



February 25, 2019

Ms. Laurie Niewolny
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P.O. Box 47775
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VIA USPS AND EMAIL

Re: Cooke Aquaculture Pacific Comments on Draft Fact Sheets and NPDES Permits for the Cooke Aquaculture Fort Ward, Clam Bay, Orchard Rock and Hope Island Net Pen Facilities

Dear Ms. Niewolny,

Thank you for providing the drafts of the above referenced Fact Sheets and NPDES permits. We appreciate the Department of Ecology's work on this permit and offer these corrections and comments with the intent of ensuring that this permit, once issued, is factually correct and robust. Our specific comments are as follows.

Sediment Monitoring Frequency:

Sediment monitoring of benthic impacts is carried out around a 100-foot perimeter from the farm sites. WAC 173-204-412(2). Sediment monitoring standards for net pens were established to monitor for sediment organic enrichment coming from either uneaten fish feed pellets and/or excess fish feces. Impact limits are set for the organic enrichment of sediments to distinct threshold values at the 100-foot perimeter around the pens. WAC 173-204-412(3). Mandatory mitigation and additional sediment monitoring are required if sediment standards are not being met. WAC 173-204-412(4)(a). Mitigation and monitoring continue until the sediment quality meets sediment management standards.

The TOC threshold trigger levels were designed to identify any prolonged impacts to the benthic environment, if they occur. If the assimilative capacity of the marine environment is overloaded with excess nutrients, those effects do not disappear rapidly. A program of annual sediment monitoring is capable of determining whether a facility is operating within the physical and biologic capacity of the surrounding environment and allows regulators and operators to identify if any operational changes are necessary to meet the standards.

The Hope Island, Clam Bay, Fort Ward and Orchard Rocks net pen sites have been operating in their present locations for well over 30 years now. During this entire time they have been conducting routine sediment monitoring adjacent to the facilities. The results of these studies, as documented in the past NPDES monitoring reports submitted to Ecology, demonstrate these sites consistently meet the sediment management standards, and are incorporated by reference in these comments. In other words, these farms have a history of being properly managed with respect to their biological production strategies and their feed management practices and have demonstrated a minimal impact to the surrounding benthic environment. Given the progress made by fish farmers in minimizing feed wastage, transitioning to single generation farms, and

improving environmental practices over the past three decades, there is no reason to believe the data collected over the past thirty years for these facilities is not representative of ongoing conditions at the facilities.

Increased Monitoring Frequency:

Cooke has specific concerns with the description in the draft Fact Sheet and permits regarding Sediment Monitoring Frequency. The Fact Sheet and permit both suggest that monitoring will occur not only between August 15th and September 30th each year, but also during an additional sediment monitoring period that is to occur in the same year based around the facility's harvest cycle. See the below excerpts from Fact Sheet and permits:

- *“This permit increases the frequency of sediment sampling from twice per permit cycle to annually between August 15 and September 30, and to conduct additional sediment monitoring within two weeks before or after each fish harvesting.”*
- *“The frequency of monitoring has been increased to annually between August 15 and September 30, and during the period of fish harvesting for each generation of fish.”*
- *“Annually, between August 15th and September 30th, AND within two weeks before or after each fish harvesting^c, if different.” [c. In addition to the annual sediment monitoring between August 15 and September 30, the permittee shall conduct additional sediment monitoring with each fish harvesting in any calendar year in accordance with the schedule specified, if the fish harvesting period is not between August 15 and September 30.]*

Cooke has several concerns with this condition if Ecology's intent is to increase sediment monitoring to two times per year depending upon the harvest cycle of the facility. First, this type of increase and the costs associated with it are not justified by the prior history of these facilities in meeting the sediment management standards. As discussed above, there is a large amount of data in Ecology's files in the form of past sediment monitoring reports that all demonstrate no adverse impacts to sediments associated with these facilities. These data represent the “latest scientific knowledge” regarding the operation of these facilities and should not be ignored by Ecology in developing these permits. Increasing sediment monitoring to twice per year would be an unnecessary financial burden for the permittee and is not supported by scientific evidence.

