

## **STATEMENT OF BASIS**

### **COOKE AQUACULTURE PACIFIC, LLC Orchard Rocks - Saltwater IV NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT WA0031542**

This Statement of Basis explains the need to modify NPDES Permit WA0031542. This Statement of Basis serves as an amendment to the Fact Sheet and describe changes made to the permit.

#### **I. GENERAL INFORMATION**

Permittee: Cooke Aquaculture Pacific, LLC  
P.O. Box 79003  
Seattle, Washington 98119

Facility: Orchard Rocks - Saltwater IV  
Rich Passage, South of Orchard Rocks near Bainbridge Island

Discharge Location: Latitude: 47° 34' 30" N / Longitude: 122° 31' 50" W  
Rich Passage, Puget Sound

Estimated maximum net production per growth cycle: 5,600,000 pounds

#### **II. PURPOSE OF MODIFICATION**

Cooke Aquaculture Pacific, LLC (Cooke) applied to modify their NPDES permit to allow the rearing of native sterile all-female rainbow trout/steelhead (*Oncorhynchus mykiss*). The term steelhead will be used to refer to the fish throughout the statement of basis. The company is transitioning from rearing non-native Atlantic salmon after the Washington State legislature banned rearing non-native finfish in marine net pens effective once Cooke's aquatic land leases expire. Ecology received a complete application package that included permit required plans and SEPA materials on February 28, 2020.

#### **III. PUBLIC PROCESS**

Ecology public noticed the application for the modification and provided a comment period for the public to review the application materials on April 14, 2020 through June 8, 2020. We received 609 comments consisting of 385 not supporting, 171 supporting, and 17 conditionally supportive. The majority of comments related to the ecological and disease impacts raising steelhead would pose. It is not required to respond to comments on the notice of application.

Cooke reviewed the draft permit modification and statement of basis for factual accuracy. Ecology corrected any errors or omissions regarding the facility's location, history, discharges, or receiving water prior to publishing this draft modification and statement of basis. We will compile and respond to comments submitted during the public notice of the draft permit modification comment period in an appendix to the statement of basis ([Appendix A](#)). Ecology conducted a 45 day public comment period and held a webinar based public hearing and workshop on the noticed draft permit.

#### **IV. SEPA PROCESS**

As an existing discharger, state law exempts the modification of Cooke's wastewater discharge permit from the SEPA process as long as the permit contains conditions no less stringent than federal effluent guidelines and/or state rules and regulations (RCW 43.21C.0383). Ecology has assessed Cooke's switch from non-native Atlantic salmon to native triploid (sterile) all-female stock of steelhead for factors that could affect the characteristics of the discharge. Regardless of species, discharges from finfish aquaculture operations may contain fish feces, uneaten fish food, disease control chemicals milled into fish feed, biofouling organisms displaced from routine net cleaning, and escaped fish.

#### **V. EVALUATING WATER QUALITY AND SEDIMENT IMPACTS**

In February 2020, Ecology received a complete application from Cooke to consider the modification to raise steelhead in order to phase out rearing Atlantic salmon. In addition to Cooke's NPDES permit application and updated NPDES permit required plans, Cooke submitted supporting information of all water quality related information that was included in their WDFW permit application and SEPA checklist. The question of ecological and disease impact from raising a native salmonid, steelhead, was conducted by WDFW through a SEPA analysis in the fall of 2019. The SEPA analysis produced a mitigated determination of non-significance and in January 2020, WDFW issued to Cooke a conditioned Marine Aquaculture Permit and indicated conditions for future transport permits with further requirements to protect native fish species.

Cooke reports in their application materials that operating the net pen facilities to raise steelhead will be similar to how Atlantic salmon are raised currently. Cooke reports that the feed used, stocking density, daily feeding requirements, and the likely feed conversion ratio will be the same or similar between Atlantic salmon and steelhead. Cooke states that the resulting maximum biomass is comparable to historic Atlantic salmon levels. Information Cooke reported from recent steelhead Chilean operations suggest an industry feed conversion factor of 1.16. Data from the Clam Bay facility indicates the feed conversion ratio for Cooke's Atlantic salmon operations in Puget Sound vary between 1.2 and 1.7 depending on age of the fish and the season. Specifically, Cooke states that the feed used for rearing steelhead in the marine net pens will be similar to what is used for Atlantic salmon, however, food trials will be conducted to further optimize for growth, health, and flesh quality.

Cooke does not expect the escapement of steelhead to change from what is currently experienced rearing Atlantic salmon. Cooke will continue practicing single-generation stocking and vaccinating for the same bacterial and viral pathogens as they do for Atlantic salmon. They report that rainbow steelhead disease susceptibility is expected to remain the same as Atlantic salmon. They expect to use the same biosecurity methods and disease control practices. This suggests no increase in use of medicated feed so disease controlling chemical discharge should remain the same compared to rearing Atlantic salmon.

Biofouling of the stock nets should remain the same since the net mesh sizes used will also remain the same. The major difference noted in rearing steelhead is that the estimated period of time to grow to market size is shorter because the size at which harvest occurs is smaller (an average 8 pounds vs. 11 pounds) and the trout grow faster. The shorter grow-out period could lead to more frequent fallowing periods during a five year NPDES permit cycle. Cooke will be required by their WDFW Marine Aquaculture permit to maintain a fallowing period of least 42 days. Ultimately, Cooke reports that less feed will be used during a production cycle and the duration of the peak biomass period will be shorter.

