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Swinomish Indian Tribal Community

A Federally Recognized Indian Tribe Organized Pursuant to 25 U.S.C. § 476
* 11404 Moorage Way * La Conner, Washington 98257 *

October 23, 2020

Ms. Laura Watson, Director
WA Department of Ecology
Via email: lnie461@ecy.wa.gov

Re: Cooke Aquaculture Pacific, LLC Draft NPDES Permit for Hope Island Net Pen

Dear Director Watson:

Thank you for the opportunity to review the request the draft NPDES permit for the Cooke Aquaculture Pacific, LLC (Cooke) for its proposal to rear domesticated native Rainbow trout/Steelhead at the Hope Island net pen facility. Cooke's proposal to rear 350,000 domesticated native Steelhead poses new and different risks than rearing non-native Atlantic salmon near the mouth of the Skagit River. After reviewing the draft NPDES permit that the Department of Ecology (Ecology) has prepared, we believe it inadequately addresses site-specific concerns for the Hope Island net pen facility, and thus it is necessary, if Ecology issues the permit, to include additional conditions for the protection of water quality as outlined below.

1. The Swinomish Tribe's Treaty Rights are Adversely Impacted by the Water Quality Permit Proposed for Cooke's Hope Island Net Pen.

The Swinomish Indian Tribal Community (Swinomish Tribe) is a present-day successor in interest to the tribes and bands that signed the 1855 Treaty of Point Elliott (Treaty) with the United States. One of the core rights reserved by the Treaty is the Tribe's right to fish in our adjudicated usual and accustomed fishing areas (U&As) in and around the Skagit River system, the Samish River system, and marine waters in northern Puget Sound. *United States v. Washington*, 459 F. Supp. 1020, 1049 (1975). The Swinomish Tribe and WDFW are co-

managers of fisheries and fisheries resources within western Washington and the Tribe’s right to take fish under the Treaty of Point Elliott is a legally protected interest.

Since time immemorial, the Tribe has lived, hunted, fished, and gathered in and around the Skagit River basin, the Samish River basin, and marine waters in northern Puget Sound. Anadromous fish, and particularly salmon, have played a central role in the Tribe’s subsistence, economy, culture, spiritual life, and day-to-day existence. For thousands of years, the Tribe’s homeland contained no impediments to the Tribe’s ability to fish and gather shellfish throughout its adjudicated U&As.

Skagit Bay is historically and currently an important fishing place, both because it is where the mouth of the Skagit River meets Puget Sound, and because of its extremely close proximity to the Swinomish Reservation, making for ease of access by the Swinomish Tribe’s fishing fleet. Tribal fishers have traditionally fished Skagit Bay for a variety of fish or shellfish species, including Chinook, coho, steelhead, halibut and Dungeness crab. The Hope Island net pen facility sits in the heart of the Tribe’s most accessible treaty fishing area, and in the heart of the tribe’s usual and accustomed fishing grounds. Cooke’s proposed net pen operation – facilitated and enabled by this Draft Permit – interferes with the Tribe’s traditional and cultural practices and Treaty Rights. Tribal fishermen have lots multiple crabs pots that got entangled in the net pen’s guy wires and other infrastructure, and most no longer use gill nets in the area for the same reason.

The Tribe’s reservation is located on Fidalgo Island in Skagit County, Washington. The reservation’s southern boundary is the north fork of the Skagit River, which is the only river in Washington that still supports all six species of Pacific wild salmon. The DNR aquatic lands lease for Cooke’s Hope Island net pen contains an official survey showing the lease area to be approximately 1,010-feet wide and 1,358- feet long, covering approximately 31.5 acres, and over one-third of that area contains the net pen cages, anchors, guy wires. The Hope Island net pen boundary is approximately 1,000 feet west of Lone Tree Point, which has historically been a place for tribal members to gather in the summer on the Swinomish Reservation. The beach at Lone Tree Point has historically served as a fishing village with fishing shacks lining the beach with unimpeded views, quiet solitude and access. Unfortunately, the net pen operation and its generators interrupt the once peaceful culturally-important area, and the workers foul language can be heard from shore by families gathered at Lone Tree Point.

The Swinomish Tribe’s Treaty-protected fish already face innumerable challenges

including habitat degradation and loss from development and agricultural conversion, too-warm stream temperatures, poor water quality from nutrients, lack of riparian habitat, insufficient water quantity, inhospitable ocean conditions and acidification. The addition to Skagit Bay of unknown quantities of antibiotics, fish feces, fish feed, and other pollution from the net pens and potential adverse impacts to native wild salmon must be taken seriously and viewed in light of the imperiled status of Skagit River ESA-listed salmon and steelhead.

Tribal leaders want to ensure that their grandchildren and seven generations from now have the opportunity to fish in the same way that they have for decades and to restore the cultural import, experience and use of Lone Tree Point. The Swinomish Tribe's Treaty Rights, and the cultural, historic and subsistence significance of Lone Tree Point depends, are adversely impacted by the net pen as a result of its interference with fishing, harm to water quality, and man-made noise. The Tribe requests that Ecology decline to issue the NPDES permit.

2. Cooke's Net Pen Does Not Belong in ESA Critical Habitat for Chinook and Steelhead Because it Discharges Unknown Amounts of Animal Waste, Antibiotics and Fish Feed into Public Trust Waters.

It is Ecology's duty to ensure that discharges into state waters will not endanger human health or the environment.¹ Ecology's interpretation of safeguarding the State's waters in Skagit Bay is apparently to allow an open-water concentrated animal feeding operations in the middle of tribal culturally important area and ESA-listed salmon critical habitat, essentially under the theory that "dilution is the solution to pollution." This cannot stand. Ecology's regulatory authority requires it to consider how the proposed rearing of a new species effects the discharges from the operation and what is required to protect water quality as a result. The State offers no quantification of the amount of concentrated animal feces that would be allowed to freely flow into our public trust waters in Skagit Bay for the 15-18 months that these artificially reared fish are in the net pens. Ecology requires sediment to be tested, but that is not a substitute for quantifying, limiting and treating what is certainly a substantial amount of animal waste. It defies logic that measuring sediment in such a high flushing area – near Deception Pass – will accurately or adequately account for the adverse impacts to water quality from massive amount of concentrated animal waste that this permit would facilitate.