Additionally, the terminology in the sentence “*within two weeks before or after each harvesting of fish*” seems to imply that sediment sampling is to occur around “*each fish harvesting*”. This condition could be misconstrued to imply that before or after each fish harvesting event (each individual fish harvest), sediment sampling is to occur. Cooke does not believe this to be Ecology's intent, but the language leaves room for interpretation and may lead to confusion as explained below.

There are multiple harvesting of fish events that occur once a cohort begins to reach harvestable sizes. Sediment sampling before or after each harvesting of fish would be impossible to comply with for Cooke. Once harvesting begins on a cohort of fish at the site, it can be started and stopped several times over the period of many months. There can be from 20 to 60+ individual harvest events from a farm site depending on the number of harvestable fish at the site, seafood

market conditions and production strategies. Additionally, periodic breaks in the harvest cycle occur for multiple reasons such as allowing the remaining fish more time to grow to larger sizes.

We do not see any scientific reason for Ecology to require routine sediment monitoring “*within two weeks before or after each harvesting of fish*” or for Ecology to increase the frequency of routine sediment monitoring to more than once per year. As noted above, these facilities all have a history of passing the TOC criteria and meeting sediment standards after thousands of samples and over 30 years of continual operation. Increasing the frequency of sediment monitoring to twice per year is excessive and would result in an unnecessary and substantial increases in monitoring costs. Also, limiting the time period to a six week period from August 15th to September 30th as proposed by the draft permits limits the ability for the permittee to obtain sufficient outside resources to conduct this sampling, an issue that is particularly acute if the harvest timing sampling is also required.

Cooke suggests removing the condition requiring an additional sediment sampling event that is based on a period of time around the harvesting of fish. Cooke supports the concept of increasing the sediment monitoring frequency from every other year to annually, but suggests maintaining the summer sampling period from July 1st to September 30th as has been the prior requirement for these permits since they were first issued in 1996. There are specific reasons this time period has been carried forward through all the iterations of the net pen NPDES permits since they were first developed in 1996. Ecology applies temporal standards to their own long term sediment monitoring programs for quality assurance. “Annual collection of benthos must occur at the same time of year, in this case, early to mid-June, so that the population is in similar growth and reproductive condition.” (Puget Sound Assessment and Monitoring Program., Dutch, M., Ecology publication 2009). This controls for the natural seasonal variability that occurs in sediment chemistry and benthic species populations and allows for long term comparison to previously collected historical benthic data.

Assemblages of marine benthic invertebrates can vary both seasonally and annually in the Pacific Northwest region as demonstrated by multiple year studies by leading benthic experts. Lie (1968, 1974) reported seasonal variations in the abundance of species, with the maxima taking place during July-August, and the minima occurring in January to February. More recent benthic infauna monitoring data collected for a variety of purposes include very few winter-timed collections. The draft permit’s proposed harvest cycle sampling condition would result in sediment sample collection occurring at random times of the year and make year on year performance comparisons difficult if not impossible. The marine net pen sediment management standards are set up in a step wise approach to monitor for excess organic nutrient buildup outside of the sediment impact zone. If TOC limits are exceeded, then additional follow up monitoring is required to look for biological effects. Those effects are analyzed through comparisons of the benthic infauna abundance to reference sediment stations. Collecting sediment samples outside of the summer sampling months of July through September, which has been the protocol since these net pen sediment monitoring standards were first established by Ecology, could unfairly affect the outcome of benthic infauna abundance analysis if it is ever required.

Cooke suggests increasing the sampling frequency to once per year, but continuing with the summer sampling period (from July 1st to September 30th). We believe this will effectively monitor the long term health of the surrounding sediments and the performance of the marine net pen facilities.

Anderson, E.A. 1996. Benthic recovery following salmon farming. Prepared for B.C. Ministry of Environment, Lands and Parks. Edward Anderson Marine Science Ltd. P.O. Box 2125, Sidney, B.C. Volume 1 and 2.