Throughout the literature and from discussions with fish health and hatchery experts within the Washington Department of Fish and Wildlife, Ecology has concluded the feed used to raise steelhead is nearly the same as Atlantic salmon, so are the metabolic wastes, and rate or need for medicated feed. The major aquaculture feed companies (Skretting and EWOS) categorize feed intended for trout and salmon production as the same and varies based on lifestage. Cooke intends to adjust the feed nutrient content to maximize their product, but this is a micro-adjustment that does not change substantively the nature of the feed wastage or metabolic products. It is not expected that feed wastage will change as the same feeding techniques will be utilized (video monitored, manually controlled feeding). The metabolic waste production is not significantly different since the two species have nearly the same feed conversion ratios ranging from 1.1 to 1.7. The use of medicated feed is expected to remain the same.

## **VI. PERMIT MODIFICATIONS**

This permit was reissued in July 2019, and included increased water and sediment quality monitoring and reporting requirements to limit discharge and protect the receiving water body and benthos. These increased monitoring and reporting requirements will remain in effect in the modified permit.

The permit is being modified to include more requirements for reporting and monitoring of stocking, harvesting, and escape, percent nitrogen in feed, and feed conversion rate. Also, the permit is modified to provide more specificity regarding requirements for how net hygiene shall be conducted and unusual event notification shall occur. The permittee must conduct an AKART analysis, which must consist of an economic analysis of

different culturing techniques for the evaluation of improved treatment of discharge and water quality and waste reduction.

### **DESCRIPTION OF PERMIT MODIFICATIONS**

1. *Page 1:* Box insert on cover page includes the net production of fish in pounds estimated for the facility to produce during the growth cycle. This additional facility description is to provide the information put in the application into the permit for tracking production levels over permit cycles.
2. *Pages 4 & 5, Summary of Permit Report Submittals (see below in the specific requirement sections for the rationale behind the summary table change)*
  - *Page 4:* Added monthly and yearly submittal requirements that are new requirements in Section S3.A, which include reporting of feed conversion ratio, number of live fish, and number of dead fish.
  - *Page 4:* Added the submittal of a Nitrogen Reporting Plan and Annual Reporting for Nitrogen Input as per S3.B.4.
  - *Page 5:* Administrative correction to the submittal schedule for the Operations and Maintenance Manual, Pollution Prevention Plan, and the Fish Escape Prevention, Reporting, and Response Plan to be once per cycle and updated as necessary with changes as was specified in the reissued permit, sections S4, S8, and S9.
  - *Page 5:* Revised the submittal of a consolidated Fish Escape Prevention, Reporting, and Response Plan now specified in section S9, to replace the submittal of a separate Fish Escape Prevention Plan and a Fish Reporting and Response Plan that were identified in sections (S9 and S10).
  - *Page 5:* Revised the section that requires submittals of the Annual Fish Release, Fish Release, and Fish Release Follow-up Reports from S10 to S9.
  - *Page 5:* Added required submittals of Stocking and Harvest Plans and Reports that are new requirements listed in section S9.
  - *Page 5:* Added required submittal of an AKART Analysis Report that is a new requirement in section S.10.
3. *Page 7, S1 Discharge Limits:* The discharge limitation is updated to include fish that are permitted to be reared through Cooke's current WDFW Marine Aquaculture Permits. The release of fish from the net pens is prohibited. Furthermore, requirements for pollution prevention and fish escape prevention specify that any fish must be contained within the net pens and escape prevention, response, and reporting will be implemented in such a way to reduce the risk of a discharge and enact responses to and mitigate for any release of fish if it occurs.
4. Monitoring and reporting the accidental release of fish has been increased for improved tracking. Permit requirements are integrated into three sections and now

include monthly and annual reporting of the estimated number of individual live fish and the estimated number of dead fish.

*Page 14, S3.A.1 and Page 15, S3.A.3.a:* Monthly discharge monitoring reporting must include:

- Estimated number of live fish
- Number of dead fish collected or observed

*Page 15, S3.B.2:* The submittal of the Annual Monitoring Report must include:

- Estimated number of live fish
- Number of dead fish collected or observed

*Page 27, S9, V and W,* Additional monitoring and reporting of stocking and harvest include plans to be submitted prior to each activity. Stocking and harvest reports are to be submitted 30 days after each activity occurs with dates stocking and harvesting occurred and the estimates of the numbers of fish stocked or harvested and any complications. The permittee must report immediately any release of fish.

5. New parameters will be reported for future analysis of nitrogen loading to the receiving water.
  - *On page 16, requirement S3.B.4* states “Cooke must develop, with Ecology’s review and approval, a Nitrogen Reporting Plan finalized within six months of the modified permits being issued and begin reporting annually thereafter an Annual Nitrogen Input Report.
  - To further support the analysis of nitrogen loading, the permit requires monthly and annual reporting of the feed conversion rate. The added requirements are specified in section S3.A. Discharge Monitoring Reports under Monthly Monitoring and Annual Monitoring.  
*Page 14, S3.A.1:* Monthly discharge monitoring reporting must now include feed conversion ratio.  
*Page 15, S3.B.2:* The submittal of the Annual Monitoring Report must include feed conversion ratio.
6. Updates to provide reporting clarity to the permittee:
  - *Pages 17 and 18, S3.G Reporting Permit Violations:* To increase clarity of when reporting is to take place, language was added to Immediate Reporting to include reporting for HABs (harmful algal blooms) to DOH and that of spills. Twenty-Four Hour Reporting was updated to reflect the specific reporting requirements identified for fish escapes in section S.9.N and Unusual Events in sections S8.B.13 and S9.F
  - *Page 19, S3.H Other Reporting:* To increase clarity of when reporting is to take place, language was added to include the reporting of sea lice outbreak relative to S3.B.2.
7. To prevent a release of fish and reduce the discharge of biofouling organisms, net hygiene cleaning requirements were further identified and required to be implemented. The requirements specify that the Permittee must prevent the excessive