¹ WAC 173-220-150(d)(iv).

Further, all indications are that Cooke’s net pen is an attractive nuisance to wild Skagit River salmon, spilling out unknown large amounts of fish feed daily thereby attracting ESA-listed salmon to be subject to predation by birds and pinnipeds. Demographically Independent Populations (DIPs) of both Skagit River Steelhead and Chinook are listed under the Endangered Species Act and regularly migrate past the Hope Island net pen. Cooke’s net pen proposal potential adverse impacts include antibiotic treatments for diseases like Rainbow trout fry syndrome, which has no vaccine but is pervasive. Adverse impacts also include the potential for increased spilled fish food, which acts as chum for native wild fish, attracting predatorial pinnipeds and birds, caused by an overall higher number of individual fish in the net pen facility. Blob), acidification, and predation by pinnipeds. Cooke's net pens would magnify some of these existing challenges for the already struggling, ESA-listed salmon.

a. The Draft Permit Allows Unlimited Pollution in ESA Critical Habitat

The draft NPDES permit for the Hope Island net pen does not provide a quantification or limit for the amount of concentrated animal waste, fish feed or anti-biotic laced fish feed regularly spilling into Skagit Bay from 350,000 fish being artificially reared hundreds of feet off the shore of the Swinomish Tribe Reservation. Wastewater from a land-based aquaculture operation requires filtration and treatment before it could be returned to state waters. The Upland Finfish Hatching & Rearing General Permits, for example, contained quantified discharge limitations. Ecology could not allow concentrated animal waste from a land-based facility to be discharged into state waters without treatment or effluent limits, so it is unacceptable that this draft NPDES permit purports to allow concentrated waste to be discharged into Skagit Bay and the Tribe’s Treaty-protected fishing waters without similar requirements to protect water quality.

In passing HB 2957, the state legislature tasked state agencies “to eliminate negative impacts to water quality and native fish, shellfish, and wildlife.” Allowing these pens to continue emitting this pollution without limitation fails to comply with that statutory language and the high standard that the legislature and the people of Washington demanded of the marine aquaculture industry.

b. Cooke’s Net Pen Does Is Not a Water-dependent Use and the Unnecessarily Poses Risks to the water-quality of the Vulnerable Skagit River Salmonids.

Finfish aquaculture as practiced in Washington is no longer water dependent under the terms of RCW 79.105.060.² The technology exists, and it is commercially viable, to grow fish in land-based, environmentally sustainable farms.³ Land based facilities are being built throughout the U.S. and world and represent a steadily growing industry and an environmentally responsible farming practice. By endangering the health and productivity of Skagit Bay ecosystem services, the Hope Island net pen has the potential to harm actual water-based uses that cannot exist without access to healthy and productive marine and freshwater environments.

It is necessary, timely and appropriate for Ecology to embrace the availability of land-based, environment-controlled aquaculture systems to avoid conflicts with tribal fishing and ESA-listed salmon. Land-based aquaculture using closed containment systems eliminates all of the risks open water net pens pose to the natural ecosystem, offering the industry an ecologically safe opportunity to produce farmed fish that can be marketed as a truly sustainable and responsible product. Examples of successful land-based aquaculture companies, such as Nova Scotia's Sustainable Blue which has been in operation since 2015, further demonstrate that commercial marine net pen finfish aquaculture is no longer water dependent. Ecology's stated role is to consider how the proposed new species effects the discharges from the operation and what is required to protect water quality as a result. It is Ecology's duty to ensure that discharges will not endanger human health or the environment.⁴ The reality is that the technology exists, and it is commercially viable, to grow fish in land-based, environmentally sustainable farms.

For these reasons, Ecology should decline to issue the draft NPDES permit for the Hope Island net pen because it is a concentrated animal feeding operations that act as attractive nuisances to wild fish by emitting hundreds of thousands of pounds of fish feces, fish food, dead fish, and antibiotic-laced food into ecologically sensitive marine areas and designated critical habitat at the mouth of the Skagit River and in the heart of the Swinomish Tribe's historically and currently important cultural area.

² Defining "water-dependent use" as means a use that cannot logically exist in any location but on the water.

³ For example, AquaCare Environment is a company based in Bellingham, WA that "was established in 1987 dedicated to developing and marketing cost-effective equipment and systems for modern, intensive land-based fish farming." www.aquacare.com

⁴ WAC 173-220-150(d)(iv).

3. Cooke’s History of Negligent Net Pen Operation in State Waters Preclude Allowing it to Self-Report and Self-Monitor; Ecology Should Require Independent, Third-Party Monitoring and Reporting.

Cooke has a deeply troubling history of non-compliance with the Clean Water Act and violations of its NPDES permit, including –

- the 2017 catastrophic net pen collapse at Cypress Island that released over 200,000 non-native Atlantic salmon,
- the summary judgment ruling against Cooke on April 26, 2019 for Clean Water Act and NPDES permit violations, and
- the Orchard Rocks net pen facility partial sinking incident in late October 2019.

The state agency report on the investigation into Cooke’s August 19, 2017 catastrophic net pen failure is damning. The report highlights outright lies and misinformation that Cooke told state agency officials and tribal governments. The 2018 investigation report found, among other things, that:

- The “probable cause of both the July incident and the August failure was the failure of Cooke to adequately clean the nets containing the fish.”⁵
- “Cooke did not provide accurate and complete information to the state about the July incident. Consequently, the state agencies did not investigate further.”⁶
- “In August and September, Cooke reported harvesting/extracting 145,000 fish from the collapsed net pen. The Panel (of state agency investigators) concluded that Cooke could only have extracted 42,000 to 62,000 fish, 43% of what Cooke reported.”⁷
- “The Panel estimates that between 243,000 and 263,000 fish actually escaped. Previous estimates, based on Cooke’s reports, put that number at 160,000 fish.”⁸
- “Of the escaped fish, 57,000 have been caught (recovered). Between 186,000 and 206,000 Atlantic salmon remain unaccounted for.”⁹
- “Cooke removed the surface portions of the net pen by September 24. Although Cooke stated by letter that it had removed all debris from the bottom of Deepwater Bay, an

⁵ 2017 Cypress Island Atlantic Salmon Net Pen Failure: An Investigation and Review. WA Departments of Ecology, Fish & Wildlife, and Natural Resources. January 30, 2018. P. 6.

