily upon for their healthy shade of red taking note that the bay is a major exit point of coho salmon[7]. A public health risk assessment of the global dissemination of antibiotic resistance genes by Zhange et al. (2022) showed that 24% of resistance genes from these bacteria can pose threat to human and animal health while 75% of those genes come from coastal environments[1]. While the concern may be on a global scale, I feel that it still warrants consideration on the type of processes and antibiotics, if any, used by Nordic Aquafarms as well as how they will treat it with proper systems in place. Parasite, disease, fin fish escapees within the circulation system is also a concern although likely small but relevant as Nordic Aquafarms has not seemed to establish what kind of finfish they are planning to rear. All together, it is prudent to analyze the impact of the feed and nitrogen, phosphorus, carbon compounds as well as any antibiotics before granting permission for the aquafarm development.

Sediment Conservation and SLR:

In special regards to the sediment accumulation, conservation, and protection of the Humboldt Bay area, the infrastructures proposed by Nordic Aquafarm of 766,530 sq ft. could potentially impact the beach sediment accumulation[2]. Local basins of the bay contribute sediment discharge about an area of 442 km^2 while the Eel River discharges to the coastal margin with a contributing area of 9,415 km^2 [2]. The watersheds, channels, ecotones, and rivers are not only essential habitats for coho salmon but also points of delivery for sediment recharge in the face of rising sea levels, a problem faced by the communities of Humboldt Bay[2]. Taking in consideration the ongoing application for high amounts of seawater extraction as well, changing the water levels could affect water velocity and flow regimes of watersheds into the bay mentioned previously.

Conclusion

In the faith and practice of the Precautionary Principle, I hope to bring some caution to Nordic AquaFarms proposal for a recirculating fin-fish aquaculture and in relation the application for redeveloping seawater intake systems. Article 4, Chapter 3 of the Coastal Act states that “marine resources shall be protected and biological productivity maintained-” and Article 5, Chapter 3, includes that “sensitive habitats… shall be protected-”. I believe that the importance of the bay and overall watershed to the coho salmon as well as the local sensitive ecosystem like eelgrass would fall under the Articles mentioned, warranting comprehensive examination of Nordic AquaFarms proposal. I also understand that protecting coastal beach sediment resources and preventing further erosion is a fundamental task taken by the California Coastal Commission, and would humbly ask, if not already considered, careful examination of the sediment impact of the aquafarm as well.

Thank you for taking the time to read through a non-professional student's points. I may have gotten things wrong but thank you for allowing me to voice my concerns! And a final thank you for the work and commitment that you continue to have for our California coast!

Sincerely,
Jeffrey you

References

1. Adenaya, A., Berger, M., Brinkhoff, T., Ribas-Ribas, M., & Wurl, O. (2023). Usage of antibiotics in aquaculture and the impact on coastal waters. *Marine Pollution Bulletin*, *188*, 114645–114645. https://doi.org/10.1016/j.marpolbul.2023.114645
2. Curtis, J. A., Flint, L. E., Stern, M. A., Lewis, J., & Klein, R. D. (2021). Amplified Impact of Climate Change on Fine-Sediment Delivery to a Subsiding Coast, Humboldt Bay, California. *Estuaries and Coasts*, *44*(8), 2173–2193. https://doi.org/10.1007/s12237-021-00938-x
3. Flow alteration | US EPA. (n.d.). https://www.epa.gov/caddis-vol2/flow-alteration
4. Piccolo, J. J., Hughes, N. F., & Bryant, M. D. (2008). Water velocity influences prey detection and capture by drift-feeding juvenile coho salmon (Oncorhynchus kisutch) and steelhead (Oncorhynchus mykiss irideus). *Canadian Journal of Fisheries and Aquatic Sciences*, *65*(2), 266–275. https://doi.org/10.1139/f07-172
5. Pinnix, W. D., Nelson, P. A., Stutzer, G., & Wright, K. A. (2013). Residence time and habitat use of coho salmon in Humboldt Bay, California: an acoustic telemetry study. *Environmental Biology of Fishes*, *96*(2-3), 315–323. https://doi.org/10.1007/s10641-012-0038-x
6. Quiñones, R. A., Fuentes, M., Montes, R. M., Soto, D., & León‐Muñoz, J. (2019). Environmental issues in Chilean salmon farming: a review. *Reviews in Aquaculture*, *11*(2), 375–402. https://doi.org/10.1111/raq.12337
7. Rajasingh, H., Øyehaug, L., Våge, D. I., & Omholt, S. W. (2006). Carotenoid dynamics in Atlantic salmon. *BMC Biology*, *4*(1), 10–10. https://doi.org/10.1186/1741-7007-4-10
8. Trees Foundation. (2020, August 7). *Monitoring Aquaculture Growth and impacts in Humboldt Bay*. https://treesfoundation.org/2020/08/monitoring-aquaculture-growth-and-impacts-in-humboldt-bay/
9. Wallace, M., Ricker, S., Garwood, J., Frimodig, A., & Allen, S. (2015). Importance of the stream-estuary ecotone to juvenile coho salmon (Oncorhynchus kisutch) in Humboldt Bay, California. *California Fish and Game*, *101*(4), 241–266.
10. *Watershed and salmon education*. Salmonid Restoration Federation. (2022, November 9). https://www.calsalmon.org/resources/watershed-and-salmon-education

Items Addressed in the Letter

Appeal No. A-1-HUM-22-0063 (Nordic AquaFarms California, LLC).
Appeal by 350 Humboldt; Redwood Region Audubon Society; Salmonid Restoration Federation; Alison Willy; and Scott Frazer of decision of County of Humboldt granting permit with conditions to Nordic Aquafarms California, LLC to demolish and remediate the former pulp mill facility and construct a land based finfish recirculating aquaculture system including development of five buildings totaling 766,530 sq.ft., installation of a 4.8 megawatt solar array mounted on building rooftops, and ancillary support features at Redwood Marine Terminal II, Samoa, Humboldt County.

Application No. 1-21-0653 (Humboldt Bay Harbor District, Humboldt County).
Application of Humboldt Bay Harbor District to redevelop and improve two existing seawater intake systems, pumps, and related infrastructure and extract up to 11.88 million gallons per day from Humboldt Bay to support onshore aquaculture and other coastal dependent uses at Redwood Marine Terminal II, Samoa, Humboldt County.