Dutch, M. 2009. Washington Dept. of Ecology Publication No. 09-13-121. The Puget Sound Assessment and Monitoring Program: Sediment Monitoring Component. Quality Assurance Project Plan. August 2009.

Lie, U. 1968. A quantitative study of benthic infauna in Puget Sound, Washington, USA, in 1963-1964. Fiskeridirektoratets Skrifter (Serie Havunders.) 14:235-556.

Partridge, V., S. Weakland, M Dutch, D. Burgess, and A. Eagleston. 2018. Sediment Quality in Puget Sound: Changes in chemical contaminants and invertebrate communities at 10 sentinel stations, 1989–2015. Washington Department of Ecology Technical Report 18-03-005 and appendices.

Weston, D.P. 1990. Quantitative examination of macrobenthic community changes along an organic enrichment gradient. Mar. Ecol. Prog. Ser. 61:233–244

Comments on Draft Fact Sheets for NPDES Permits:

- **Page 7:** Cooke disagrees with the statements regarding the Cypress Island incident from August 2017, and these should be struck from the draft net pen Fact Sheets for each individual NPDES permit. Cooke also disagrees with the statement in the Fact Sheet about Ecology’s intent in 2007 with regard to accidental fish escapement when the permits were re-issued. These comments appear to be post-hoc rationalizations to support ongoing litigation against Cooke regarding permit interpretation, and it is worth noting that, to-date, Ecology has provided no documentary evidence in response to discovery requests that support this statement of intent in the draft Fact Sheet.

The 2007 NPDES permits and accompanying Fact Sheet reiterates the landmark decision by the Pollution Control Hearings Board (PCHB) with regard to Atlantic salmon net pen aquaculture that *“the Permittees’ facilities do not create unresolved conflicts with alternative uses of Puget Sound resources as contemplated in RCW 43.32C.030(2) (e). The existence of commercial salmon farms as permitted uses does not preclude other beneficial uses in Puget Sound, such as shellfish harvesting, commercial or sport fishing, navigation or recreational boating. Likewise, the existence of the salmon farms does not operate to the exclusion of available resources, such as native salmon runs, sediment and water quality, or marine mammals. In short, salmon farming in Puget Sound does not present the citizens of the State of Washington with an “either/or” choice with respect to the other beneficial uses and important resources.”* In November 1998, the PCHB made its final ruling that, *“The escapement of Atlantic salmon from the Permittees’ facilities absent large regular releases in the future does not pose an unacceptable risk to native Pacific salmon in terms of competition, predation, disease transmission, hybridization or colonization.”* The Pollution Control Hearings Board defined what constituted a significant fish escapement and Ecology incorporated those legal findings into the current (2007) and previous versions of these permits. Cooke has found nothing in the prior permits that suggests each single fish is a separate permit violation.

Previous permit language subjected the permittee to violations of the permit for the intentional or negligent release of fish. By eliminating that important distinction in the proposed draft permits, Ecology creates undue risk for the permit holder. As Ecology is well-aware, the Cypress Island collapse caused significant harm to Cooke in the form of

lost fish, reputational damage, and, ultimately the phase-out of Atlantic salmon aquaculture in Washington. There is no deterrent effect for making a single release of one fish, regardless of cause, a permit violation. As Ecology is also aware, Cooke facilities have been vandalized and broken into since the Cypress Island collapse. Making a single fish release a strict liability issue for Cooke raises the possibility of this happening in the future. Finally, in addition to this condition being contrary to PCHB precedent, it is worth noting that the new conditions in S1 were late additions, apparently in response to ongoing litigation between Cooke and Ecology, and wielding its regulatory functions as a sword in pending litigation is neither a good precedent or fair use of Ecology's regulatory authority.

