Timothy Timmermann, Director
Environmental Protection Agency, Region 1
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Boston, MA 02109-3912

March 27, 2021

Dear Mr. Timmermann:

I'm writing at the recommendation of Jay Clement, Team Leader at the Maine Office of the Army Corps of Engineers to express my concern for two pending, industrial-scale, 60-acre aquaculture lease applications that are unfolding in Frenchman Bay, Maine. This letter is similar to an earlier appeal I recently addressed to Mr. Clement, but it adds several new concerns. The applicant, American Aquaculture has filed for two lease applications with the Maine Department of Marine Resources, but neither are public yet. The firm is also on record to say they'll be filing Discharge Permit Applications for both sites with the Maine Department of Environmental Protection, as well as for one or more 'new source' emissions licenses needed to make long-term operation of one or more large scale diesel generators compliant with EPA air pollution regulations.

I hope that the EPA will review and deny approval to all aspects of this project, and, at the very least, will demand that it undergo comprehensive environmental research such as an Environmental Impact Statement or Environmental Assessment.

My concerns about the project deal primarily with air and water quality issues and their related impacts. Let me address water quality first. American Aquaculture plans to use unproven technology they claim to be "eco-friendly" largely because it supposedly removes 90% of waste products, particularly the solid waste. A small, first-time implementation of this technology is currently being evaluated in British Columbia, but the track record that installation provides over a short time period is not commensurate with the risk posed by the scale of the Frenchman Bay project when the adverse environmental and economic impacts are considered should any of a myriad of largely untested components or systems fail. Those failures could be due individually to unanticipated equipment malfunctions, safety margin shortcomings, to human error, or to many forms of accident, weather conditions, or lapses in oversight. Importantly, failure could also come from unanticipated, amplifying interactions between one or more of these preceding scenarios: eg a small failure - a tear to the outer containment, a pump failure, or disease - occurring at a bad weather moment, compounded by bad judgement on-site due to new or unpracticed procedures that together compound to cause a much larger incident. Said another way, since this proposal is simply 'too big to fail,' it should not be permitted. From a failure analysis standpoint, risk is not mitigated simply because the company claims to capture 90% of the waste or because the firm claims very high burst strengths for the containment material. Why not? Because, as we all know, stuff happens. The proposed, untested systems can easily fail in unpredictable ways, very quickly (eg: in a collision), and because of the scale, produce immediate and irrevocable environmental harm and long-lasting economic damage to many parties.

Conversely, and assuming that the technology is reliable and that appropriate safety margins are in place (and both are unproven and in question, especially at the proposed scale), the remaining waste discharge - the 10% of waste that's not captured - will be largely liquid. That liquid is sure to contain very high concentrations of dissolved nitrogen, and somewhat lower, but objectionable concentrations of phosphorous and other contaminants.

Consider that the Gulf of Maine is among the fastest warming bodies of water on earth. With warming comes increased algal blooms and red tide. Adding high nutrient loads to the water could only exacerbate the already recognized increased algal bloom frequencies, and with them, cause adverse

effects to much of the ecosystem. Even if direct causal effects for the likelihood of increased algal blooms cannot be demonstrated, by the same token, they cannot be disproved either. Therefore, the risks of even potentially causing those impacts should not be accepted within the existing regulatory framework of seeking to do no harm and maintaining the Public Trust.

It's worth underlining that Maine's duty to uphold and manage the bay's waters and submerged lands in perpetuity is for the Public Trust, and specifically not for the financial interests of the privately held, foreign owned applicant, their investors, or some of their new employees. In this Public Trust framework, it's unclear how Maine's DMR and DEP could consider issuing permits in good faith. This reinforces the need to have the EPA perform an EA or EIS independently.

The proposal plans to pump large volumes of cold water from deep below the pens, presumably to clean, oxygenate, and control the water temperature in the pens. Additionally, the pens will be cleaned by robotic power washers. That pumped effluent, while cleaning the pens themselves, necessarily pollutes the bay with water that's high in nitrogen, phosphorous and dissolved contaminants, as well as with harmful residue from the robotic pen cleaners. The altered temperature profile of that large volume of discharged water is likely to significantly alter the ecology in unknown and unpredictable ways too.