12/7/23

California Coastal Commission
North Coast District Office 1385 8th Street,
Suite 130 Arcata,
California 95521-5967
(707) 826-8950 FAX (707) 826-8960

Melissa Kraemer, District Manager

Dear Ms. Kraemer:

350 Humboldt is hereby submitting an additional comment regarding the Nordic Aquafarm project, described formally as:

Coastal Commission Application File No. 1-HUM-20-1004
Local Permit #: Applicant(s): Description: PLN-2020-16698
Nordic Aquafarms California, LLC, Attn: David Noyes

The local electricity demands of the Nordic Aquafarm threaten the viability of the electrification of the Humboldt Bay Offshore Wind Heavy Lift Multipurpose Marine Terminal Project.

In the DEIR it is recognized that there could be cumulative impact from the development of a terminal to service the anticipated offshore wind industry. However, there is *no* discussion of whether there will be enough electricity for both the Heavy Lift Wind Terminal and the Nordic Aquafarm.

Here is the summary of the DEIR section under Energy:

> Based on the data presented in Section 3.5 Energy Resources, 98% of the cumulative power use estimates annually will be contributed to the essential functions of Nordic's proposed aquaculture farming/processing facilities which include are not limited to buildout, water treatment/cooling, and farming/processing, deemed less than significant.
>
> Therefore, the Project's contribution to cumulative energy impacts will not be cumulatively considerable, and therefore, will be less than significant.

The FEIR also did not discuss the limits of Humboldt County's electricity resources although it was raised in a DEIR comment by a group of environmental organizations, including 350 Humboldt.

In the summer of 2023, representatives of the Humboldt Bay Harbor, Recreation and Conservation District presented information about the Terminal in several public forums. At one such forum Director of Development Rob Holmlund was asked if the Terminal will be electrified so as to be zero-emission, a goal of the designers Moffatt and Nichol and proposed by the CEC's AB 575 report on ports for the floating offshore wind industry. Mr. Holmlund replied that was their goal but that it might not be possible because of the concurrent power needs of the Nordic Aquafarm.

This is not an issue of how much of the available energy will be renewable, but simply of capacity, especially in the face of an anticipated growth in electricity demand as electrification of transportation and buildings increases and methane gas is phased out.[1] We are hopeful that the floating offshore wind capacity and increased transmission will alleviate this limitation of electricity by 2030 – 2035. But until then we believe that if there is insufficient capacity for both projects the electrification of the port electrification should have priority as it is a project of critical infrastructure addressing the climate crisis.

Therefore we request that completion of the Nordic permitting process be held until the final EIR is finished and you can consider both permit applications at the same time.

Thank you for considering this request.

350 Humboldt Steering Committee
Nancy Ihara
Martha Walden
Daniel Chandler, Ph.D.
Jenifer Pace

[1] "Current infrastructure at the Ports is inadequate to support 100 percent zero-emission cargo handling equipment. Large-scale installation of charging and refueling infrastructure capable of supporting a mix of technologies will be required. Such infrastructure includes increased grid capacity; substations, electrical circuits, transformers, conduits, and hookups; and charging stations, charging ports, and connectors. Additionally, port leaders will need to address resiliency and grid capacity to make sure the Ports do not become more vulnerable to power outages as they electrify, which would otherwise discourage business." A Heavy LIFT: Policy Solutions to Accelerate Deployment of Zero-Emission Cargo Handling Equipment at the Ports of Long Beach and Los Angeles and Beyond. Emmett Institute on Climate Change and the Environment/ Center for Law, Energy & the Environment. November 2023. https://www.law.berkeley.edu/wp-content/uploads/2023/11/A-Heavy-Lift-DIGITAL-2.pdf

12/7/23

California Coastal Commission
North Coast District Office 1385 8th Street,
Suite 130 Arcata,
California 95521-5967
(707) 826-8950 FAX (707) 826-8960

Melissa Kraemer, District Manager

Dear Ms. Kraemer:

350 Humboldt is hereby submitting a comment regarding the Staff Report to the California Coastal Commission pertaining to the Nordic Aquafarm project, described formally as:

Coastal Commission Application File No. 1-HUM-20-1004

Local Permit #: Applicant(s): Description: PLN-2020-16698
Nordic Aquafarms California, LLC, Attn: David Noyes

350 Humboldt appealed the County's LCP permit because the EIR did not adequately recognize or mitigate four greenhouse gas emissions issues, thus failing to *Minimize energy consumption,* as required. We appreciate the very detailed staff report and are withdrawing our objection to the EIR VMT analysis.

However the issue of emissions from 24/7 power *was not addressed in the staff report*, the discussion of the refrigerant issue reflects a lack of understanding of California's refrigerant regulations and the nature of refrigerant leaks, and the analysis of whether Life Cycle Assessment is required by CEQA in respect to the growing of biological products like fish or cattle is incorrect. Because of these deficits the annual unmitigated greenhouse gas emissions are *not* less than 10,000 metric tons per year but between 70 and 140 thousand metric tons.

A. *The staff report did not address the mismatch between Nordic's annual Renewable Energy Certificate and its 24/7 power utilization* which will cause approximately 25,000 metric tons of unmitigated CO2e emissions annually until power from offshore wind is available.

According to Planning Director Ford's letter to Nordic in Appendix B of the Staff Report, the 195 GWhs of electricity Nordic planned will be reduced to 125 GWhrs annually. The County used 774 GWhrs in 2022, so Nordic will use 16% of our available electricity, about equal to the City of Eureka. We are pleased that Nordic agreed to buy Renewable Energy Certificates for the power it uses. However, Google, Microsoft, the United Nations and Peninsula Clean Energy among many others have pointed out (and we documented extensively in our prior submission) that

because of an hour-to-hour mismatch between when renewables are available and when the demand occurs, 100% renewable energy on an annual basis only matches approximately 53% of energy used.[1] So essentially half of the 125 GWhs of power used 24/7 by Nordic will be from local dispatchable power, which in our case means from the methane-powered PG&E plant and the biomass plant that emits 295 MTs of CO2e each year.[2] This 25,458 metric tons of greenhouse gas emissions can and should be mitigated.

To mitigate this problem we request that Nordic be required to buy not annual but 24/7 renewable energy certificates.

B. No California law or regulation requires detection or repair of refrigerant leaks so it is inaccurate and beside the point to claim as the EIR and Coastal Commission Staff Report do that refrigerants do not have a potentially significant impact because Nordic will follow the law and regulations.

HFC refrigerants trap 1500 to 4000 times as much heat as CO2. There are no California regulations regulating leaks, other than the Refrigerant Management System requires owners to report how much refrigerant was added during a year which is equivalent to how much was leaked. Refrigerant leak detectors are not even required. The average supermarket leaks 25% of its charge every year and *no regulations address that leakage.* Under the new Nordic design, a huge amount of refrigerant will be used in heat pumps to warm large amounts of cold water by 21 degrees and in chillers to cool it off again for effluent discharge. The staff argument that Nordic will have every incentive to detect and repair leaks is belied by the thousands of supermarkets that just top off the refrigerant. The state's approach is not to address the leaks but to require that refrigerants have a lower Global Warming Potential. We suggest the same approach for Nordic but with a lower standard than the state currently has since we are looking at a 30-year permit.