- **Page 14:** The reference to BMPs "*effectively addressing DO during the critical period*" is unclear. To what BMPs is this referring, and what is Ecology's definition of the "critical period?"
- **Page 15:** Cooke disagrees with the additional requirement that the net pen Structural Integrity Assessment Report be carried out only "*when net pens are fallow*". This requirement could create unnecessary delays in the timing of these inspections. Engineering firms are more than capable of performing this type of inspection when there are nets installed at the facility and there are fish in the pens. The ability to perform the inspection at any time during the 2 year period after the permit issuance date, and not just when the pens are fallowed, will assist Cooke carrying out this new requirement. Cooke suggests that this unnecessary condition be removed from the draft permit language.

Comments on Draft NPDES Permits:

- **Page 6:**
As noted above, the S1 discharge limitations have been changed significantly. The prior permits, following PCHB decisions, prohibited the negligent or intentional discharge of Atlantic salmon. This requirement needs to be reinstated to be consistent with prior PCHB findings of fact and legal decisions. Cooke strongly objects to Ecology's post-hoc rationalizations and changes to the draft permit language to support Ecology's ongoing litigation positions against Cooke. We request that this condition be changed to be fair, consistent with PCHB precedent, and the prior permit language around this subject.
- **Page 6-7: S2.A.**
As discussed above with regard to Monitoring Frequency, Cooke suggests the requirement of additional monitoring to occur around "each fish harvesting" be removed from the draft permit language. This additional requirement is confusing, unnecessary and would be financially burdensome to the permittee for the previously discussed reasons. If the harvest condition is removed, Cooke is willing to incur the additional monitoring expenses for an annual routine summer sediment sampling cycle, instead of the current every other year sample cycle it is presently carrying out.

- **Page 6-7: S2.A. Table.**
The Sample Locations refers to Appendix B. This should be Appendix C which shows the sediment sampling station locations.
- **Page 8: S2.C.**
As discussed above, Cooke suggests removal of the requirement for additional sediment sampling to occur that is based on the harvesting of the fish population.
- **Page 9: Comment on Table 1. Puget Sound TOC Reference Values**
Cooke continues to express their concern regarding the Total Organic Carbon (TOC) threshold level in the 0-20% Silt-Clay Particle category. The 0-20% Silt-Clay category is designated at the 0.5% TOC level. The initial TOC criterion and sediment grain size categories for marine net pens came from a study that was prepared several decades ago that had a limited representative sample size for geographic areas of Puget Sound. Cooke believes the 0.5 TOC threshold value to be set unnaturally low for the marine sediments in parts of the Puget Sound and the Strait of Georgia. Briefly reviewing Ecology's 2016 Puget Sound Long Term Sediment Monitoring Summary Report, it is apparent that TOC levels for normal <20% silt/clay sediments vary significantly from year to year and periodically exceed 0.5% TOC. For example, the over 25 years of sample data taken from an un-impacted sampling site near Anderson Island has TOC levels that bounce above the 0.5% TOC in this particle size category. Environmental consultants hired by Cooke Aquaculture's predecessor in the past have also found that pristine reference area sediments in the 0-20% silt clay category often can't even meet the 0.5 TOC criteria. Cooke believes Ecology should review the information used to establish the TOC criteria for marine net pen sediment management standards and consider updating or modifying the 0-20% silt-clay TOC criterion. Such a review is mandated by the Sediment Management Standard's requirement to use methods that "accurately reflect the latest scientific knowledge" in administering the SMS. WAC 173-204-130.
- **Page 13: S3.A. Discharge Monitoring Reports**
Number 6. -Current: The Permittee must report the daily max and average current on the monthly DMR.
Cooke believes this item was erroneously included in the draft NPDES permits by Ecology and believes the condition should be removed from the final permits. Cooke is unaware of any technologically available equipment to collect year round real time daily max and average current data and compliance with this condition would be impossible. As Ecology is aware, Cooke has gathered Doppler current data for all of its sites, and is using those data to do further mooring analysis and engineering.
- **Page 14-15: S3.A. Discharge Monitoring Reports**
Numbers 13 through 18 in this section appear to be boilerplate language originating from other types of discharge permits issued by Ecology. These conditions do not appear to be applicable to marine net pen NPDES permits. Cooke suggests that these conditions be removed from the final permits to avoid confusion.