All that effluent will be discharged from the installation. And yet, without detailed models of the coastal current flows, supplemented by the ground truth of data collected from a bay-wide network of ADCP current profilers and CTD instrumentation deployed over several seasons to map current flows and basic chemistry, there will be no characterization of this effluent plume or where it will be transported. In simple terms, will this effluent concentrate in a gyre, or will it flush, or will it deposit on sensitive regions of the bay environment? Nobody knows. Modelling, data collection from instrumentation, and analysis will be required to evaluate the risks.

Further, once there's an understanding of where effluent is transported, there's no data on how that material might impact either local fisheries, including the bay's active lobster, shellfish and kelp fisheries, or the non-commercial marine environment and the creatures and habitats it supports. At present, there is no data to make informed decisions about the proposal's environmental impact. Acquiring that data and the peer-reviewed conclusions from it should be a prerequisite to consideration of issuance of any permit.

Next, the proposal presents other threats to water quality related to contamination associated with loading, storage, barge transport, and unloading of enormous volumes of sludge, fish pellets, and diesel fuel that all deserve close scrutiny in an EA or EIS. Clearly, the inevitable introduction of contaminants including veterinary pharmaceuticals, foreign organisms, or other materials from foreign fish pellets, sludge, and fuel deserve study.

In addition, net-pen fish farms are frequently subject to large disease-born die offs. How will potentially huge volumes of diseased fish, (perhaps 2.2M fish, the size of a single pen or greater) be handled without impact? That, too, deserves study and assurances for on-going monitoring and compliance to currently non-existing regulatory protocols. And finally, the proposed pens will operate at a stocking density that (depending on how it's calculated) is 3-8 times the maximum stocking density Norwegian regulations allow to assure water quality. Currently Maine has no such regulations, but why would we permit a facility using unproven technology operating so far beyond what Norway, the world salmon farming leader, allows to insure environmentally sound water quality? The applicant's position that their unproven technology is 'eco-friendly' enough to allow that much higher stocking density, and at this unprecedented scale is simply not credible.

Finally, with respect to water quality, it's of concern that there even prior to these applications, there are currently approximately 30 existing or pending aquaculture leases in Frenchman Bay. There is little data to evaluate the cumulative impact on or between these installations and the proposed new ones.

Adding two industrial-scale leases simply exacerbates the unknowns associated with the cumulative effects.
Now, let me also address the impact on air quality, traffic, and road wear in the region. The proposal is to produce 66 million pounds of fish annually. It's not currently clear whether this 66M pounds is un-gutted, or cleaned and gutted fish, but, for the moment, let's assume it is market-ready fish, ready to ship. It's also not clear how that fish and other related material will be transported but consider the following: The load capacity of a standard 53' semi-trailer is 43,000 pounds. With a cab, these rigs are 74' long. To haul 66M pounds of fish, the proposed annual production, you'd need 1534 trucks stretching 21 miles. If you need to haul this 66M pounds of fish over an entire year, and you haul five days a week, it would take six trucks every day for a year.

This same volume of fish must be moved from the pen to shore in the same period. According to the company, that transport will happen in a large 300-foot-long processing ship burning high sulfur fuel oils making hour-and-a-half trips back and forth daily between the pens and the planned processing facility in Prospect Harbor. This adversely impacts air and water quality too.

Additionally, there will be similarly large transport logistics for incoming fish pellets. Although specifics about them have not been made public yet, sources suggest that one to three pounds of fish pellets are required to produce one pound of fish. Therefore, even at the lower one-pound of pellet level, it would be reasonable to anticipate another 21-mile line of trucks transporting food to the shoreline, to say nothing of how that feed will be transported over the water to the pens.