⁶ Id. At p. 8.

⁷ Id.

⁸ Id.

⁹ Id.

inspection by DNR on October 27 showed that substantial debris remained. DNR required further cleanup that lasted into January 2018.”¹⁰

On October 20, 2019, there was an incident at Cooke’s Rich Passage net pen facility where a corner of the facility became partially submerged as a result of Cooke’s inaction. Cooke failed to adhere to regulatory provisions in its fish escape prevention plan that were specifically enacted in response to Cooke’s net pen failure in 2017. While the investigation was ongoing, Ecology issued a letter dated October 25, 2019 that directed Cooke to review the provisions of its escape plan, and in particular, pointed out “that one technology to minimize fish escapement is the routine repair and maintenance of cage structures and mooring equipment, individual actions of which you (Cooke) outlined in the plan. From the lesson learned in the boat collision at Clam Bay in November 2018, Cooke was expected to use the Emergency and “Unusual Events” Call Down List to phone agency staff of an unusual event.”

Apparently neither of these things occurred as they were supposed to. In the end, no action was taken against Cooke despite the determination that the Cooke’s Orchard Rocks facility did experience an “unusual event”¹¹ and that there was significant repair work needed to fix two of the net pen facility pontoons that keep the cages and structure afloat.¹² The reality is, Cooke waited and watched the Orchard Rocks facility slowly sink for multiple days before it took any action, and when it did act, it sent emails rather than making a simple phone call.

Cooke has repeatedly shown that it cannot be trusted to do the right thing and act in the best interest of our water quality or public trust resources. The company has lost any benefit of the doubt that it may have once enjoyed as a result of its own failures to follow basic procedural safeguards in prior NPDES permits. Ecology cannot, and should not, ignore Cooke’s history of permit violations and misinformation, and must take them into account as it considers how to best uphold its duty “to maintain the highest possible standards to insure the purity of all waters of the state.”¹³ Because Cooke has shown repeatedly that it is not capable of being a trustworthy,

¹⁰ *Id.*

¹¹ October 2019 Unusual Event Summary, Orchard Rocks South, Rich Passage Atlantic Salmon Farm Operated by Cooke Aquaculture Pacific, Version 10/301/19.

¹² Assessment of Orchard Rocks SE pontoon repair, DSA, by Colin Wilson, Peng, Nov. 21, 2019.

¹³ *See* 90.48.010 RCW.

reliable net pen operator, Ecology must require independent, third-party monitoring and reporting.

The Draft Permit contains extensive “reporting and recording requirements” in Special Condition 3 that proposes allowing the permittee – Cooke – to self-monitor and self-report. The many water pollutants that Ecology proposes to entrust Cooke to self-monitor and self-report include:

- fish biomass
- fish feed
- percentage of nitrogen in feed
- disease control chemical use, including frequency, duration and amount
- feed conversion rates
- estimated number of live individual fish
- number of dead fish collected or observed
- dissolved oxygen at net pen corners
- sea lice monitoring and occurrence

These are serious pollutants, the discharge of which into Skagit Bay could have individual and cumulative impacts on water quality, Treaty resources like Dungeness crab, and ESA-listed salmon. Ecology’s approach of “dilution is the solution to pollution” is no longer appropriate given the imperiled status of Puget Sound and all of its inhabitants, from Pacific herring to ESA-listed salmon and the Southern Resident Killer Whales that depend on them.¹⁴

During the 6:00pm, October 14, 2020 public hearing on the Cooke NPDES permits, Ecology was asked why they were relying on Cooke to self-report, particularly given their past legal violations and known misstatements of fact. Ecology staff replied that self-monitoring and self-reporting were the “traditional way” that the agency has operated for NPDES permits. That answer, respectfully, is insufficient because it fails to account for or justify how Ecology can consider Cooke to be “traditional” permittee unless the agency wholly ignores the past serious violations of water quality permits. There is simply no reasonable basis to believe that Cooke will adhere to the full letter and spirit of the law when they have repeatedly shown themselves to be an untrustworthy and dishonest permit holder. As a result, in order to fully safeguard water

¹⁴ See Puget Sound Partnership’s 2018-2022 Action Agenda, found at: https://www.psp.wa.gov/action_agenda_supporting_materials

quality in Skagit Bay and protect ESA-listed salmon, Ecology must require independent, third-party monitoring and reporting for this permit modification.

4. Ecology Has No Quantitative Limits For Numerous Pollutants in the Permit.

In Section S3, Ecology requires the permittee to self-monitor and self-report on a variety of pollutants but has no established water quality limits on many of them. Because the Hope Island net pen is located in an area of high tidal exchange near Deception Pass, the significant volume of animal waste from 350,000 fish in a net pen and other pollutants emitted from Cooke's operation are flushed into surrounding waters. Rather than regulating the amount of actual waste openly spilled into public trust marine waters, Ecology only regulates whether the sediment reaches threshold levels.

Some of the more troubling provisions that lack adequate pollution limits include:

- S2.B.3. The process of going from exceedance monitoring to enhanced monitoring and then to additional monitoring seems very long, given the monitoring takes place during one window each year, stretching out the process over years. Ecology should require mandatory notification to the Tribe if and when Cooke enters enhanced monitoring and is required to have an action plan in place.
- S2.J. Ecology should require Cooke to conduct dissolved oxygen (DO) sampling at slack tide.
- S2.L. Sediment antibiotic resistance monitoring is required for “unusually high usage levels of antibiotics” but gives no guidance and sets no standard as to what “high usage levels of antibiotics” or “unusually high usage levels of antibiotics.”
- S3.A.3.a. Requires reporting “the use of any disease control chemicals” including the “name and amount of any chemicals and/or medicated feed used.” But no standards or limits are set for the use of the disease control chemicals.
- S3.A.3.b. Indicates that the “estimated number of dead fish collected or observed” must be monitored, but the heading of that section states that and not the text within that section. Additionally, there is no threshold below the 5% of overall amount of dead fish in one week – which triggers notification to State Dept. of Health – that requires any specific action by Cooke or notification to the Tribe.