We request that Nordic be required to use ultra-low GWP refrigerants[3] so that leaks of high GWP HFC refrigerants don't contribute to warming of the climate. There are no heating or cooling applications at this point that cannot be handled with these ultra-low GWP refrigerants.

C. The EIR and Staff Report incorrectly conclude that life cycle assessment, which assigns greenhouse gas emissions from growing fish feed, is not a CEQA requirement for animals grown live for food.

We said in our appeal that the emissions from processing fish feed should, as the Aquaculture Stewardship Council certification requires, be attributed to the fish that eat the feed. The EIR and the staff report replied that this is not relevant because EIRs in California do not use the same life cycle assessment (LCA) that scientists use when calculating emissions from sea food. We have done further research, and it turns out it is not true that LCA is not used in EIRs. When a facility is growing animals for food, the emissions due to the animal feed are generally counted as facility emissions. We confirmed this by looking at multiple DEIRs for dairy expansions. For

[1] The 47% is from Peninsula Clean Energy: https://www.peninsulacleanenergy.com/wp-content/uploads/2021/11/Whitepaper-OUR-PATH-TO-247- RENEWABLE-ENERGY-BY-2025.pdf

[2] Since according to the EPA fossil "natural" gas in power plants emits 898 pounds CO2 per megawatt-hour and there are 1000 megawatt-hours in a gigawatt hour, Nordic's actual emissions will be approximately 62.5 x 1000 x 898 or 56,125,000 pounds of CO2 which is equivalent to 25,458 metric tons of CO2 annually. If the power came from the biomass plant at Humboldt Sawmill it would be much higher.

[3] Ultra-low GWP refrigerants are defined in SB 1206 of 2022 as refrigerants with a GWP of less than ten.

example, the Antonio Azevedo Dairy #4 Expansion CUP20-005 8-18 Merced County Draft EIR dated August 2021 states:

> "For this EIR, GHG emissions were estimated using the Dairy Gas Emissions Model, Version 3.3, United States Department of Agriculture. The Dairy Gas Emissions Model is a software tool for estimating the greenhouse gas emissions and carbon footprint of dairy production systems (USDA 2016; Denef et. al. 2012). *The full production system extends beyond farm boundaries and is defined to include emissions during the production of all feeds, whether produced on the given farm or elsewhere.*"[4]

When Nordic proposed 25,000 metric tons of fish annually we used data from fish food manufacturers Skretting and Cargill to propose that Nordic should be credited with between 74,415 and 191,664 metric tons of greenhouse gases per year. Since Nordic now says it will produce only 15,000 tons, or 60% as much fish, the emissions from the feed at full build-out would be between 44,649 and 114,998 metric tons of greenhouse gases per year.

This is a very substantial greenhouse gas impact that should be mitigated or offset – or the project should not be approved. It could be offset by buying offset credits from the Arcata Community Forest offset program.

D. Conclusion

When you add the 25,458 metric tons for 24/7 electricity and the estimate for fish food of 44,649 – 114,998 metric tons you get 70,100 – 140,500 metric tons of CO2e annually that were not acknowledged or mitigated in the EIR and County Coastal Development and Special Permits.

We believe the three issues raised here need to be generally reconsidered with respect to Coastal Commission LDPs since *permits generally will include the thirty years in which we need to achieve net zero emissions*.

- Requirements for carbon-free renewable energy should be on a 24/7 basis.

- "Conventional cooling is responsible for up to 7% of all global emissions and, if left unchecked, those emissions are expected to double by 2030 and triple by 2100."[5] Refrigerants going forward should be ultra-low GWP.

- The aquaculture industry, like other producers of animals grown for food, should be required to use an LCA approach under CEQA that attributes the carbon footprint of the animal feed to the animals that consume the feed.

[4] https://web2.co.merced.ca.us/pdfs/env_docs/eir/CUP20-005/CUP20-005_Draft_Environmental_Impact_Report.pdf. Our italics.
[5]

When we desperately need to reduce greenhouse gas emissions worldwide, the fact that these standards are not universally recognized pose a substantial threat of increased – but avoidable – warming. That is, these are Substantial Issues in this case and going forward.

Thank you for considering our views.

350 Humboldt Steering Committee
Nancy Ihara
Martha Walden
Daniel Chandler, Ph.D
Jenifer Pace

From: Frank Egger
To: NorthCoast@Coastal
Subject: Appeal No. A-1-HUM-22-0063 (Nordic Aquafarms California, Humboldt Co.)
Date: Friday, December 8, 2023 10:36:27 AM

a. December 2023 Appeal No. A-1-HUM-22-0063 (Nordic Aquafarms California, Humboldt Co.)
Appeal No. A-1-HUM-22-0063 (Nordic Aquafarms California, Humboldt Co.)

Appeals by 350 Humboldt, Redwood Region Audubon Society, Salmonid Restoration Federation, Alison Willy, and Scott Frazer from decision of County of Humboldt granting permit with conditions to Nordic Aquafarms California to demolish and remediate former pulp mill facility and construct land based finfish recirculating aquaculture system facility including 5 new buildings totaling 766,530 sq. ft., with 4.8 MW roof-mounted solar array, paved parking, fire access roads, security fencing, stormwater management features, and use of ~2.5 million gallons per day of freshwater and industrial water provided by the Humboldt Bay Municipal Water District, at Redwood Marine Terminal II, Samoa, Humboldt County. (MBK-A) **Submit Comment**

DATE: 12-08-2023
TO: CALIFORNIA COASTAL COMMISSION
RE: APPEAL No. A-HUM-22-0063 (Nordic Aquafarms California, Humboldt Co.)
FROM: FRANK EGGER & the NORTH COAST RIVERS ALLIANCE

Dear Commissioners,

Thank you for the opportunity to comment on the Appeal before you. Frank Egger here, president of the North Coast Rivers Alliance. I served seven terms as mayor of Fairfax, CA. and was appointed to the North Central Coast Regional Commission, the first of 84 Coastal Zone Conservation Commissioners appointed, on December 7, 1972 serving until August of 1981. A San Francisco native who grew up on the North Coast, my knowledge of and history with the California coast from San Francisco to the Oregon border has served residents of California well. In the 1970's I worked directly with former State Senator Peter Behr in securing the passage of California's Wild & Scenic Rivers Act. I worked with former Coastal Commissioner Richard Wilson in stopping the dam on the Eel River

at Dos Rios. My work protecting, preserving and restoring California's North Coast Rivers continued as a co-founder of Friends of the Eel River when it was based in Garberville. I also served as an elected director for the Ross Valley Sanitary District and as a member of the Central Marin Sanitation Agency. I am also the current Vice-chair of the Sierra Club San Francisco Bay Chapter's Water Committee.

