## William Bryden

The methods allowed by the permits are dated and do not reflect "best available technology to reduce impacts and wastage". Zero discharge land based RAS is available and must now be the new standard by which pollution acceptance is measured. Spill-over and spill-back of contagions (viruses, bacteria, parasites, and fungi) has driven the economic shift of investment money to RAS. Cooke, holding a large market share of net pen production in N.A. has refused such changes due, in part, to their inevitable loss of market share if they retrofit to RAS land based tech. The permits, as they are written, fail to prevent or monitor impacts to wild resources impacted by the mega pollution resulting from open net pen use. History and the weight of scientific evidence has shown this, has it not? Using current technology, monitoring impacts from open net pen effluent (which unnaturally amplifies contagions) is impossible. In fact, new to science contagions are found constantly and increased virulence is the order of the day in these unnatural unmoving populations of naturally migrating and predator strengthened anadromous fish. With all due respect, please do your jobs and stand up against this ecocidal use of our marine ecosystems and the ecocidal transference of expense from Cooke bottom line to our shared environment.

PS I have an ecology degree and more than 10 years experience watch-dogging this method of protein reduction for profit. I have reviewed and testified during discharge permit applications in Maine and throughout Atlantic Canada as an expert witness. I have also been involved in numerous law-suits that I initiated and reviewed ALL of the open net pen EPR and EIS's filed in Atlantic Canada since 2012. In fact, most of them were triggered due to my work on this issue. I can go on and on about predatory migration distruption and attraction, contagion amplification and increased virulence, a lack of effective monitoring, escapes and genetic introgression (triploidy is not 100%), effects of triploidy on salmonid health and predator preference/attraction, impacts from escapes, antibiotic/neurotoxin use/abuse and illegal toxin use by Cooke (multiple convictions), sea lice, claner fish abuse and disease/escapes/morts, coastal nutrification, etc All of which is avoided by RAS systems with zero effluent (eg the license-able tech offered by Sustainable Blue in NS Canada, and Superior Salmon in Wisconsin)

But will you even listen....will your grandchildren ever eat an economical wild salmon due to their abundance?

Be better than the managers before you....the ones that allowed and facilitated our current mess. If you chose to ignore my warnings and pleas...at least fin mark or pitt tag every fish, allow eNGO over-sight for disease and lice monitoring, and set limits on lice and drug/toxin use, increase escape/disease/parasite monitoring and reporting...do it better and Cooke too will shift to land based....for the money.