- S3.B.3.b. Requires sea lice monitoring showing an increase in incidence “above normal observations” to be reported up to seven (7) days after observation to WDFW and Ecology. “Normal observations” remains undefined or quantified.
- S3.F.1.b. Requires “disease control chemicals which are used routinely” to be recorded based on “the frequency of application” instead of “each individual application date.”
- S3.G. Requires the “permittee” to “take the following actions when it violates or is unable to comply with any permit condition.” Presumably Cooke self-determines that it is out of compliance and is entrusted to self-report and self-enforce by taking corrective action.
- S3.G.2.b. Requires the permittee to report any “noncompliance that may endanger health or the environment” within 24 hours. There is no rationale or justification for why a purported emergency that threatens public health or our public trust waters is allowed an entire day to provide notice instead of “immediately” as the preceding sub-section. If chemicals are spilled, does that require “immediate” notification and compliance? Yet if fish are discovered to have escaped, or are spilled at any time, the Permittee is allowed 24 hours to notify the State and Tribes – far too long a timeframe.
- S3.G.2.d. Allows waiver of written reports for an incident that triggers “immediate” or “24-hour” reporting at the discretion of the Agency if the Permittee “has submitted a timely oral report.” No, we strongly object to this allowance; any permit violation must be fully and completely documented in writing, both by the Agency and Permittee, in a timely manner.
- S4.A.2.a. Requires immediate corrective action for “any noncompliance with water quality or sediment management standards” and presumably the Permittee decides this, not the regulatory agency.
- S4.A.3.d. Requires Permittee to “routinely collect” data on fish numbers in net pens, their size, growth and food conversion rates, but includes no express definition of, or quantitative interpretation of “routinely.”
- S4.A.3.e. Requires Permittee to remove dead fish carcasses “on a frequent basis.” Again, there is no express definition of, or quantitative interpretation of “on a frequent basis.”

Individually, each of these is troubling. Cumulatively, they represent a failure to protect and maintain the highest water quality standards possible for the health of our marine environment and all those dependent upon it. Ecology should not issue the Hope Island net pen permit unless and until it establishes and includes as permit requirements quantitative limits on each of the above reporting requirements.

5. Hope Island Net Pen is at the End of Life Expectancy and Must Be Inspected Prior to Permit Issuance.

According to DNR Aquatic Lands Net Pen Lease for Hope Island, Cooke’s net pen cages were replaced in 2010 and have “an average expected service life of approximately 15 years.”¹⁵ Given that the Hope Island net pen cages are entering the last one-third of their life expectancy, and that corrosion and metal fatigue was a contributing factor to the 2017 net pen disaster, we believe it is necessary for Ecology to impose more stringent below-surface inspection requirements for this cage if the Permit modification is granted.

The DNR aquatic lands lease for Cooke’s Hope Island net pen contains an official survey showing the lease area to be approximately 1,010-feet wide and 1,358- feet long, or approximately 31.5 acres. According to a January 2018 engineering inspection report of the Hope Island net pen facility, that structure is currently comprised of ten (10) 26-meter square net pen cages, as well as a feeding shack, walk ways and other infrastructure around the periphery of the facility. These cages were installed in September 2010, and have a lifespan of 10-15 years.

Draft Permit section S7 states that an engineering inspection must be done “within two years of the effective date of the permit if not completed and to be done routinely . . .” Because this is a permit modification, the date of the original permit issuance determines the timeline for inspection. The original permit was issued in July 2019. The last time the Hope Island net pen was inspected was in January 2018, nearly three years ago. That inspection report’s Attachment A contains plans and drawings of the net pen structure showing that the net pen cages, facility, anchors and anchor lines expand across an area approximately 787- feet long 700-feet wide, or extending coverage over 12.65 acres. That is a significant amount of infrastructure in Skagit Bay, and all of it must receive a comprehensive, third-party engineering report on the structural

¹⁵ DNR Aquatic Lands Net Pen Lease 20-B12356, Exhibit B, p. 2.

integrity of the facility *prior to* issuance of any new permit. The clock should not be reset here simply because Cooke is applying for a permit modification. The Draft Permit should make this requirement expressly clear.

6. Incomplete and Deficient Pollution Prevention, Report & Response Plan

In our June 8th comments on Cooke's NPDES permit modification application, the Tribe expressed a number of concerns about deficiencies in Cooke's Pollution Prevention, Reporting & Response Plan. Because we do not believe that our comments were adequately addressed or reflected as conditions in the draft permit, we include them again below.

A Permittee is required to develop and implement a pollution prevention plan under WAC 173-221A-110(4)(c).¹⁶ The plan must contain operating, spill prevention, spill response, solid waste, and stormwater discharge practices to prevent or minimize the release of pollutants from the facility to the waters of the state.¹⁷ A Permittee is required to submit the plan within six months of permit issuance, and review the plan at least annually. If changes occur, the permittee must update the plan and inform Ecology.

The pollution prevention plan must address how solid and biological wastes are collected, stored, and ultimately disposed of at an upland facility. Solid wastes of concern for marine salmon net pens include fish mortalities under normal operations, fish mortalities due to a fish kill involving more than five percent of the fish, blood and waste from harvesting operations, and sanitary waste and operational debris.

The draft pollution prevention plan submitted by Cooke in the 2020 application does not address changes in procedure related to raising native domesticated trout/steelhead. Therefore, it is likely the pollution prevention plan does not take into consideration any differences involved in native steelhead versus Atlantic salmon. None of the drafts submitted in the permit modification application mention steelhead or address differences in steelhead versus Atlantic salmon, and Ecology should not grant the permit until it closely examines the differences.

a. Increased Numbers of Fish Equals More Fish Food, Antibiotics and Fish Feces

Cooke states that growth projections for the triploid steelhead stock and the smaller targeted average harvest size may shorten the saltwater growth cycle by several months in

¹⁶ The Permittee is also required to review, update, and maintain a fish escape prevention plan and a Fish Escape Reporting and Response Plan in compliance with WAC 220-370.