There also will be similar, but as yet unspecified, very large transport demands to haul the solid waste product from pens to shore where it will be dried and then trucked out supposedly for use in fertilizer or other products. This operation could have significant odor impacts, both in transport over the water and onshore. The volumes are not disclosed yet, but they will be significant once again impacting air quality and road wear.

And of course, the total number of trucks I've cited is likely to increase, perhaps double, because to leave fully loaded, at least some trucks, perhaps all of them will almost certainly need to arrive empty.

Another air quality concern relates to the continuous power demand for high volume pumps, lighting, and crew quarters that will be supplied by diesel generators for which the aforementioned 'new source' licenses will be required. After all, these licenses are nothing more than licenses to pollute.

All of these sources will contribute to local air pollution in ways that conflict with Maine's newly adopted "Climate Action Strategies". Further, it should be noted that ocean farmed fish is nearly twice as greenhouse gas intensive as wild capture fishing while contributing the highest CO2 emissions of the entire seafood sector.

Quite a carbon impact for an operation touted as "eco-friendly".

These air quality concerns, along with the associated truck and ship traffic and the corresponding congestion and noise impact on the region, deserve study in an EA or EIS too. And when the water and air quality impacts are reviewed, it will be important to understand the scale of the project as it is currently proposed, as well as how it may be expanded in the future. Expansion could take at least two forms. One expansion route would be to apply for additional leases. American Aquafarms is on record saying it will not seek expansion of the current lease footprint, and, if so, that mode of expansion should be specifically and permanently excluded.

However, the current lease application is for two 60-acre areas. In the current plan, each of those lease areas includes a 6.6 acre area of pens. Therefore, a second form of expansion could be to simply increase the pen areas within the current lease, an expansion that could conceivably increase

production and the environmental impacts by nearly 10X without changing the lease area. Either potential expansion should be evaluated by the EA or EIS and possibly limited or excluded depending on the findings.

In closing, let me say that I do not come to these concerns lightly. My extended family and I have owned properties in Sorrento for over 100 years. My parents own the north end of Stave Island, located just over a mile from one of the two proposed lease sites. The application proposes use of untested technology at unprecedented, industrial scale with the potential to quickly degrade both water and air quality, and therefore to negatively impact the entire ecosystem and the local existing shellfish, lobster and aquaculture fisheries. That's a risk we cannot afford to take.

There are also concerns due to the adverse effects from the navigation hazards, visual, noise, ship traffic, and light pollution impacts on the entire bay area including Acadia Park. Additionally, there are serious concerns that the conservation values of the surrounding forever-wild land areas will be jeopardized; these include the Park, the Porcupine Islands, Jordan, Stave, Preble, Dram and Bean islands which have all been conserved in perpetuity. It is worth noting that the lease area is larger than each of the smallest seven individually and larger than the combined area of the bay's smallest five conserved islands.

Finally, there is a clear danger that the public trust that the State of Maine is pledged to uphold in perpetuity for the submerged land in the bay, along with the waters of the bay itself, will be sacrificed in the name of a highly speculative development, led by a man of questionable character, and promising low-skilled, jobs that, if past history is to be our guide, may prove difficult to fill. After all, the Department of Labor ranks these jobs as among the most dangerous.

These adverse impacts apply not only to the environment itself, but to the region's economy, and to people of all affiliations who use and appreciate the existing, pristine, near-wild landscape, much of it permanently protected – fishermen, property owners, residents, summer people, visitors, recreational interests, tourism, to name a few – who all stand to be collectively harmed both now, and long into the future. This proposal is likely do irrevocable harm to the landscape, the ocean resources it supports, and to all these users long, if not perpetually, into the future.

I believe all of the many environmental concerns surrounding this project should be considered adverse effects that warrant protection under the National Environmental Policy Act and deserve a moratorium on the grant of any permits until completion of either an Environmental Assessment or an Environmental Impact Study by the Environmental Protection Agency.

I look forward to being kept apprised of your review of this request. Thank you for your consideration of these matters.

Regards,
Henry Sharpe