- accumulation of marine growth on the stock nets through the use of the net hygiene protocol developed cooperatively with Washington State Department of Natural Resources (DNR). In accordance with DNR protocol, the Permittee shall maintain documentation of net cleaning activities and effectiveness of net washing, and shall provide verification of the efficacy of in situ net cleaning to Ecology upon request.
- *Page 20, S4.A.3.i O&M Manual Submittal Requirements:* To prevent excessive accumulation of marine growth of the stock nets, the permit specifies that the DNR protocol developed cooperatively is to be followed.
  - *Page 26, S9.J: Fish Escape Prevention, Reporting, and Response Plan requirements:* To prevent excessive accumulation of marine growth of the stock nets, the permit specifies that the DNR protocol developed cooperatively is to be followed.
8. *Page 22, S7, Net Pen Structural Integrity Assessment Report:* Added RCW code to indicate where the requirement can be further reviewed and located for further clarity.
9. The notification of an unusual event has been added as a requirement under pollution prevention and fish escape prevention.
- *Page 24, S8.B.13, Pollution Prevention Plan*
  - *Page 25, S9.F, Fish Escape Prevention, Reporting and Response Plan.*
  - *Page 43 and 44, Appendix G, State Agency Contact Information for Emergencies and Unusual Events*

These requirements add specificity to when the permittee is to notify Ecology and the associated regulating state agencies of events that have the potential to lead to or include major repairs or mechanical or structural issues that may produce a spill or release. The permit further defines an “unusual event” at the marine net pen facility as an uncommon event or abnormal situation that is not an active fish escape or a spill or release of toxic substances. An “unusual event” can create or lead to an increased potential for accidental fish escapement, structural failure of the net pen array, or spill.

10. *Page 25, S9 Fish Escape Prevention, Reporting, and Response Plan:* The former required Fish Escape Prevention Plan and the Fish Escape Reporting and Response Plan were consolidated into one plan, now called the Fish Escape Prevention, Reporting, and Response Plan. The required plan is included in section S9 and all requirements remain and now can be submitted as one document.
11. *Page 27, S10 AKART Analysis Report:* The previous permit did not include the requirement for an analysis for all known, available, and reasonable methods of treatment or AKART because the rearing of Atlantic salmon was to be terminated by the end of the permit cycle due to the banning of all non-native finfish aquaculture by 2022. With the conversion to a native finfish, the industry will continue its aquaculture business for the foreseeable future. Therefore an AKART analysis must

be conducted by the permittee.

An AKART study is necessary at this time for Cooke to report on the most current and economically feasible technologies available to reduce pollutants in a net pen discharge. Specifically, structural/operational best management practices (BMPs) and pollution source controls are commonly used to establish AKART when traditional effluent treatment is not available. In this case, the analysis of treatment technology is a review of and shall consist of recommendations for use of the latest structural/operational BMPs as well as source controls, such as closed-containment, for in-water culturing of finfish in the net pens. Additionally, an analysis of recirculating aquaculture system technology at an uplands location must be reported.

Requirement S10 states that an AKART analysis must be conducted and the analysis must include an economic and treatment analysis of the range of culturing techniques, including but not limited to all known in-water and uplands systems for the purpose of improved water quality of the effluent, reduced discharge, and less feed waste. Analysis shall also include the evaluation of best management practices and technology improvements to in-water systems that will lead to improved water quality of the effluent, reduced discharge, and less feed waste. The report must be submitted with the application for the renewal of this permit as required in S6.

## VII. References

Azevedo, P., Leeson, S., Cho, C. and Bureau, D. (2004), Growth and feed utilization of large size rainbow trout (*Oncorhynchus mykiss*) and Atlantic salmon (*Salmo salar*) reared in freshwater: diet and species effects, and responses over time. Aquaculture Nutrition, 10: 401-411. doi:[10.1111/j.1365-2095.2004.00322.x](https://doi.org/10.1111/j.1365-2095.2004.00322.x)

Bureau, Dominique P., Stephen J. Gunther & C. Young Cho (2003) Chemical Composition and Preliminary Theoretical Estimates of Waste Outputs of Rainbow Trout Reared in Commercial Cage Culture Operations in Ontario, North American Journal of Aquaculture, 65:1, 33-38, DOI: [10.1577/1548-8454\(2003\)065<0033:CCAPTE>2.0.CO;2](https://doi.org/10.1577/1548-8454(2003)065<0033:CCAPTE>2.0.CO;2)

Bureau, DP, K Hua. 2010. Towards effective nutritional management of waste outputs in aquaculture, with particular reference to salmonid aquaculture operations. Aquaculture Research: 41, 777-792.