¹⁷ WAC 173-221A-110(4)(c)(i).

comparison to Atlantic salmon. Yet when comparing the 2020 NPDES permit modification application to the 2017 NPDES permit application, the pounds of fish and pounds of food is estimated to be the same or greater in the 2020 application compared to the 2017 application. If steelhead are harvested at a smaller size than that of Atlantic salmon, then to achieve the same poundage rate, more fish would need to be in the net pen. If that is true, then more feed and antibiotics will be required. This, in turn, will result in more discharge of fish feces. Given harvest size for steelhead is different from that of Atlantic salmon, Ecology should expect discharges to be different for raising steelhead versus Atlantic salmon. Therefore the modified permit should include increased monitoring or limits to reflect this difference.

The information provided by Cooke about fish feed consumption rates and the amount of excess feed spilling out of the net pen facility is indeterminate. Section 4 of the pollution prevention plan states that:

4. "... The feeding strategies prioritize the minimization of uneaten food, thus minimizing the amount of food that falls through the cages and onto the ocean floor below. Cooke has developed Feeding Strategies to provide standards for the initial startup feeding of new smolts when they arrive on site, the size of the feed pellets, the duration time of the feeding process and the types of feed diets. As the fish grow, the Site Managers will adjust the feeding schedules ..."

This language is well-intentioned but insufficient for purposes of a NPDES permit. Cooke provided an estimate of the monthly fish feed at maximum production.¹⁸ It should be required to provide an estimate of the amount of feed that is uneaten. This uneaten fish food that falls through the net pen into surrounding waters is a recurring discharge that also serves as chum to attract native fish, as well as predatorial birds and pinnipeds. Until Ecology establishes with reasonable certainty the amount of fish feed released from the net pen facility, it cannot perform an adequate assessment of the adverse impacts to water quality, human health, ESA-listed Chinook and steelhead, or the environment.

Further, there is no mention in Cooke's application materials about the differing feed conversion rates between domesticated Atlantic salmon and rainbow trout. Generally speaking, science has shown Atlantic salmon to be generally more efficient at converting feed to biomass than trout, the latter being more variable in feed conversion rates and more susceptible to environmental controls (temperature and salinity) on growth.¹⁹ As such, more feed is likely to be

¹⁸ Cooke January 2020 NPDES permit application, p. 9.

¹⁹ Jillian P Fry *et al* 2018 *Environ. Res. Lett.* 13 024017. <https://iopscience.iop.org/article/10.1088/1748-9326/aaa273/meta>

needed for trout/steelhead, which would produce more waste into the marine environment. The draft NPDES permit mentions a differing conversion rate between 1.1 and 1.7, without acknowledging that this could represent a significant difference in the amount of feed wasted and thus spilling out of the net pen. Ecology should address this issue in a quantitative manner and impose limitations for the Hope Island net pen.

b. Antibiotic Harms to Aquatic Life and Human Health

Ecology determined discharges may contain chemicals of concern for human health, specifically federally-approved antibiotics for fish.²⁰ Antibiotics have the potential to create antibiotic resistant bacteria in the sediment, and that resistance could be transmitted to human bacteria. Antibiotics are widely found in surface waters across the country,²¹ and they cause known, antimicrobial-related adverse effects on both wildlife and human health at the pollution levels currently found in our waterways. A NPDES permit should include limitations ensure these chemicals of concern for human and wildlife health do not cause said harm.

1. Harm to Aquatic Wildlife

In a recent nationwide study of stream sites, maximum antibiotics concentrations ranged from 12 nanograms per liter up to 1.8 micrograms per liter (parts per billion), with many sites hosting multiple antibiotics.²² Concentrations of just 0.5 micrograms per liter have been shown to change aquatic microbial communities.²³ One risk of these microbial changes is that the antibiotics suppress beneficial bacteria in the water, thereby harming aquatic organisms that rely on healthy levels of “good” bacteria.²⁴

Furthermore, the presence of antibiotics in the water has led to increases in the growth of antibiotic resistant bacteria in surface waters. Studies have found that aquatic organisms also contain these antibiotic resistant bacteria. For example, studies of orcas in the Salish Sea have found antibiotic resistant bacteria in orca blow (respiratory exhalation) and feces.²⁵ In the orca

²⁰ Hope Island Net Pen Fact Sheet 08-10-19

²¹ Bradley, Paul M et al. “Expanded Target-Chemical Analysis Reveals Extensive Mixed-Organic-Contaminant Exposure in U.S. Streams.” *Environmental science & technology* vol. 51,9 (2017): 4792-4802, at 4799.

²² *Id.*

²³ *Id.*

²⁴ James P. Meador et al., *Contaminants of Emerging Concern in a Large Temperate Estuary*, ENVIRONMENTAL POLLUTION 264 (2016), at 263.

²⁵ Sara L. Potter, *Antimicrobial Resistance in Orcinus Orca Scat: Using Marine Sentinels as Indicators of Pharmaceutical Pollution in the Salish Sea*, Thesis for The Evergreen State College at 78 (Dec. 2013).

feces study, 100% of samples showed resistance to at least one antibiotic, and over 70% of samples showed resistance to multiple antibiotics.²⁶

There is a commonly occurring disease in farmed rainbow trout at the fry, fingerling and juvenile life stages requiring the use of anti-biotics because there is no vaccine.²⁷ *Flavobacterium psychrophilum* is the causative agent of Rainbow Trout Fry Syndrome (RTFS).²⁸ Both living and dead fish can be a source for the bacterium but “dead fish show a higher rate of bacterial release into the surrounding water.”²⁹ The principal infection control measure is to administer the antibiotic florfenicol, which is one of the three anti-biotics listed for use by Cooke.³⁰

Despite the legal framework of Washington’s water pollution control laws, dilution of point source pollution emanating from a marine-based concentrated animal feeding operation is still seen as the solution to pollution, regardless of the impacts on known ESA-listed fish. Ecology must consider a worst-case scenario for the use of antibiotic medicated feed and extra-precautions taken to find diseased fish, treat diseased fish, and regularly dispose of dead fish at the Hope Island net pen.

2. Harm to Human Health

Aside from potential concerns about humans consuming low levels of antibiotics in their drinking water, aquatic antibiotic pollution poses the most substantial health threat to humans because it increases the rate of antibiotic resistance. At least two million people are infected with antibiotic-resistant bacteria in the U.S. each year, and 23,000 of those individuals die from the infection.³¹ Studies have linked pharmaceutical water pollution to the growth of antibiotic resistance, including a recent EPA study which found that current antibiotic levels in water could inhibit some naturally occurring and potentially beneficial bacteria and trigger some antibiotic resistance.³² One example of this link is provided by the common antibiotic ciprofloxacin, a

²⁶ *Id.* at 78.