The Appeals do in fact raise substantial issues: the Nordic Aquafarms California on the Humboldt Coast unresolved issues are numerous. Atlantic Salmon and Yellowtail Kingfish appear to be interchangeable depending on the EIR and various local and Coastal permits. **The Project is being piecemealed, structure now, discharge of toxic wastewater later.** The millions of gallons of fresh water needed for the factory Fish Farm, the source of which is the threatened Mad River whose key fish species include Coho salmon, Chinook salmon and steelhead which were federally-listed as threatened in the Mad River in 1997, 1999 and 2000 respectively. Before entering the Pacific Ocean, the Mad turns north near the triple junction of the Gorda, North American and Pacific plates. The small estuary provides nursery habitat for juvenile rockfish, a migration corridor for salmonids and Pacific lamprey. Pacific staghorn sculpin and Three-spine stickleback are present in the estuary year-round. Above the estuary, the Mad River is home to resident coastal cutthroat trout and rainbow trout. The Mad River Estuary is recognized for protection by the California Bays and Estuaries Policy.

Added to the adverse fresh water usage impacts on the Mad River's fisheries, is the adverse impacts entrainment will have on larval caused by daily sea-water extraction of millions of gallons of ocean and Bay water that has not been properly addressed.

GMOs: The Staff Report says the applicant will avoid the use of GMO ingredients in their fish feed. Avoid is the wrong word? Prohibited is the legal requirement. Humboldt County is a GMO-Free county and part of the North Coast GMO-Free Zone of which I was instrumental in creating in Marin County in 2004. GMO feed byproduct would end up in ocean wastewater discharge and contaminate coastal fisheries. GMOs are prohibited by law in Humboldt County, period.

Humboldt County is earthquake and Tsunami country. The Staff Report

does not require sufficient conditions to protect the Bay and Pacific Ocean from the escape of Factory Farmed Fish should their holding ponds collapse during a severe earthquake and the resultant Tsunami.

The pollution risk to Marine Resources in California coastal waters via wastewater ocean discharge is another substantial issue: It's not clear as to where the wastewater will be treated before ocean discharge. The discharge of nutrients and pathogens violates the Federal Clean water Act. Diseases such as Pancreatic Necrosis virus can infect any wild fish that come in contact with the effluent discharge. Will the Project have its own sewer treatment plant or will the factory fish farm use the Samoa Wastewater Treatment Plant? The only safe treatment for the wastewater is Reverse Osmosis and Reverse Osmosis must be a condition of approval of the Project's wastewater now, not an afterthought during some future portion of project's coastal permits. This is the result of a piecemealed application process.

Very truly yours,
/s/ Frank Egger
President, North Coast Rivers Alliance
13 Meadow Way
Fairfax, CA 94930

From: Alison Willy
To: NorthCoast@Coastal
Subject: Appeal Number A-1-HUM-22-0063, Nordic Aquafarms CDP
Date: Friday, December 8, 2023 1:29:19 PM

Dear Commissioners:

I have fond and heartfelt memories of the California Coastal Commission, and their staff, being protective of coastal resources. For some reason, the process for issuing three separate coastal development permits (CDPs) for the Nordic Aquafarms project feels off to me. It appears rushed and lacks the birds-eye prospective of considering the cumulative impacts of the entire project. The following are my major concerns of the Staff Report for Appeal Number **A-1-HUM-22-0063**:

Misleading Project Description in Introduction to the Staff Report—Nordic Aquafarms will be withdrawing 10 million gallons per day (MGD) of seawater and brackish water from Arcata Bay, the northern arm of Humboldt Bay, and will receive 0.5 MGD of freshwater from the Mad River. Arcata Bay is where a significant amount of the fisheries nursery occurs in Humboldt Bay. The importance of safe and productive nurseries for wild California salmonids cannot be overstated. This sensitive estuarine nursery is likely to be significantly impacted by the Nordic Aquafarms project, and a thorough effects analysis has yet to occur. Only including the Mad River withdrawal on the introductory page of the Staff Report is extraordinarily misleading, and it introductorily overlooks the significant issue of removing estuarine water from productive habitat and from a migratory corridor for sensitive and threatened species. Conditioning the CDP to require saltwater withdrawals on the Pacific Ocean side of the project and not the Humboldt Bay/Arcata Bay side of the project would ameliorate the concern of estuarine impacts in an important nursery for native salmonids, Dungeness crab, and species that contribute significantly to the food chain such as Pacific herring and sand lance.

Piecemealing—This is a single project of developing a major aquaculture facility, but it is being addressed as three separate CDPs rather than being considered in its entirety. Other agencies and authorities have requirements to look at the project holistically. This is especially true when the project has a single Environmental Impact Report (EIR), such as this one, structured to address the entire project and not three separate EIRs for three separate CDPs.

Premature permitting—Today's permit consideration is for terrestrial effects, the sewage outfall already has a CDP, and the intakes will be considered at a future time. When the next CDP is under review by the Commission for building and enhancing the structures needed for additional water removal from Arcata Bay/Humboldt Bay, Clean Water Act and Rivers and Harbors Act permits for the third CDP will need to undergo Endangered Species Act consultation with the National Marine Fisheries Service, effects to ESA listed species and Critical Habitat will be addressed for the *entire* project.

Global Warming—The Commission may not have the latitude to address climate

change and marine warming, but coastal plans and policies were written before climate concerns reached an urgent and global level. It will be interesting to see how the project will contribute to carbon emissions and the overall carbon impact of energy use in Humboldt County, as well as local marine warming. Perhaps this is not the time for commercial farming of a warm water fish and discharging warm-water waste into California coastal waters. You may not have the latitude to be protective of climate and marine warming concerns, but the expected energy use of this project continues to pose a significant risk to a county and state that are attempting to reduce carbon emissions.

The full project buildout of 39.8 MW is not addressed in the Staff Report, only the 4.8 MW solar panel array. The relatively small contribution of the solar array only takes the edge off of a significant energy demand. It seems disingenuous to only focus solely on carbon emissions from fish feed production, use of refrigerants, and freight shipping and not the overall carbon footprint of the facility.