Davies IM (2000) Waste production by farmed Atlantic salmon (*Salmo salar*) in Scotland. ICES, CM 2000/0:01

Gillibrand P A, Gubbins M J, Greathead C and Davies I M. 2002. Scottish Executive locational guidelines for fish farming: predicted levels of nutrient enhancement and

benthic impact. Scottish Fisheries Research Report 63/2002. Aberdeen: Fisheries Research Services. 52 pp.

Islam MS (2005) Nitrogen and Phosphorus budget in coastal and marine cage aquaculture and impacts of effluent loading on ecosystem: review and analysis towards model development. *Marine Pollution Bulletin* 50: 48-61.

Kinne, Eric (May 2020) Washington State Department of Fish and Wildlife. Hatchery Division Manager. Personal communication.

Krogdahl, A., Sundby, A. & Olli, J.J. (2004) Atlantic salmon (*Salmo salar*) and rainbow trout (*Oncorhynchus mykiss*) digest and metabolize nutrients differently. Effects of water salinity and dietary starch level. *Aquaculture* 229, 335–360.

Mente, E., Pierce, G.J., Santos, M.B. *et al.* Effect of feed and feeding in the culture of salmonids on the marine aquatic environment: a synthesis for European aquaculture. *Aquacult Int* **14**, 499–522 (2006). <https://doi.org/10.1007/s10499-006-9051-4>

Strain, P.M. & Hargrave, B.T.. (2005). *Salmon Aquaculture, Nutrient Fluxes and Ecosystem Processes in Southwestern New Brunswick. Environmental Effects of Marine Finfish Aquaculture*. 10.1007/b136003.

Olsen, LM, M. Holmer, Y. Olsen. 2008. Perspectives of nutrient emission from fish aquaculture in coastal waters. Literature review with evaluated state of knowledge. FHF project no. 542014. [www.fiskerifond.no](http://www.fiskerifond.no) 87pp.

Varney, Jed (May 2020) Washington State Department of Fish and Wildlife. Fish Veterinarian and Fish Health Specialist. Personal communication.



## APPENDIX A – RESPONSIVENESS SUMMARY

### **PUBLIC PROCESS FOR SUBMISSION OF COMMENTS:**

Ecology conducted a 48 day public comment period and held a webinar based public hearing and workshop on the evening of October 14, 2020. Comments were recorded from September 9, 2020 through October 26, 2020 through eComments, email, mailed in letters, and testimony from the public hearing.

### **SUMMARY OF SUBMISSIONS:**

To view the comments submitted, follow the link

<https://apps.ecology.wa.gov/paris/DownloadDocument.aspx?id=349415>

There were a total of 147 submissions from individuals or organizations via eComments, email, mailed in letters, and testimony. Multiple comments from the same commenter were counted only once.

116 comment submissions were not in favor of issuing the modified permits

- One submission made by the organization, Friends of the Earth, consisted of one document on behalf of their members, which combined 1093 similar comment letters opposing the issuance of the modified permits. <sup>a</sup>See table at comment number 45 submitted by Hallie Templeton.
- One submission made by the organization Our Sound, Our Salmon was one document on the behalf of 10 organizations opposing the issuance of the modified permits. <sup>b</sup>See table at comment number 88 submitted by Kurt Beardslee.
- Another 114 individual commenters were generally opposed to issuing the modified permits

5 submissions did not specify a position but asked questions and identified concerns not within the scope of the modifications

26 submissions supported issuance of the modified permits

### **List of Commenters**

	Name of Commenter	Associated Organization/Entity	eComments Code	Submittal Method	Comment Submitted
1	Aileen Jeffries		I- 18	Website	9/10/20
2	Alexandra Gayek		I- 118	Website	10/26/20
3	Allan Holmes		I- 67	Website	9/21/20
4	Amy Trainer	Swinomish Indian Tribal Community	T- 2	Website	10/23/20
5	Andrew Stevenson		I- 9	Website	9/9/20
6	Andrew Wynne		I- 88	Website	10/15/20
7	Annabella House Fox		I- 123	Letter	10/22/20
8	Anne Shaffer	Coastal Watershed Institute	O- 1	Website	9/18/20