²⁷ Nejdet Gultepe and T. Tansel Tanrikul, 2006. Treatment Methods of *Flavobacterium psychrophilum*: Cause of Rainbow Trout Fry Syndrome (RTFS) and Bacterial Cold-water Disease (BCWD) in Turkey. *Journal of Fisheries International*, 1: 102-105.

²⁸ Bebak JA, Welch TJ, Starliper CE, Baya AM, Garner MM. Improved husbandry to control an outbreak of rainbow trout fry syndrome caused by infection with *Flavobacterium psychrophilum*. *J Am Vet Med Assoc*. 2007;231(1):114-116. doi:10.2460/javma.231.1.114.

²⁹ Robert Fletcher, *Rainbow trout fry syndrome (RTFS) explained*, The Fish Site (October 18, 2017), <https://thefishsite.com/articles/rainbow-trout-fry-syndrome-rtfs-explained-1>

³⁰ Cooke Aquaculture Pacific, LLC NPDES Permit Modification Application, pdf p. 10.

³¹ Centers for Disease Control and Prevention, Antibiotic/Antimicrobial Resistance, <https://www.cdc.gov/drugresistance/>.

³² *See, e.g.*, Meador et al., *supra* note 16.

drug that was recently found at about a quarter of studied stream sites across the country at concentrations up to 400 nanograms per liter.³³ Ciprofloxacin has been found to select for resistant bacteria at levels of only 100 nanograms per liter (parts per trillion) – well below the levels actually found in the recent nationwide stream site study.³⁴ Therefore, studies have already demonstrated that the current levels of aquatic antibiotic pollution are contributing to increasing levels of antimicrobial resistance.

3. *Bioaccumulation of Pharmaceuticals*

Pharmaceuticals have a high potential to bioaccumulate through the aquatic food chain, with corresponding adverse impacts for aquatic and non-aquatic species alike. Even non-aquatic species that eat fish or insects can be harmed by the bioaccumulation of pharmaceutical pollution in water.

The concern that scientists have been underestimating levels of contamination in fish was reinforced in a more recent study of 150 contaminants of emerging concern in three estuaries in Puget Sound, two of which receive effluent from waste water treatment plants (WWTPs).³⁵ The study analyzed the levels of these emerging contaminants (including pharmaceuticals) found in wastewater effluent, estuarine water, and two species of fish: Pacific Staghorn Sculpin and juvenile Chinook.³⁶ The fish in this study had higher levels of contamination than would be expected based solely on the levels of contamination present in the estuarine waters, suggesting there were either upriver sources of contamination in addition to the wastewater effluent or bioaccumulation impacts through the food web, or both.³⁷ Additionally, the authors noted that there is a larger potential for bioaccumulation in water with a higher than neutral pH, such as marine waters.³⁸ In all, forty-two contaminants were found in fish tissues, including nine contaminants which were absent from both the wastewater effluent and estuarine water samples.³⁹ Importantly, juvenile Chinook had significantly higher levels of contamination than the Pacific Staghorn Sculpin, perhaps because of their high rates of ingestion and gill ventilation.⁴⁰ Therefore, some species such as Chinook may be especially vulnerable to

³³ Bradley et al., *infra* note 6 at 4799.

³⁴ *Id.*

³⁵ Meador et al., *infra* note 16.

³⁶ *Id.*

³⁷ *Id.* at 263.

³⁸ *Id.* at 263.

³⁹ *Id.* at 258.

⁴⁰ *Id.* at 263.

pharmaceutical bioaccumulation. This variability in bioaccumulation rates between species, as well as the variability in bioaccumulation rates between specific contaminants, underscores the need to protect aquatic wildlife from food web magnification of pharmaceutical pollution.

In sum, bioaccumulation is likely occurring from the existing discharges and with the anticipated increase in fish and feed involved in raising steelhead bioaccumulation is likely to increase. The true amount of pharmaceutical pollution in our public trust waters is relatively unknown, and during a time when disease is causing a national pandemic, Ecology must set a limit on the allowable discharge of antibiotics for the Hope Island net pen, and this should be reflected in the NPDES permit.

c. New Fish Mortality Information

Cooke’s pollution prevention plan includes new quantitative fish mortality information that was not provided by Cooke to WDFW in its SEPA materials. It is unclear whether this significant new information is based on Atlantic salmon mortality. The new fish mortality information includes the following.

- i. Expected average monthly fish mortality at the Hope Island net pen is 5,000 pounds of fish biomass, or 0.17% of the total 2,800,000 lbs of annual fish biomass that Cooke expects to rear at Hope Island.
- ii. These dead fish are collected three times per week by divers, except in the event of adverse weather conditions, and disposed of in landfills or compost facilities.
 1. It is unclear from Cooke’s application what happens when divers are not able to retrieve the dead fish – if are they left to decay at the bottom of the net pen, what is the maximum threshold for this type of pollution discharge?
- iii. Divers make what amounts to an educated guess by noting the “presumed cause of death” in their weekly reports as to the cause of the fish mortality, yet no specimens are required to be sent to a lab facility for testing.
 1. Is this what Cooke considers as having a “licensed veterinarian monitor the health of fish stocks raised at the facilities” as referenced in the plan’s section 5.2?
 2. Why are these fish not regularly tested at a lab for diseases, pathogens and parasites?

3. What exact training to staff have to diagnose the cause of death for several thousand pounds of fish mortality each week?
- iv. The WA Department of Health (DOH) is only notified when a “large mortality event” occurs, defined as 5% mortality (140,000 pounds of fish biomass) in a one-week period. This is 28-times more than the “average” expected weekly mortality rate, but there is no information or explanation provided for why DOH notification is not required until an event of such magnitude occurs.
- Stated another way, why does an event that is 5- or 10-times the normal mortality not require DOH notification?
 - Is a lower threshold for DOH engagement appropriate given the potential for disease in a net pen to infect native wild Steelhead?
 - What is the plan for handling a medium-sized or large mortality event when inclement weather prevents divers from retrieving the dead fish?
 - There do not appear to be notice requirements to the Tribes – why not?
- v. With respect to section 5.2, it is unclear from the plan under exactly what circumstances Cooke would engage a licensed veterinarian. Section 5.2 reads:
- A licensed veterinarian monitors the health of the fish stocks raised at the facilities. The veterinarian is used to identify the type of pathogen causing disease and the effective course of management to control the pathogen.