Growing Mackerel—Now that Nordic Aquafarms has proposed to grow yellowtail kingfish, rather than Atlantic salmon, the profound risk of diseases related to Atlantic salmon farming is largely ameliorated. It is a major relief that Nordic Aquafarms has made this change; however, fish diseases that originate in aquafarming are an emerging global issue. Please consider conditioning the CDP to allow for controls on emerging fish diseases.

Conclusion

It is my hope that you use the precautionary principle when deciding if and when to permit this project. In light of the cumulative nature of effects from the three Nordic CDPs, and an understanding of the need for analyses by other regulatory agencies, please delay permitting this and future Nordic CDPs until the effects of the project on estuarine resources, fish migration, threatened species, and critical habitat have been reviewed and permitted. Otherwise, it appears that marine conservation for overall project effects will be pressed onto other parties when thoughtful reflection and deliberation could allow for an analysis with an eye towards conservation.

Thank you for consideration of these comments.

Sincerely,

Alison Willy
Riparian Solutions
916-690-3501

CAL POLY HUMBOLDT
Department of Fisheries Biology

707 826-4233 PHONE
707 826-4060 FAX
aquaculture@humboldt.edu EMAIL

December/8/2023

Cassidy Teufel
California Coastal Commission

Dear Mr. Teufel,

I am Dr. Rafael Cuevas Uribe, an aquaculture professor at Cal Poly Humboldt. My job is to educate people about aquaculture, and I am writing this letter to support Nordic Aquafarms' project planned for the Samoa Peninsula.

Since December 2018, I've maintained communication with Nordic Aquafarms. Throughout these years, they have consistently provided support, welcomed inquiries from my class and the public, and maintained transparency. Discussions have revolved around potential collaborations between Cal Poly Humboldt and Nordic Aquafarms once their recirculating aquaculture system is established. Nordic Aquafarms expresses a willingness to institute an internship program for our students, offering an excellent opportunity to provide practical training in the field.

The shortage of labor ranks among the top five challenges faced by aquaculture producers in the U.S. (Engle 2021; DOI: 10.1111/jwas.12838). Additionally, the aquaculture professional is now aging (61-70 Years) (Jensen et al. 2015). Humboldt's unique location hosts the largest shellfish growers in California alongside an emerging seaweed industry. Nordic Aquafarms will build on this momentum by constructing a sustainable way of producing marine fish in an entirely recirculating system.

It is evident that fish farming must adopt sustainable practices, considering the uncertainties associated with wild marine fish, as exemplified by this year's challenges in California's Salmonid fisheries. The aquaculture industry faces the ambitious task of producing 204 million tonnes of aquatic animals by 2030, a 15% increase from 2018.

It is through education and collaborations such as the one that we have with Nordic Aquafarms that we will be able to produce more farm fish in a sustainable manner.

Sincerely,

Rafael Cuevas Uribe
Associate Professor
aquaculture@humboldt.edu

Agenda Item # W11a

December 8, 2023

VIA EMAIL ONLY

California Coastal Commission
North Coast District Office
1385 8th Street, Suite 130
Arcata, California 95521-8960
Email: NorthCoast@coastal.ca.gov

Re: Commission Appeal No. A-1-HUM-22-0063: Nordic Aquafarms California, LLC Aquaculture Project (Agenda Item # W11.a for December 13, 2023)

Dear Chair, Vice Chair and Commissioners:

Nordic Aquafarms California, LLC ("Nordic"), the Applicant for the Aquaculture Project ("Project") at issue in the above-referenced Appeal, respectfully submits this letter for consideration by the California Coastal Commission ("Commission"). The County of Humboldt ("County") approved a Coastal Development Permit (CDP) for the land-based portions of the Project, and five parties appealed the County's CDP to the Commission: (1) 350 Humboldt, (2) Redwood Region Audubon Society, (3) Salmonid Restoration Federation, (4) Alison Willy, and (5) Scott Frazer (collectively, the "Appeal"). Based on the detailed analysis in the November 21, 2023 staff report, Nordic requests that the Commission adopt staff's recommendation and find that the Appeal does not raise any substantial issue, pursuant to Section 13115, subdivision (c), of Title 14 of the California Code of Regulations (CCR) ("Section 13115").

I. Project Description and Background

Nordic proposes to clean up a contaminated former pulp mill and construct a state-of-the-art land-based aquaculture facility at Redwood Marine Terminal II (RM-II), a 76-acre industrial site on Humboldt Bay near Samoa in Humboldt County. The Humboldt Bay Harbor, Recreation, and Conservation District ("Harbor District") owns the site. The Project proposes the development of five buildings with rooftop solar that will be constructed in three phases, beginning with remediation of legacy contamination from the site's former use as a pulp mill. At full buildout, the facility would produce approximately 15,000 metric tons per year (roughly 33 million pounds) of fresh fish.

The County released a Notice of Preparation for the Draft Environmental Impact Report (EIR) on May 28, 2021, which evaluated all aspects of the Project. The Draft EIR was circulated for a 60-day public review period on December 20, 2021. A Final EIR, addressing all public and agency comments raised on the Draft EIR, was made available for review starting July 1, 2022. On August 4, 2022, the Humboldt County Planning Commission ("Planning Commission") certified the EIR and approved CDP No. PLN-2020-16698 for the land-based portion of the Project, which includes the terrestrial facility, but does not permit the water intake or outfall

structures. The Planning Commission's decision to approve the CDP and certify the EIR was appealed to the Board of Supervisors, which upheld both approvals. This Appeal ensued.

In April 2023, Nordic applied to the County for a Minor Deviation to the CDP to address two changes to the Project: (1) changing the species of cultivation from Atlantic salmon to Yellowtail kingfish (*Seriola lalandi*), which has been approved by the California Department of Fish and Wildlife; and (2) reducing the size and scale of the Project, including the building footprint, overall fish production, and related environmental impacts, such as truck traffic, air emissions, and energy consumption. The County approved the Minor Deviation on October 19, 2023.

II. **Legal Framework for Appeal of CDP to the Commission**

Once a Local Coastal Program (LCP) is certified, the Coastal Act limits appeals to the Commission of local government actions on CDPs. Here, the grounds for appeal are limited to "an allegation that the development does not conform to the standards set forth in the certified [LCP] or the public access policies set forth in this division." (Pub. Resources Code, § 30625.)

Notably, the Commission's inquiry is limited to the County-approved CDP, which governs the land-based portions of the Project only. For the outfall pipe and intake infrastructure, two other CDP applications were submitted directly to the Commission. The Commission approved CDP Application No. 9-20-0488 for the ocean outfall structure in November of 2023, and included Special Conditions relevant to some issues raised in the Appeal. CDP Application No. 1-21-0653, filed by the Harbor District for approval of the intake infrastructure, is currently under Commission review. Further, the North Coast Regional Water Quality Control Board approved both the ocean discharge and seawater extraction components of the Project on October 5, 2023, imposing conditions to protect water quality and beneficial uses of the coastal waters.