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9	Annie McIntyre		I- 54	Website	9/15/20
10	anonymous		I- 109	Website	10/25/20
11	anonymous		I- 120	Website	10/26/20
12	anonymous		I- 53	Website	9/15/20
13	anonymous		I- 102	Website	10/23/20
14	Austin Franklin		I- 34	Website	9/11/20
15	Ben Bauermeister		I- 32	Website	9/11/20
16	Brett Wedeking		I- 70	Website	9/24/20
17	Brian Cowan		I- 69	Website	9/22/20
18	Carol Truex		I- 122	Email	9/22/20
19	Caroline Armon		I- 85	Website	10/13/20
20	Cathleen Burns		I- 78	Website	10/1/20
21	Charles Ballard		I- 24	Website	9/11/20
22	Chris Long		I- 97	Website	10/22/20
23	Christina Conte		I- 20	Website	9/10/20
24	Christine Rolfes	State Senator	OTH- 1	Website	10/19/20
25	Cindi McNabb		I- 63	Website	9/18/20
26	Corinne Asher		I- 99	Website	10/22/20
27	Cornelis Bakker		I- 74	Website	9/26/20
28	Craig Clark		I- 95	Website	10/21/20
29	Cyndy Holtz		I- 103	Website	10/24/20
30	Cynthia Livingston		I- 66	Website	9/20/20
31	Dan Swecker		I- 94	Website	10/20/20
32	Danny Beatty		I- 47	Website	9/13/20
33	Darlene Schanfald	Olympic Environmental Council	O- 2	Website	10/21/20
34	Doug Simms		I- 87	Website	10/14/20
35	Douglas Love		I- 104	Website	10/25/20
36	Duane Edwards		I- 81	Website	10/9/20
37	Duffy McKenzie		I- 58	Website	9/17/20
38	Eleanor Mattice		I- 14	Website	9/9/20
39	Elizabeth Sawyer		I- 44	Website	9/12/20
40	Erik Kingfisher		I- 40	Website	9/12/20
41	Gerard Stromberg		I- 11	Website	9/9/20
42	Greg Abel		I- 43	Website	9/12/20
43	Gregg Dunphy	submitted for Lummi Tribal Nation, Natural Resources Department Director, Merle Jefferson	T- 5	Website	10/26/20
44	Gregory Topf	Wild Steelhead Coalition	O- 6	Website	10/26/20
45	<i>^Hallie Templeton</i>	<i>Friends of the Earth submitted 1093 member comments</i>	<i>O- 5</i>	<i>Website</i>	<i>10/26/20</i>
46	Hansi Hals	Jamestown S'Klallam Tribe (submitted for Tribal Chair/CEO Ron Allen)	T- 4	Website	10/26/20
47	Harriet Holmgren		I- 100	Website	10/22/20

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48	Helen Frances Glass		I- 105	Website	10/25/20
49	Henning Gatz	Aquacare Environment Inc	B- 2	Website	10/22/20
50	Hugh Mitchell		I- 116	Website	10/26/20
			I- 124	Testimony	10/14/20
51	Isa Werny		I- 91	Website	10/18/20
52	Jacob Manning		I- 61	Website	9/18/20
53	James Beck		I- 23	Website	9/11/20
54	Jamie Kitson		I- 80	Website	10/9/20
55	Janet Alderton		I- 35	Website	9/11/20
56	Janet Marx		I- 79	Website	10/7/20
57	Jayni Detrick		I- 90	Website	10/16/20
58	Jean Thompson		I- 5	Website	9/9/20
59	Jeanne McKnight	Northwest Aquaculture Alliance	I- 129	Testimony	10/14/20
			O- 4	Website	10/26/20
60	Jeff Redburn		I- 38	Website	9/11/20
61	Jeff Waldron		I- 13	Website	9/9/20
62	Jeffrey Norman		I- 28	Website	9/11/20
63	Jeremy Maldonado		I- 59	Website	9/17/20
64	Jim Parsons	Cooke Aquaculture Pacific	B- 4	Website	10/26/20
			I- 128	Testimony	10/14/20
65	John Corso		I- 64	Website	9/18/20
66	John Denlter		I- 82	Website	10/9/20
67	John Forster		I- 83	Website	10/12/20
68	John Pauli		I- 36	Website	9/11/20
69	Jon Russell		I- 119	Website	10/26/20
70	Jon Steeves		I- 19	Website	9/10/20
71	Joseph Jauquet		I- 2	Website	9/9/20
72	Judith Akins		I- 112	Website	10/26/20
73	Jules Michel		I- 114	Website	10/26/20
74	Karen McDonell		I- 106	Website	10/25/20
75	Katherine Kirchhofer		I- 75	Website	9/28/20
76	Katherine Marshall		I- 10	Website	9/9/20
77	Katherine Scott		I- 30	Website	9/11/20
78	Kathleen Hansen	Rich Passage Estates Homeowners' Association	O- 7	Website	10/26/20
79	Keith Drynan		I- 50	Website	9/14/20
80	Keith Shimizu		I- 37	Website	9/11/20
81	Ken Wood		I- 52	Website	9/15/20
82	Kent Hoium		I- 92	Website	10/19/20
83	Kevin Bright	Cooke Aquaculture Pacific	B- 5	Email	10/23/20
			I- 125	Testimony	10/14/20
84	Kirsten McDade	RE Sources	O- 3	Website	10/23/20