The claim that a licensed veterinarian “monitors the health of fish stocks” was contradicted by other statements in Cooke’s permit application. If Cooke is not required to regularly test the weekly batches of dead fish then it seems that a veterinarian is not “monitoring” the health of the fish stock, particularly if a veterinarian does not engage until a massive fish mortality event. All indications are that it is up to technicians with completely unknown or unquantified technical training to make judgment calls about fish mortality. If veterinarians actually do “monitor” the health of fish stocks at a net pen facility, what specifically does this entail, how often do they consult with local staff, what tests are run and under what circumstances? Additionally, the draft permit requires Cook submit monthly discharge monitoring reports monthly however there is no measure of quantification that of dead fish that would prevent harm to water quality.

- vi. With respect to section 5.3, the words in Section 5.3 are phrased more as a goal rather than permit conditions. It fails to state specific steps that Cooke will take to ensure the minimization of medicated feed into the environment. Section 5.3 reads:

5.3 Site Managers are responsible for the administration and keeping records of disease control chemicals used at the facilities. Site Managers work closely with the attending veterinarian to ensure that medicated feed is administered appropriately and used in a manner that minimizes the discharge of uneaten medicated feed into the environment.

Ecology needs to include some measure of quantification to direct this, rather than granting Cooke this vague, discretionary decision-making authority. Why aren't there additional requirements imposed to protect water quality from medicated feed, like an additional net, or pumping out each net pen cage of fish to treat them on land? The prevalence of antibiotics and potential adverse impacts to native wild Steelhead must be taken seriously. These are basic questions that are not answered in Cooke's pollution prevent plan or the draft permit. For that, we request an in-depth analysis and full permit modification process to ensure the net pens do not cause negatively affect the ESA-listed salmonids that rely on the health of these waters.

d. **Fish Escape Prevention Plan**

Cooke's escape prevention plan must be reviewed in the context of Cooke's previous Clean Water Act and NPDES violations. The draft permit requires the escape prevention plan have a "[p]rocedure for notification of Ecology and other state agencies of events that have the potential to lead to or include major repairs or mechanical or structural issues that may produce fish escape."⁴¹ However, Cooke's draft escape prevention plan relies on a deficient threshold for notification to state agencies and tribal governments, and there are no procedures listed for monitoring the implementation of the plan components as required in WAC 220-370-110 (1)(e). The "Responding to Structural Integrity Emergencies" of Cooke's escape prevention plan states in Section 2.1 that:

⁴¹ Draft Plan at 25

Cooke facility staff who observe an actual or potential structural integrity issue that poses an imminent risk of structural collapse and the release of fish into the environment shall implement the following procedure:

This section sets out the threshold for when Cooke’s staff must invoke the internal chain of emergency calls and then calls to state agencies and tribal governments, but the threshold is far too high. It is unacceptable to allow Cooke - particularly given the recent partial sinking of the net pens at Cooke’s Orchard Rocks facility – to make a unilateral judgment call about when and whether it believes there is an “imminent risk of structural collapse” before invoking the notification provisions of the Prevention Plan. Cooke’s judgment cannot be relied upon or trusted.

The specific trigger for invoking notification to state agencies – Ecology, WDFW and DNR – should be much lower; in order to meet Ecology’s duty to protect water quality and prevent ecological harm, Cooke cannot be trusted to self-regulate any longer. There is simply no basis for that given its past behavior. There must be unequivocal language that would require Cooke staff to initiate emergency notification procedures at the outset of any potential emergency or unusual situation, regardless of whether Cooke believes it poses an imminent risk of structural collapse. This is particularly important in light of Cooke’s failure to follow procedures last October with the Orchard Rocks net pen incident, as documented by Ecology in its October 25, 2019 letter.

e. **Fish Escape Reporting and Recapture Plan**

Cooke’s Recapture Plan contains multiple sections that raise concerns, including fish recapture procedures that purport to rely extensively on tribal fishermen and tribal fishing vessels despite a complete lack of communication from Cooke on this matter.

The recapture procedures in Cooke’s recapture plan apparently conflict with statutory requirements. WAC 220-37-120 unequivocally states, “[i]t is the responsibility of aquatic farmers to report an escape of marine finfish and to attempt to recapture escaped fish.” However, Cooke’s recapture plan grants Cooke’s Emergency Management Team full discretion regarding the order in which it proceeds to secure the net pen site, all the while feral fish are escaping. Section 4.1 on the recapture procedures states that:

4.1 Recapture Procedures In the event of a catastrophic structural failure of the equipment, securing the net pen structure may be necessary in order make the site safe for employees and subsequent fish recapture actions. The safety of Cooke employees and contractors takes priority over fish recapture. This determination is made at the discretion of Cooke EMT.

While the safety of human life is undoubtedly a priority, securing the net pen should happen *simultaneously* with the emergency notification and recovery of feral fish, not afterward, and not at the discretion of Cooke.

Section 4.1 goes on to state that:

The next priority is to determine and attempt to correct the cause of the accidental fish release by repairing the breach or implementing some form of secondary containment, if possible.

Cooke EMT maintains an Emergency Work Vessel Contact List. The contact list is provided in Appendix B. The Permit Coordinator will update this list annually. The operators of emergency work vessels will keep Cooke apprised of changes in personnel or contact information.

This last provision is problematic both procedurally and substantively. Cooke should be required to keep a list of willing vessel owners who have agreed ahead of time to be on call to come under contract at a pre-arranged and agreed upon rate and terms. In the event of another net pen failure, there is no time for contract negotiations. Further, Cooke should not be allowed to require work vessels to have to update their information to Cooke – this responsibility should rest solely with Cooke.

