

Responses to Planning Board Rebuttals from the meeting of January 15, 2020

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Upstream Watch has always taken the position of advocating for the health of Midcoast Maine rivers and watersheds through science and education. We have provided over 1,500 pages of testimony and exhibits from experts including Neal Pettigrew, Professor of Oceanography at UMO; Richard Harris Podolsky, Founder and CEO of Ecology And Technology, and a Certified Senior Ecologist through the Ecological Society of America; Mike Lannon, PE, and myself, John Krueger, with a background that includes two degrees from MIT and working as the Director of Licensing and Enforcement and of Field Services at the Maine DEP.

Upstream's testimony is intended to be true third-party reviews regarding Nordic Aquafarms permitting proposal. Last week's presentation by proponents of Nordic resorted to hyperbole and name calling, as well as numerous misquoted statements and falsehoods. The Planning Board has all of the testimony needed to recognize those falsehoods, so Upstream has chosen to not create a point-by-point rebuttal. We do, however, want to point out the most egregious errors.

The term "big" is not defined simply by the number of square feet under a roof. A RAS fish rearing factory is highly complex, and the technology is evolving rapidly, so the RISK is as big as the building. A fish processing factory, where fish are killed, gutted and filleted is a very different food processing operation. Therefore, combining both of those activities on one site, in one location adds to that risk. Especially when the applicant hasn't done it before.

The topic of Best Available Technology is important for many other reasons than described by Nordic's supporters. Reliance on technology takes the place of water quality based effluent standards. Prior conduct is important. To date, the only project that Nordic can point to in Fredrickstadt was brought up operationally using a RAS 2020 system. They are still making changes as they haven't gotten their freshwater filtration system working well, and while they are pouring concrete for their D shaped tanks, that is a long way from having a functional operational Phase 2 that is producing fish. Upstream has asked the Planning Board to request a full operational "check point" review of the Fredrickstad facility complete with source water and effluent management. If they are serious responsible operators there should be no problem with this request.

To state that it is fine to grow lettuce in the effluent from a RAS supports Upstream's concern that this effluent could encourage the growth of unwanted fauna and flora in our Bay. If Red Lettuce grows so well, what else will? Why hasn't Nordic provided a complete environmental assessment of the Bay?

Sometimes the promotion of a fact can be so distorted it becomes no longer valid. Nordic and its supporters like to use the volume of water in all of Penobscot Bay to say that the trillions of gallons in the bay will easily and quickly dilute the 7.7 million daily gallons of effluent. The truth is this effluent will not be discharged into the middle of the Bay, but will instead be

pumped into a tiny shallow nook. The dispersion of this nitrogen-rich warm water will take at least 14 days, in reality this will create a constant plume of over 100 million gallons that will persistently lie close to the shore of Northport.

Upstream has provided testimony from a professor in oceanography stating that the effluent will not be completely dispersed 100% in the water column, and that Nordic has most likely miscalculated currents, wind shear, stratification of the discharge plume, and even the direction of the outward flow. This testimony is provided to inform not to frighten, but if Nordic is as wrong about this as it appears, then that is indeed frightening.

Nordic makes a point that few design changes have taken place in the last 6 months. Of course the plan has changed significantly since they sold the city council on the plan almost two years ago. These changes have included water sources and amounts, pipe line route changes and designs, Tesla trucks, excavation of thousands of tons earth, building and smoke stack heights, storm water underground designs, diesel generator air emissions and more. There was an amendment of the submerged lands lease application submitted by NAF on January 10, 2020.

All of the changes have been made and yet we still do not know what the feed will be, where solid wastes will go, or a complete contingency plan with monitoring and mitigation plans. The activities on site are not limited to fish rearing. They also include fish processing which has profound effects on what the factory will need to control and output. How will these two operations interact with the waste discharge?

Technical changes have been the ones most important to Upstream. Nordic might claim that the DEP is satisfied with their modeling, but Upstream has provided input on the ocean discharge modeling that suggests it was not done accurately and additional real time data needs to be collected before anyone can be satisfied. Nordic's own oceanography presenter agrees that additional data needs to be collected in order to verify modeling.

Regarding ecological inventory, what about the complaint that Upstream listed turtles as an example of one of the many species present on the site? Nordic claimed that the turtle photo was taken at the reservoir, not on the Nordic site. That statement alone illustrates a lack of understanding of ecology, and the importance of connection between different ecosystems. The Painted Turtles in the photo can travel up to 4 miles. This is called 'homing' which females use to locate suitable nesting sites. The Nordic site and the reservoir are right next to each other creating enormous impact on the wildlife in this area. Why hasn't a complete assessment of flora and fauna on the land and in the bay been properly collected and inventoried?

Regarding core sampling of the sediment along the route of the pipeline to test for mercury, including HoltraChem mercury deposits, our concern is that of the mercury testing protocol. If mercury testing is required, the applicant in our opinion should use the Penobscot River Mercury Study protocol — the only testing method that the federal court's experts have determined is reliable. Nordic also has not studied the impact on the methane deposits and pock marks in this area. As advocates for the health of Midcoast Maine rivers and watersheds Upstream Watch sees our contribution as crucial to strengthening the decision making process.