- **Page 16: S3.E. Additional Monitoring by the Permittee**

This section discusses the reporting of any additional monitoring to Ecology. Cooke's general understanding of the intent of this condition is regarding compliance sampling and monitoring. Previous permits included the additional monitoring reporting language only for any additional sediment compliance monitoring that was carried out by the permittee of the SIZ stations and adjacent sediments. Cooke disagrees with the inclusion of the very broad term "*water quality monitoring*" into this condition of the draft permit language for several reasons.

By adding "water quality monitoring" to the provision, it could require Cooke to record and report any instance that an employee uses a dissolved oxygen meter, temperature probe, or performs a routine plankton count. Marine net pen aquaculture operators are almost always looking at various water quality parameters, not for reporting purposes, but for the daily management of the health and welfare of the fish stocks they raise. Cooke employees use multiple types of dissolved oxygen, salinity and temperature probes at their farm sites and, there can be several different types being used at the same time at a single farm site. These probes and meters are used as tools for the day to day welfare and feeding of the fish stocks contained in the pens. The probes are not research grade, nor are they calibrated to water quality compliance monitoring or reporting standards. The probes and meters are used only to give the employees a relative idea of what the ambient dissolved oxygen, temperature and salinity are currently doing so they can make real time management decisions with regard to the feeding and rearing of the fish stocks. Readings from the meters are not always recorded; they are rather just observed and reacted to by staff as they perform the daily activities of fish cultivation. Employees also routinely take water samples and observe them for harmful plankton species during the spring, summer and fall months. While these employees are trained in identifying plankton species, this type of water quality information is again gathered for aquatic husbandry practices, not water quality compliance procedures.

By including the term "*water quality monitoring*" in the condition of reporting any additional monitoring, Cooke is concerned that all of this superfluous daily information would have to be collected, compiled and reported to Ecology as part of the condition of compliance reporting. As discussed above, this condition makes sense in the permits for any additional sediment monitoring of the SIZ which has a set performance based standard, but becomes nearly impossible to comply with if the facilities are required to record and report a number each time they use a DO meter or temperature probe. Reporting each and every time a DO meter or temperature probe is used by each and every employee during the daily fish growing operations for each farm site would be overly burdensome, generate a large amount of useless data, and be logistically impossible to comply with. Including this condition in proposed draft permits sets litigation traps for Cooke and exposes it to enforcement or citizen suits simply because it failed to report every single piece of water quality data gathered in its farming operations, an impossible task, and one that in no way will advance the purposes of the permits. Cooke suggests this section needs either further clarification or that reporting of any additional water quality monitoring be completely removed from it. Cooke requires some assurance this additional reporting requirement only applies to compliance type of monitoring and not the routine daily observations of ambient water quality conditions.

- **Page 18: S4. Operation and Maintenance:**
Language in this section discusses the requirement for back up or auxiliary systems. *“This provision of the permit requires the Permittee to operate backup or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this permit.”* Cooke is unaware of any way to operate a backup or auxiliary facility for each net pen site and believes this language does not apply to marine net pen permits. Cooke suggests removing it from the final permit to avoid confusion.
- **Page 22: Condition S.7 Structural Integrity Assessment Report**
Cooke supports the imposition of new requirements regarding structural assessments and is committed to bringing the facilities it acquired up to modern standards. But, these requirements need to be ones that are pragmatic and workable. As discussed above, requiring an engineering inspection within two years of issuance of the permit but only during a period when the site is fallow could significantly restrict the ability to accomplish this requirement in a timely manner. As there does not appear to be any benefit to this added language Cooke suggests removing the term *“when the pens are fallow”* in this condition.

Thank you for your consideration of our comments and concerns. We look forward to working with you on making these permits factually based and scientifically sound.

Very truly yours,

A handwritten signature in blue ink, appearing to read 'K. Bright', written in a cursive style.

Kevin Bright, Permit Coordinator
Cooke Aquaculture Pacific, LLC

Cc: Jim Parsons-General Manager, Cooke Aquaculture Pacific