

Hugh Mitchell

All right. Okay, well, thanks for this opportunity. So, I am-- I have two degrees in marine biology and marine ecology, bachelor's and master's. I have a doctorate in veterinary medicine, and I've been practicing fish medicine for over 30 years all over the world in private and public and even tribal fish hatcheries. So, just instead of getting into the science, I don't think this appropriate here, I just want to give a bit of context here as I do travel all over the world.

Currently, the US is an embarrassment to the rest of the world. I mean, by that, we import \$20 billion dollars more seafood than we produce. Half of the deficit is made up with imported foreign sea food. We lag woefully behind in volume technology and know-how with most of our seafood produced internationally outside our control and economic benefit. The gap is widening because we are bogged down in silly, vested politics that hamper current aquaculture production and constrain any real growth. Real science is ignored and fear mongering politics and frivolous lawsuits abound.

Now, environmentally, Norway with its pristine, pure fjords, which are a priceless tourist attraction still has close to a 1,000 net pens. The sights growing 2 million metric tons of salmon in these fields and along its coastline. Salmon is its number two export, and the only significant discharge the oceans from this vast number of farms is nitrogen, and, as, you know, nitrogen is an essential nutrient for primary production at the very base of the food web of the ocean ecosystem.

There are countless other sources, but it's not it's a necessary nutrient for all life in our seas. The key is not to overload the input as excess can result in harmful algal blooms and anoxic conditions

Study after study in Norway and Puget Sound has shown that the nitrogen output from salmon grown and net-pens is insignificant compared to all other sources and to the overall and nitrogen budget. In fact, the original 1990 EIS study by Washington Department of Fisheries, which has been criticized for being dated, calculated the Puget Sound could sustain a 100 net-pen sites without significant impact.

Even if conditions of change in the relevance of this study is in question, we're only talking about four sites here, not a 100, and for 40 years before Cooke rescued the business, and I've done contract work for Cooke and for previous owners, these sites have operated without a single shred of evidence that their nitrogen output is of any concern. In fact, several studies have shown that it isn't, and as we all are aware a couple years ago, the state made non-native fish, such as Atlantic salmon, illegal for net pen aquaculture, even though the scientific evidence is scant, but Cooke

complied and is planning to switch to native and sterile rainbow trout/steelhead, so it doesn't lose the time honored important, maritime business, and its workforce of very skilled and underappreciated animal husbandry technicians remain.

So Department of Ecology's net-pens permit for Cooke needs to be changed from Atlantic salmon to a sterile rainbow trout and the production here, we're only talking about 8,000 metric tons, if that. This should not have taken a hearing or a comment period, such as this to do so, but that's part of politics of aquaculture in the Pacific Northwest these days.

Scientifically, there is no difference between the nitrogen output of two salmonids Atlantic salmon and steelhead. Furthermore, as several escapee [phonetic] over the years before Cooke, there's been no impact whatsoever of these fish on established runs, but with current technology escapee [phonetic] risk is far less and sterile steel had would even less than that risk disease.

Risk is not an issue. That's my field. I'm not going to elaborate in that for the sake of time, but I'll just stand and say the Department of Ecology, if acting scientifically, has no choice but to immediately implement the permit modification.

Thank you