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85	Kristin Balmet		I- 98	Website	10/22/20
86	Kristine Holm		I- 60	Website	9/17/20
87	Kristopher Johansen		I- 1	Website	9/9/20
88	Kurt Beardslee	<p><i>Our Sound, Our Salmon - consortium of 10 organizations<sup>b</sup></i></p> <ul style="list-style-type: none"> <li>▪ <i>Hallie Templeton, Senior Oceans Campaigner, Friends of the Earth</i></li> <li>▪ <i>R. Bent Lyles, Executive Director, Friends of the San Juans</i></li> <li>▪ <i>Shari Tarantino, Executive Director, Orca Conservancy</i></li> <li>▪ <i>Michael Kundu, Director, Project SeaWolf Coastal Protection</i></li> <li>▪ <i>Steve Koehler, President Protect the Peninsula's Future</i></li> <li>▪ <i>Gus Gates, Washington Policy Manager, Surfrider Foundation</i></li> <li>▪ <i>Brad Throssell, Chair, Washington Council of Trout Unlimited</i></li> <li>▪ <i>Elaine Packard, Chair of the WA State Water and Salmon Committee, Washington State Chapter Sierra Club</i></li> <li>▪ <i>Colleen Weiler &amp; Jessica Rekos, Fellow for Orca Conservation, Whale and Dolphin Conservation</i></li> <li>▪ <i>Kurt Beardslee, Executive Director, Wild Fish Conservancy</i></li> </ul>	O- 10	Website	10/26/20
89	Kurt Grinnell	Jamestown S'Klallam Tribe	T-6	Testimony	10/14/20
90	L Wayne		I- 6	Website	9/9/20
91	Lance Magnuson		I- 49	Website	9/14/20
92	Larry Jones		I- 57	Website	9/16/20
93	Laura G Medbury		I- 39	Website	9/11/20
94	Lauralee Carbone		I- 86	Website	10/14/20
95	Laurie Sander		I- 89	Website	10/15/20
96	Lyn Kerschen		I- 101	Website	10/22/20
97	Lynda Cole		I- 73	Website	9/25/20
98	Maradel Gale		I- 110	Website	10/25/20
99	Marcia Lagerloef		I- 113	Website	10/26/20
100	Mark Lewis	Zoetic Research	B- 1	Website	9/28/20
101	Martha Hall		I- 93	Website	10/19/20
102	Martine Springer		I- 84	Website	10/13/20
103	Matthew Baerwalde	Snoqualmie Indian Tribe	T- 1	Website	10/22/20
104	Matthew Steinwurtzel		I- 29	Website	9/11/20
105	Megan Taylor		I- 22	Website	9/11/20
106	Melissa Belz		I- 17	Website	9/9/20
107	Mike Brinkley		I- 8	Website	9/9/20
108	Mike Freeze		I- 21	Website	9/11/20

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109	Neal Hoffberg		I- 26	Website	9/11/20
110	Nick Falls		I- 65	Website	9/20/20
111	Owen Fairbank		I- 62	Website	9/18/20
112	Patrick Baumann		I- 55	Website	9/16/20
113	Patrick Townsend		I- 48	Website	9/13/20
114	Paul Buehrens		I- 42	Website	9/12/20
115	Peggy Most		I- 72	Website	9/24/20
116	Penelope Benz		I- 25	Website	9/11/20
117	Phil Gere		I- 46	Website	9/13/20
118	Philip Forve		I- 71	Website	9/24/20
119	Polly Derr		I- 76	Website	9/28/20
120	Rachel Running		I- 107	Website	10/25/20
121	Rebecca Jenkins	Aquatic Life Institute Fish Welfare Initiative Animal Equality Center for Chilean Animal Law Studies Professor. Kathy Hessler (Director of The Aquatic Animal Law Initiative)	O- 9	Website	10/26/20
122	Richarx Ereth		I- 41	Website	9/12/20
123	Rob Schmaus		I- 15	Website	9/9/20
124	Ruth LeBrun		I- 68	Website	9/22/20
125	Ryan Viers		I- 4	Website	9/9/20
126	Sarah Hanson		I- 45	Website	9/13/20
127	Sarah Kuh		I- 77	Website	9/29/20
128	Scott Morrison		I- 3	Website	9/9/20
129	Shannon O'Sullivan		I- 51	Website	9/14/20
130	Shari Tarantino	Orca Conservancy	I- 127	Testimony	10/14/20
			O- 8	Website	10/26/20
131	Shaun Hubbard		I- 121	Letter	10/20/20
132	Spike Mafford		I- 117	Website	10/26/20
133	Stephanie Ross		I- 111	Website	10/26/20
134	Stephen O'Brien		I- 108	Website	10/25/20
135	Steve Hedlund	Global Aquaculture Alliance	B- 6	Email	10/26/20
136	Steve Knutzen		I- 56	Website	9/16/20
137	Steve Salonen		I- 16	Website	9/9/20
138	Support Mariculture		I- 96	Website	10/21/20
139	Susan Alotrico		I- 33	Website	9/11/20
140	Terry Sullivan		I- 27	Website	9/11/20
141	Thomas Ostrom	Suquamish Tribe (submitted for Leonard Forsman, Chairman)	T- 3	Website	10/26/20
142	Tom Hansen		I- 115	Website	10/26/20
143	Walt Dickhoff		I- 130	Testimony	10/14/20
144	Walter Pereyra	ProFish International Inc	B- 3	Website	10/26/20
145	Wendy Feltham		I- 31	Website	9/11/20

146	William Bryden		I- 7	Website	9/9/20
147	William Fitzsimmons		I- 12	Website	9/9/20

### **CONSIDERATION OF COMMENTS SUBMITTED**

Comments received varied greatly from absolute prohibition of the commercial net pen industry to some very specific suggestions regarding the modifications proposed. Ecology is only able to amend the draft permit based on comments for the proposed changes due to the modification request. Below are Ecology's responses to comments on the changes, comments on other permit conditions that did not change, and comments for those outside Ecology's authority and other issues. In some cases, we responded to a categorized comment due to multiple submissions that were the same or similar.

Background: Four existing individual net pen NPDES permits were requested to be modified by Cooke Aquaculture Pacific to rear steelhead instead of Atlantic salmon. Impacts were assessed on how rearing steelhead could change the surrounding water quality. Ecology found the water quality impacts would be similar to Atlantic salmon. Cooke's existing NPDES permits that were reissued in July 2019 were modified to include requirements that continue to protect water quality because of the species change. This included continued restriction of fish release, increased monitoring and reporting of accidental fish release, and more reporting around feed consumption. Also, the permit was modified to provide more specificity of how net hygiene shall be conducted and unusual event notification shall occur. The permittee is now required to conduct an AKART analysis, which must consist of an economic/engineering analysis of different culturing techniques for the evaluation of improved treatment of discharge and water quality and waste reduction.