Section 4.1 Recapture Procedures continue as follows:

Upon receiving authorization from WDFW, the Cooke EMT will commence recovery of escaped fish through one or more of the following actions:

- a. Deploying Cooke skiffs and seine nets to recapture escaped fish.
- b. Contacting the Northwest Indians Fishery Commission and nearby tribal Natural Resource managers to help facilitate the recapture of escaped fish.
- c. Contacting and engaging the services of local vessels of opportunity to facilitate the recapture escaped fish.

We believe it would be imperative that Cooke engage in all three of those actions simultaneously, and that WDFW, Ecology, DNR and the affected tribal governments work together in making these decisions. Cooke should have no discretion in making these types of important decisions that would impact fishery resources.

Section 4.2 addresses recapture vessels, gear, and methods, and includes that:

Cooke will work with nearby tribes to review appropriate fisheries and gear types and identify the key natural resource contacts in the areas near each of the marine net pen farming locations. The tribal contact list is presented in Section 2.

This is a huge assumption on the part of Cooke. In essence, they are relying on tribal fishery expertise, boats and gear, yet have not approached anyone at the Swinomish Tribe about this potential. Thus, we are a cornerstone of Cooke's recapture plan yet they do not believe it is important to start by asking whether and how we may want to engage with them in these efforts.

Section 4.2.2 discusses potential contractor equipment, yet contains a fundamental error.

Commercial fishing contractors can employ the following methods of capturing and removing fish:

1. Purse seining - These vessels allow the nets to be gathered and the captured fish to be pumped onto a harvest vessel using the vacuum pump.
2. Gill netting – These vessels capture fish by encircling them with nets that the fish become tangled in. This method is effective if the fish are within the size range that gill-net vessels target. Target fish size for most gillnets is between three pounds and 15 pounds.

According to Swinomish Tribe fishermen, only gill netting, and not purse seining, would work to try and recover escaped fish in Skagit Bay. This further highlight Cooke's failure to work with nearby tribes to review appropriate fisheries and gear types, although it claims that it will.

Section 7.1 discusses the reliance upon a Unified Command system in the event of an emergency. We find the provisions in this plan particularly inadequate and believe this plan is fundamentally flawed and incomplete. Cooke must ensure that Swinomish Tribe representatives are included in the Unified Command system as an equal partner and decision maker.

Finally, we respectfully request that Ecology refrains from issuing the NPDES permit for Hope Island unless and until Cooke has initiated, and has reached agreement with all parties on, the requirement in the January 21, 2020 WDFW permit to develop a "no-recovery option" for escaped fish with numerous state agencies, tribes and NOAA. The WDFW permit requirement states:

"3. It is conceivable that an attempt to recover fish after an escape event might negatively affect native Pacific salmonids more than no attempt to recover fish. Cooke is required to work with WDFW, Ecology, DNR, effected treaty tribes, and NOAA to include a no-recovery option in the 2021 Fish Escape Prevention, Response, and Reporting Plan, to be finalized December 2020. This option should include when, where, and under what conditions a recovery effort should not be attempted. A no-recovery option would be triggered by the state, in consultation with co-managers and federal agencies for the purpose of protecting native Pacific salmonids."

We believe it is incumbent upon Ecology in its duty to enforce water quality standards to require that Cooke initiate this process and reach agreement with all appropriate state and federal agencies and tribal governments on the “no-recovery option” *prior to* any steelhead being placed in the Hope Island net pen.

7. New Tier II Analysis Required

The Clean Water Act requires that water quality standards protect existing designated uses by establishing the maximum level of pollutants allowed in surface water. Washington requires extra protections for water that is already cleaner than the standards. The Washington State Antidegradation Policy⁴² functions to restore and maintain the highest possible quality of the surface waters of Washington. The policy applies to human activities that are likely to have an impact on the water quality of the surface water.⁴³

The Policy applies three tiers of protection for surface waters of the state and the proposed facilities are under Tier I. Tier I requires dischargers maintain and protect existing and designated uses.⁴⁴ Ecology must not allow any degradation that will interfere with, or become injurious to, existing or designated uses, except as provided for in chapter 173-201A WAC. Tier II review is required when a physical expansion of the facility (production or wastewater system expansions with a potential to allow an increase the volume of wastewater or the amount of pollution) or activity. New or expanded actions that are expected to cause a measurable change in the quality of the water may not be allowed unless the department determines that the lowering of water quality is necessary and in the overriding public interest.⁴⁵

In 2017 Ecology made a determination that Tier II analysis was not required because the receiving water quality constituents had not been demonstrated to be higher than the criterion designated by state water quality standards. Now that Cooke is planning to raise an increased number of fish, which is likely to lead to an increase in discharge, Ecology should make a new determination as to whether Tier II analysis is required to protect existing and designated uses of the receiving water.

⁴² WAC 173-201A-300 - 173-201A-330.

⁴³ *Id.*

⁴⁴ WAC 173-201A-310.

⁴⁵ WAC 173-201A-320(1).

8. Ecology should not authorize Cooke's modified NPDES permits while federal ESA consultation on the impacts of Puget Sound net pens is ongoing.

NOAA Fisheries is currently preparing a biological opinion of Puget Sound net pens in response to the Environmental Protection Agency's initial determination in May 2020 that Puget Sound net pens "are likely to adversely impact" ESA-listed Puget Sound salmon, steelhead, and rockfish populations. This consultation is addressing water quality standards needed to issue the permits and therefore it would be premature and inappropriate for Ecology to finalize the NPDES permit review and issue permits while this federal ESA consultation is ongoing and without fully reviewing NOAA Fisheries' findings and incorporating them into the Hope Island net pen.

Conclusion

For the foregoing reasons, we believe that Ecology should deny the NPDES permit to Cooke for the Hope Island net pen in order ensure the health and safety of Washington state waters and people. If it does issue a NPDES permit to Cooke, Ecology must take into full account Cooke's pattern of violations of the Clean Water Act and requirements of its prior NPDES permits as highlighted above and include more stringent requirements for the Hope Island net pen, including but not limited requiring independent, third-party monitoring and reporting.

Thank you for your consideration of our comments and concerns.

Sincerely,

A handwritten signature in black ink that reads "Amy Trainer". The signature is fluid and cursive, with a long horizontal line extending to the right.

Amy Trainer, Environmental Policy Director
Swinomish Indian Tribal Community