The Commission's consideration of the Appeal is a two-step process. The first step is determining whether the Appeal raises a substantial issue that the Commission finds significant enough to warrant taking jurisdiction over the CDP application. Under Public Resources Code Section 30625(b), the Commission shall not hear an appeal failing to raise a substantial issue as to conformity with the certified LCP. (See *Alberstone v. Cal. Coastal Com*. (2008) 169 Cal.App.4th 859, 863–864 ("*Alberstone*"); see also 14 Cal. Code Regs. (CCR) § 13115(b).) "A substantial issue is defined as one that presents a 'significant question' as to conformity with the certified [LCP]." (*Alberstone*, 169 Cal.App.4th at 863–864, citing 14 CCR, § 13115.) If, following testimony and a public hearing, the Commission determines that the appeal does *not* raise a substantial issue, then the first step is the only step, and the local government's CDP decision stands. (See *Alberstone*, 169 Cal.App.4th at 863 [Coastal Act requires Commission to hear an appeal from local government's decision unless it finds no substantial issue was raised].)

The Commission considers the five factors in title 14 of the California Code of Regulations, Section 13115, subdivision (c), when making a substantial issue determination:

(1) the degree of factual and legal support for the local government's decision;
(2) the extent and scope of the development as approved or denied by the local government;
(3) the significance of the coastal resources affected by the decision;

(4) the precedential value of the local government's decision for future interpretations of its local coastal program; and
(5) whether the appeal raises only local issues as opposed to those of regional or statewide significance.

The Commission may only consider issues brought up by an appeal, and courts "grant broad deference to the Commission's interpretation of the [LCP] since it is well established that great weight must be given to the administrative construction of those charged with the enforcement and interpretation of a statute. [Courts] will not depart from the Commission's interpretation unless it is clearly erroneous." (*Hines v. Cal. Coastal Com.* (2010) 186 Cal.App.4th 830, 849 (internal citations omitted); see also, e.g., *Alberstone*, 169 Cal.App.4th at 866 [deference to "Commission's interpretation because it presents a reasonable interpretation that is in keeping with the purposes of the LCP"].)

Courts will uphold the Commission's findings on no substantial issue if there is substantial evidence supporting those findings. (*Lindstrom v. Cal. Coastal Com.* (2019) 40 Cal.App.5th 73, 93.) The Commission may rely on any relevant evidence before it, (Cal. Code Regs., tit. 14, § 13065; *Lent v. Cal. Coastal Com*. (2021) 62 Cal.App.5th 812, 831), including expert opinions, photographs, and observations from Commissioners, staff, and the public, as well as inferences reasonably drawn from such evidence. (*LT-WR, L.L.C. v. Cal. Coastal Com*. (2007) 152 Cal.App.4th 770, 794; *La Costa Beach Homeowners' Assn. v. Cal. Coastal Com*. (2002) 101 Cal.App.4th 804, 818-819; *Coastal Southwest Dev. Corp. v. Cal. Coastal Zone Conservation Com*. (1976) 55 Cal.App.3d 525, 536.)

III. **The Appeal Does Not Raise Any Substantial Issue.**

The Appeal relies primarily on unsubstantiated, lay opinion to allege that the CDP is not consistent with the LCP with regard to: (i) energy use, GHG emissions, and vehicle miles traveled; (ii) effects on marine resources from uses of the marine environment; (iii) the Environmentally Sensitive Habitat Area (ESHA) buffer; (iv) public access; and (v) measures to minimize tsunami risks. However, as discussed in detail in the staff report, the Appeal does not raise a substantial issue, and the Project is consistent with Humboldt's LCP (Humboldt Bay Area Plan (HBAP)) and the applicable policies in the Coastal Act. Appellants failed to present any "significant questions" as to the conformity of the Project with the HBAP or the Coastal Act. (*Alberstone*, 169 Cal.App.4th at 863–864.)

First, there is ample factual and legal support for the County's CDP findings and approval. The Project review was robust, detailed, and legally adequate. The Draft and Final EIR for the Project include a host of references and appendices, including CalEEMod Modeling results, a marine resources biological evaluation report, a numeric modeling report (dilution study), a special status plant survey and vegetation community mapping/ESHA/wetland baseline evaluation technical memorandum, a probabilistic site-specific tsunami hazard analysis, and a supplemental soils and anthropogenic disturbance investigation of potential ESHA technical memorandum. The County's environmental review involved substantial public outreach and participation, including hours of public testimony during the hearings in front of the County's Planning Commission and the Board of Supervisors. After a thorough evaluation of these issues, the County issued detailed findings of fact supporting the County's issuance of the CDP and

certification of the EIR. The Minor Deviation is further supported by four technical environmental documents. The ultimate conclusion reached in each of those documents is that the Project would not cause any unmitigable significant environmental impacts.

Second, the project has a limited footprint and scope. The Project is restricted to brownfield lands and redevelopment of areas that historically were developed with heavy industrial uses. The Project will also have several major benefits, including providing jobs, a fresh local food source, and site remediation. Therefore, the extent and scope of the Project is limited here.

Third, no coastal resources are adversely affected by the Project. The Project components as approved under the County-issued CDP are unlikely to cause significant environmental impact on coastal resources including climate change, marine environment, ESHA areas, public access, or hazards. As part of the EIR, the County imposed mitigation measures and conditions of approval to minimize the impacts of the Project on these resources. To the extent that the intake and outfall structures may have impacts on the environment, those impacts are also addressed in the County's EIR and are subject to separate Commission proceedings.

Fourth, approval of the CDP does not set a precedent for interpreting the HBAP. The Project is unique in many respects, and interpretations of applicable policies did not conflict with any past policy concerning other projects. No novel HBAP interpretation issues are at play here and no adverse precedent would be set for future interpretations of the HBAP.

Finally, while the Project raises issues of regional and statewide significance, principally GHG emissions, marine resources, ESHA, and public access, Project conditions and mitigation measures in the EIR address all such issues.

IV. **Conclusion**

The appeal does not raise any substantial issues. The Project is consistent with all applicable HBAP and the Coastal Act policies and does not result in any significant environmental, physical, or economic impacts. To the contrary, the Project is environmentally sound, will result in remediation of a contaminated site, and will bring jobs and a fresh local food source to the region.

Please feel free to contact us with any questions or to request additional information or documentation.