## **RESPONSES TO COMMENTS**

### **1. Comments on the permit changes**

Jim Parsons of Cooke Aquaculture Pacific (Comment Code B-4)

**Comment:**

S. 3. A. 1 (and elsewhere) states that reporting will occur for a variety of parameters, including “..., percentage of nitrogen in feed, ..., feed conversion rates, ...”. Nitrogen in fish feed is a product of the amount of protein in the feed. Modern feed manufacturing requires that protein sources vary by time, amounts, and composition based upon a large number of external and economic factors. If ECY hopes to estimate the amount of elemental nitrogen being excreted from the cage rearing systems a simple arithmetic calculation of nitrogen percentage in the feed and food conversion efficiency will not provide an accurate estimate. Protein utilization and conversion efficiency of various feed ingredients will vary from feed batch to feed batch and is only estimated by understanding the digestibility of the various sources of protein, usually through in vitro analytical processes (see “Application of in vitro digestibility methods in aquaculture: Constraints and perspectives.” Moyano, F. J., et al. 2015. Reviews in Aquaculture, 7: 223-242. doi:10.1111/raq.12065). Over a given month (reporting period) several manufacturers and batches of feed within manufacturers may possibly be utilized. While feed manufacturers utilized by CAP generally conduct analyses of digestibility on ingredients, they may or may not be available for each specific batch and we may only have the “minimum guaranteed level of protein” to inform our report. We ask that ECY specify how they plan to use this data so that we can work with ECY, our manufacturers and our staff to better provide the information that will serve its intended purpose.

**Response:**

*Ecology intended to use the nitrogen data, feed conversion ratio, and model assumptions from Davies 2000, Strain and Hargrave 2005, and Bureau et al. 2003 to establish an initial estimate of nitrogen output by a net pen operation. While it is hypothetical, site specific data is not practical. Ecology understands Cooke’s interest in providing a more accurate estimate. With this consideration, Ecology is changing the permit requirement around reporting nitrogen. Rather than a monthly DMR reporting of the percentage of nitrogen, Cooke must develop, with Ecology’s input, a nitrogen reporting plan finalized within 6 months of the modified permits being issued and begin reporting annually thereafter.*

**Comment:**

S3.G. Reporting Permit Violations. Several instances under this section are ambiguous. For example, under the requirements for 24-hour notification it is stated that CAP must report, “Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.” However, no explanation is given on what must be reported “immediately”, only what action CAP must take immediately (reporting is not mentioned). We ask that this be clarified.

**Response:**

*This is standard permit language and has not changed in this modification. However, we will clarify since with the addition of reporting for unusual events the times at which reporting is necessary have increased. Within Section S3.G Reporting Permit Violations, Ecology brought forth and further identified what is required for Immediate Reporting (S3.G.1), Twenty-Four Hour Reporting (S3.G.2), and Other Reporting (S3.H.1) on pages 17-19.*

**Comment:**

S. 8. B. 13. Notification of Unusual Events. This section remains ambiguous. As an example, the circumstances leading to the low water position of one support pontoon at the Orchard Rocks- South facility lead to the development of this section. However, the definition provided in this section, “An unusual event can create or lead to an increased potential for accidental fish escapement, structural failure of the net pen array, or spill” (please note: the definition is somewhat different in S9), was clearly never the case in this instance. The only containment nets that held fish at the facility were on the far end of the cage system, which was supported by five other pontoon systems that had normal buoyancy. Moorings were sound (which was why the system dipped) and there was never any danger of accidental fish escapement, structural failure of the net pen array, or spill. Company records show that the condition had been noted the previous week, was determined to not be a hazard to fish escapement or structural integrity by staff, and was scheduled to be further analyzed early that coming week, confirmed by DNR in subsequent review. It was only upon a frantic reaction to the situation by well-meaning but ill-informed visitors to nearby houses and subsequent reporting to news media that this situation even became an issue. Further clarification of the definition of an Unusual Event is needed to prevent accusations of non-reporting, particularly since it is a condition within the discharge permit.

**Response:**

*Reporting an Unusual Event is a new requirement added to this permit modification derived from both the lessons learned from the Cypress Island net pen collapse and revisions since reissuance using adaptive management.*

*The definition of an “unusual event” stated in the permit is “an uncommon event or abnormal situation that is not an active fish escape or a spill or release of toxic substances.” and “An unusual event can create or lead to an increased potential for accidental fish escapement, structural failure of the net pen array, or spill.” These two statements are not mutually exclusive.*

*While Cooke reported the event at Orchard Rocks-South, the lesson learned was that earlier communication of the developing situation would have alerted the agencies to further alleviate public concern about any potential risk to water quality and fish escape. Ecology and the sister agencies found Cooke’s responsiveness around the repairs were thorough and met permit and lease requirements.*

*The key here is further understanding and defining abnormal situations or uncommon events. The loss of freeboard at Orchard Rocks-South to the degree it occurred was seen as abnormal situation. Cooke’s decision that the loss did not have a potential for fish escapement, structural failure, or spill due to their awareness of the structure’s design is not in question. The degree of flotation loss created the abnormal situation elevating the event as a reportable unusual event.*

