

Nordic Aquafarms Proposed Aquaculture Facility

What Could Go Wrong?

Nordic Aquafarms plans to build an aquaculture facility for the purpose of producing 330,000 pounds of Atlantic salmon per day on a 77-acre site at the location of the former Louisiana-Pacific Pulp Mill on the Samoa Peninsula in Humboldt County. The project will withdraw 2.5 million gallons per day (MGD) from the Lower Mad River and 10 MGD from Humboldt Bay. Water will be recirculated through the project and 12.5 MGD of partially-treated effluent will be released daily into the nearshore marine environment along a 1.55-mile outfall pipe. Humboldt County is in the process of public scoping. Humboldt County information can be accessed at <https://humboldt.gov.org/2347/Major-Projects>

Nordic Aquafarms has expressed a desire to work with the community to address environmental concerns, but the list of issues is long. Environmental issues raised prior to the scoping process were: the effect of the project effluent on Essential Fish Habitat conserved under the Magnussen Stevens Act and Critical Habitat for conservation of listed species under the Endangered Species Act (ESA); exposure of five ESA-listed species and their habitat to partially-treated effluent; risk to the local crab fishery from water temperature increases and domoic acid bioaccumulation; risk to recreational users from 13 to 14 trucks per day on the narrow access road; a high energy demand and carbon footprint from a 21.5 to 28 megawatt facility; the spread of fish diseases and antibiotic-resistant bacteria associated with fish farming and the untreated effluent streams; increased local dioxin and PCB contamination associated with fish farming; the global and local impacts caused by harvest of wild fish for fish food; sea-level rise and tsunami risk; and the risk of fish escape.

NMFS and other commenters raised the concern that the increased water temperatures from the project and nitrogen-laden effluent could be

expected to result in increased harmful algal blooms and domoic acid impacts on the marine environment. NMFS noted that domoic acid: “is responsible for well documented toxic events to marine mammals and birds and amnesiac shellfish poisoning in humans.”

Project modeling of the effluent dispersal is incomplete, but preliminary modeling shows that effluent will enter Humboldt Bay with the incoming tides. The combination of increased water temperatures in the outfall, discharge of 298 metric tons of NHx and NOx per year, marine upwelling, and local currents distributing the warm effluent into local estuaries has not been thoroughly examined. The effect of project effluent on coho and Chinook salmon, steelhead, green sturgeon, and eulachon rearing areas in the near coastal and estuarine environments remains to be analyzed.

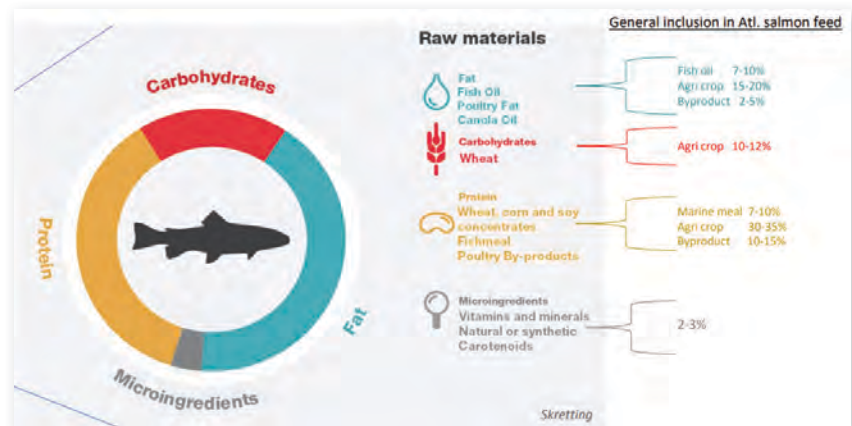
Recent research indicates that *Piscine Orthoreovirus*, first discovered in farmed Atlantic salmon in 2010, is now known to enter wild fish habitat in British Columbia directly from fish processing areas in salmon farms. Nordic Aquafarms does not have any plans to monitor viruses and does not have a treatment plan for the fish-processing effluent or for backwash

from the sludge reducers. Other viruses of immediate concern are: Infectious Pancreatic Necrosis Virus, Infectious Salmon Anemia Virus, Salmonid Alphavirus, Novel Totivirus, and Novel Piscine Reovirus.

All of these viruses pose a risk to juvenile salmonids growing to adulthood in the marine habitat in the area of the diffuser pipe and exposed to effluent during tidal cycles in Humboldt Bay, the Mad River Estuary, and the Eel River Estuary.

The North Coast Regional Water Quality Control Board has delayed meeting to decide on a National Pollutant Discharge Elimination System (NPDES) Permit for Nordic Aquafarms until after a Draft EIR is released. Additionally, a California Coastal Commission Coastal Development Permit will be needed for the project. California Department of Fish and Wildlife does not currently permit raising Atlantic salmon in the state, and an Aquaculture Registration approval will be needed.

The Nordic Aquafarms project remains controversial. To learn more about this project or to see the public comment letters that SRF has submitted, please visit <https://www.calsalmon.org/programs/humboldt-bay-aquaculture>



The two major issues with Nordic's Atlantic salmon feed sourcing are:

1. The 7-10% fish oil and 7-10% marine meal mean that 14-20% of the feed sourcing will be from wild fish that support marine ecosystems outside of the project area. In instances where this is Pacific herring, that means taking food resources away from wild salmon in the northwest.
2. The 2-5% poultry fat and 10-15% poultry byproducts means that 12-20% of Nordic's Atlantic salmon feed will be from an industry that is known to cause localized spread of antibiotic-resistant bacteria in poultry farming and fish farming.