From:	Adair, Scott
To:	Kraemer, Melissa@Coastal
Subject:	Written Comment for Dec 13th Agenda Item W11a - Nordic Aquafarms
Date:	Friday, December 8, 2023 2:54:05 PM
Attachments:	image001.png image002.png image003.png image004.png image005.png

Hello Melissa. I am writing today in regards to your Dec 13th agenda item no. W11a concerning Nordic Aquafarms.

Our agency has long studied the positive labor and economic impacts that the Nordic Aquafarms project will have in our region.

Nordic Aquafarms, a leading player in land-based aquaculture, is preparing to make a significant investment along the redwood coast with a planned $400+ million aquafarm project. This undertaking has the potential to revolutionize our local economy and elevate Northern California's economic position on the global economic stage.

One of the most promising aspects of the Nordic Aquafarms project is the creation of jobs, both directly and indirectly. The establishment of this aquafarm will lead to the generation of hundreds of well-paying jobs for our local residents. From aquaculture technicians to supply chain managers, these positions will provide opportunities for individuals across various skill sets and educational backgrounds.

Moreover, this project aligns with the State's commitment to environmental stewardship and sustainable development. Nordic Aquafarms' utilization of Recirculating Aquaculture Systems (RAS) underscores their dedication to responsible resource management, efficient water usage, and the reduction of waste discharge. By implementing state-of-the-art technologies and practices, the project exemplifies a harmonious coexistence between economic advancement and environmental conservation.

That said, I respectfully request that the Commission accept it's staff's recommendation and that it issue a finding of "No Substantial Issue" for the appeal of the terrestrial CDP and that the Commission finds that Humboldt County's CDP is consistent with the Local Coastal Plan and the Coastal Act.

Thank you.

Regards,

Scott Adair
Economic Development Director, **County of Humboldt**
(707) 476-4800
sadair@co.humboldt.ca.us
GOHumCo.com
825 5th Street #112
Eureka, CA 95501

Salmonid Restoration Federation

December 8, 2023

Commissioners
California Coastal Commission

RE: California Coastal Commission Appeal No. A-1-HUM-22-0063. Nordic Aquafarms. Agenda Item **W11a**

Thank you for considering our comments before making your decision on this large-scale commercial facility. The Salmonid Restoration Federation (SRF) appreciates the opportunity to provide further comments on the California Coastal Commission's (Commission) approval of a coastal development permit (CDP) for the proposed Nordic Aquafarms (Nordic) facility (Project) in Humboldt County. The mission of SRF is to promote restoration and stewardship of California's native salmon, steelhead, and trout populations and their habitat.

It is not clear whether the Commission has taken a hard look at the cumulative extraction of water in Humboldt Bay, especially the northern arm (also known as Arcata Bay) that provides sensitive estuarine habitat for juvenile salmonids. In 2016, when Coast Seafoods Company's development permit involved removal of 1 million gallons per day (MGD) from Humboldt Bay, there were grave concerns that the fragile ecosystem of Humboldt Bay could be impacted by the magnitude of extraction. To address the concern of over-utilization of the resource, the Commission issued a CDP that was conditioned with a permit term limit, which would give the Commission an opportunity to re-assess the effects to coastal resources after Coast Seafoods had been operational for approximately 10 years.

It is our understanding that assessment of the impact of removing 1 MGD from the estuary in Humboldt Bay has not occurred. Now the Nordic Project proposes to remove 10 MGD from the northern arm of Humboldt Bay, an order of magnitude greater than existing withdrawal, and the effect of that habitat loss on wild, native juvenile salmonids has not been assessed. We hope that the Commission is not rushing forward to permit the extraction of 10 MGD of estuarine habitat without having a solid understanding of the effects of existing permits and without the proper permitting and take exemptions from California Department of Fish and Wildlife and the National Marine Fisheries Service. We are particularly concerned about the removal of prey biomass that is essential to wild salmonid survival in important nurseries such as Humboldt Bay.

1018 2nd St, Eureka, CA 95501 • *www.calsalmon.org* • *info@calsalmon.org* • (707) 923-7501

Water extraction from the fisheries nursery in Humboldt Bay may turn out to be a tragedy of the commons, where cumulative loss makes the resource unusable by all. We hope that the Commission considers the Project in its entirety and conditions the CDP in a manner that protects wild salmonids. One solution to the cumulative impacts of water extraction in Humboldt Bay would be to require the intakes be placed on the ocean side of the Project and not in the estuary.

Thank you, again, for consideration of these comments.

Sincerely,

Dana Stolzman

Dana Stolzman, Executive Director
Salmonid Restoration Federation

From: Teufel, Cassidy@Coastal
Cc: Kraemer, Melissa@Coastal
Subject: Fw: Public Comment_Nordic Aquafarms California, Humboldt Co.
Date: Thursday, December 7, 2023 8:58:55 AM

FYI

From: pallab Sarker <pallabsarker05@yahoo.com>
Sent: Wednesday, December 6, 2023 10:57 AM
To: Teufel, Cassidy@Coastal <Cassidy.Teufel@coastal.ca.gov>
Subject: Public Comment_Nordic Aquafarms California, Humboldt Co.

Dear California Coastal Commissioner: UCSC is researching ecological aquaculture feed using a land-based recirculating system. The research aims to find sustainable alternatives to wild-caught fishmeal and fish oil to advance the sustainability of aquaculture, the fastest-growing food sector in the world. The focus is on microalgae-based diets that are fish-free, low-polluting, and have a low environmental impact to reduce the negative impact of aquaculture on marine wildlife forage and artisanal fishing catches that support food security in lower-income coastal nations. UCSC has made significant progress in eliminating wild-caught fishmeal and fish oil in aquafeeds with marine microalgae. The new diet aims to fully replace fishmeal and fish oil while having low emissions of N and P nutrients.

UCSC is looking for commercial farms in California to conduct commercial feed trials to build a community of practice for the commercial adoption of microalgal co-product trout feed. Nordic Aquafarm California could be one of the potential users of microalgae-based feed for sustainable fish production.

Also, Collaboration with Nordic Aquafarm California would be a game-changer for the region's sustainable aquaculture and seafood production systems. Making sustainable aquaculture a reality is crucial in this region to maintaining local food-production systems without adding to the mounting pressures on marine ecosystems from overfishing and climate change.

From: nancy Okada
To: NorthCoast@Coastal; ExecutiveStaff@Coastal
Subject: Public Comment on December 2023 Agenda Item Wednesday 11a - Appeal No. A-1-HUM-22-0063 (Nordic Aquafarms California, Humboldt Co.)
Date: Friday, December 8, 2023 4:58:09 PM

Please send proof of receipt.

DATE: 12-08-2023

TO: CALIFORNIA COASTAL COMMISSION
RE: APPEAL No. A-HUM-22-0063 (Nordic Aquafarms California, Humboldt Co.)
FROM: Nancy Okada, Chair, Sierra Club CA, Coastal Subcommittee

Dear Commissioners,

On behalf of Sierra Club California's over 500,000 members and allies, we ask that you delay approval of this project.

The California Coastal Commission has an important task ahead of it. That is to set precedent for permitting Land-Based Finfish Aquaculture (LBFA) facilities that will be used as a model for all such new commercial activities up and down thousands of miles of precious coastline.

Much of the information available to policymakers and the public regarding industrial finfish aquaculture originates from either the industry itself or researchers at universities and NGOs who receive industry funding. Not surprisingly, much of this information tends to highlight supposed advantages while downplaying documented risks. Often the same government agencies charged with protecting riverine and marine ecosystems now find themselves in an advocacy or enabling role for industrial aquaculture practices.

The potential benefits of LBFA include job creation, removing problematic fish net-pens from open waters increasingly under climatic pressures, the re-use of lands for growing high protein foods, and supplementing diminishing wild-fish catch with healthy livestock for harvest. However, while the potential benefits are numerous, it is how these opportunities are realized will make all the difference.

Initially promising significant numbers of good jobs and local economic prosperity, computerized automation is rapidly being designed into all aspects of land- and marine-based facilities.

In the last few years, the use of video and Artificial Intelligence monitoring, have taken work done by those skilled in fish husbandry, and deft hand processing, to

automated systems that require only minimal oversight. While there will be a few high-paying jobs overseeing the computerized systems that transfer, feed, harvest and process aquatic livestock, most workers in large-scale facilities are being replaced through automation. However, these automated systems require large inputs of energy.

At issue is to determine what proper criteria and due diligence is needed for permitting an LBFA on the Samoa Peninsula. The Commission has before it a review of a facility proposed by Nordic Aquafarms to raise Yellowtail Kingfish (Seriola Ialandi). These fish are warm water fish whose full life cycle is typically spent in more tropical salt waters not native to the coastal waters of northern California.

Importantly, what has been proposed is not a closed Recirculating Aquaculture System (RAS) but a hybrid of such, heavily dependent on a flow-through component. In these types of hybrid systems there is a substantial amount of effluent which, instead of being fully recycled within the facility, discharges into California's coastal environment. While there are indeed commercial systems in use today which retain, fully sterilize and reuse these waters, the applicant has chosen not to employ such methodologies.

As such, the Federal Clean Water Act comes into play.

It is irrelevant that whatever facility existed on this portion of coastal land before used or discharged. What is at question is what should be allowed now given this is a new use whereby, to date, the potential permittee has chosen not to employ the best practices for a facility to rear its finfish.

At odds with protecting the coastal environment are several factors which the California Coastal Commission (CCC) must consider.

Fortunately, there are resources that are at the Commissions disposal.

Distribution Of Nitrogen, Phosphorus , Pathogens:

In establishing what can or should be allowed to be discharged into California's coastal waters from this land-based facility the CCC must look to how nutrients and pathogens from this hybrid operation will transport up and down the coastline. UCLA has created a comprehensive modeling program that allows for fact-finding in that regard to be accurately determined.

The proposed facility at Humboldt will run 24/7/365. By design it must discharge continuously.

While statements are made as to “testing that would be done four times a year” it should be noted that when questioned as to what recourse could be employed should nutrient levels be higher than permitted, potential operators have responded, “We will simply stop feeding the fish”. Clearly that is not a long-term solution. While it might work well during the short periodic testing phase that is undertaken at the effluent outflow, it in no way would be representative of what is typically being discharged.

The coastline of California is replete with sensitive estuaries where depositing of high levels of nutrients can exacerbate already overburdened and warming ecosystems. Therefore, a model that takes into consideration the topography of the benthic layers, the on-shore and off-shore winds, tidal and river actions must be examined.

Regarding pathogens, the information that the CCC has been given to date is woefully lacking.

Yellowtail Kingfish are asymptomatic carriers of a several pathogens which can decimate almost all wild finfish stocks who migrate up and down the coast. In particular Infectious
Pancreatic Necrosis Virus (IPNV) is a trans-species disease that has been decimating aquacultured fish and is highly contagious. It is asymptomatic in Yellowtail Kingfish as well as Atlantic Salmon. Meaning that while the fish may not appear sick so a veterinarian may not be consulted or testing for months, it bio-accelerates in close quarters of warm waters and is shed into the production tanks through the gills of the livestock fish. The levels of UV or ozone treatment that has been proposed by the applicant will not kill it.

This disease has no known antidote. It infects not only finfish
but some shellfish as well. It is a highly contagious, highly virulent, and highly mutative viral disease. There is no vaccine to date that is effective for this disease. To date it has been decimating pen-raised fish up and down the coast of Norway and when detected all penned fish are slaughtered to stem any possible transmission.

There is only one way to insure such a deadly pandemic is not released and distributed up and down the coast of California via the various currents that hug the shorelines, and that is to enforce strict bio-isolation techniques which are not possible via a hybrid discharging system. The minimal amounts of UV, even with augmentation of the low levels of ozone that could be accommodated in a facility such as the proposed design, will not address the discharge of a plume from the equivalent of a viral bioreactor from tons of warm water fish. While some

amounts of this virus are endemic to coastal waters, this is not the same as a concentrated warm water discharge from tanks holding tons of asymptomatic carriers who grow out over an 18- month to two-year cycle.

Another consideration regarding climate change is that the process of growing insects and algae requires energy, water and large tracts of land for warehouses. How sustainable is this? Although it is their natural food, it is an example of why industrialized food production is not the direction we should be going vs supporting natural food systems.

The issues of energy use, bio-isolation, and sustainable feeds can be addressed with thoughtful and careful regulation. Those regulations can guide California to require all finfish aqua culturists to bring forth the best designs to insure that the promise of Land-Based Finfish Aquaculture is set on the right course for the near and distant future.

Finally, the Sierra Club National policy offers environmental guidelines we ask the Commission to consider:

Farming of fish and other aquatic organisms

1. Cultivation of aquatic organisms in a manner that has a high potential to impact natural ecosystems, such as net-pen fish farming in coastal waters, should be discouraged.
2. Aquaculture systems should include components that recycle wastes internal to the system.
3. Multi-trophic aquaculture systems that integrate fish and plant ecosystems to process waste and optimize use of resources should be encouraged. (**Sustainable Marine Fisheries Policy**)

We thank the Commissioners for their consideration of the Sierra Club's concerns and ask that the Commission delay action on this application.

Sincerely,
Nancy Okada
Chair, Coastal Subcommittee
Sierra Club CA