*Through this situation, the state agencies and Cooke further refined expectations of communicating and further defined unusual events to what it consists of in this permit modification. This adaptive management strategy improves what daily and weekly inspections should consist of and how Cooke communicates anomalies. In establishing normal operations and what may not be creates a record for the company and the agencies for reference. Ecology will continue to employ adaptive management to reduce risk to water quality and fish escapes in coordination with WDFW and DNR.*



Kevin Bright of Cooke Aquaculture Pacific (comment code B-6)

**Comment:**

Harvest Plan Reporting NPDES Permit Condition S9.W.a. (Page 27)- Harvest Plan: Prior to harvest, report approximate dates for harvest. We request that Ecology reconsider this new requirement and remove it from the permit modifications entirely. Cooke believes this information is unnecessary and/or will not be useful to Ecology in managing the NPDES permits for the following reasons. At the farm level, harvest schedules are subject to change and are dependent on outside variables such as sales, current market prices, processing plant scheduling disruptions, inclement weather forecasts, and as we experienced this year, the entire shut-down of the seafood market and normal distribution channels. The estimated or projected harvest plans and stocking plans are already required to be submitted to WDFW as a condition of the recently issued Marine Aquaculture Permit to raise all-female sterile steelhead. WDFW is the appropriate place for this type of reporting as WDFW is the agency that regulates fish transfers and fish health. The information supplied to WDFW can easily be shared amongst the state agencies, as is the case with much of the other reporting net pen operators submit to the agencies. Communication channels between the net pen operators and the regulatory agencies, and between the state agencies involved in regulating fish pens has improved greatly over the past several years. Cooke will continue to work cooperatively with these agencies at maintaining open communications channels but believes that supplying forecasted harvest plans may become overly complicated due to their ephemeral nature. Lastly, we would like to mention that condition S2.B.2 of the existing permits, already requires the permittee to notify Ecology of the estimated or anticipated month when the fish population is likely to begin being first harvested (S.2.B.2-Submit a SAP within three months of permit issuance. Include in the SAP the approximate date first harvest would occur at the net pen facility and estimate the likely date(s) sampling would happen). This information is provided to Ecology because it relates to the sediment monitoring requirements. The actual first date of harvest of the fish generation triggers the prescribed 45- day period in which the "Peak Biomass" sediment sampling and routine monitoring must occur. Cooke has and will continue to comply with this permit condition, and this condition is appropriate as it has some actual meaning to Ecology with regard to monitoring sediments around the time of peak biomass. We have some concern that incorporating duplicative requirements into two different permits (in the NPDES permits and Marine Aquaculture Permit), that may be subsequently issued at two different times, by two different state agencies, which may have different renewal cycles, could lead to conflicting permit conditions when one agency updates or modifies their permit conditions, while the other agency does not. As we have seen from previous iterations of permits issued to the net pen operators in Puget Sound in the past, this type of situation can occur and can lead to confusion, conflict and places unnecessary regulatory burdens on the permittee. Again, with that in mind, we would request Ecology review whether reiterating the same requirements or conditions already incorporated in a different agency's permit conditions is necessary.

**Response**

*Harvest Plan Reporting NPDES Permit Condition S9.W.a is a requirement that produces a stand-alone document that will exist in the permit file for the SAP to reference. The Harvest Plan can be updated as necessary without amending the SAP. If harvesting changes dramatically from initial projections and affects when peak biomass sediment monitoring needs to occur, then it is expected that Cooke notifies Ecology with a modified date that peak biomass sediment monitoring will occur along with the updated harvest plan. With the culturing of a new species, it provides a singular reference for Ecology to consult when evaluating peak biomass. Cooke has successfully submitted Fish Escape Prevention, Response, and Reporting Plans in the past that meet both WDFW and Ecology permit requirements and therefore finds the new requirement to be manageable.*

**Comment:**

Condition S10. AKART Analysis Report This section, as written, seems to directly contradict the adoption of AKART for net pens by Ecology through rule making in 1990, and those rules were subsequently challenged and upheld by the PCHB. WAC-173-221A-010 sets forth “minimum discharge standards which represent ‘known, available and reasonable’ methods of prevention, control, and treatment for marine finfish rearing facilities, a subset of “industrial wastewater facilities” that discharge to waters of the state. This section of the WAC defines AKART, so requiring compliance with WAC 173-240-110 makes little sense, given that AKART is already defined by rule for marine finfish rearing facilities. The PCHB has also explicitly ruled that upland farming is not AKART for marine finfish rearing facilities. Cooke is committed to exploring ways to reduce its discharge and works to implement new feasible technologies, but including an AKART analysis requirement in this modification seems to be both outside of the scope of the modification and inconsistent with Ecology’s own regulations. We believe Ecology may be setting unreasonable and unlawful expectations with this requirement, and as such, this condition should be removed.

**Response**

*Ecology did not require an AKART analysis of Cooke for permit reissuance in July 2019 because Cooke was rearing Atlantic salmon and would not continue after Cooke’s state aquatic land leases expire in 2022. With the switch to a native finfish species and a continuation of operation into the foreseeable future, it will be necessary for Cooke to perform an AKART study to determine whether new minimum standards for culturing native finfish must be employed to meet AKART and the state’s surface water standards.*

*While AKART may be defined in WAC 173-221A-010, that rule was written and upheld in the 1990’s. Washington State’s Surface Water Standards (Chapter 173-201A WAC) defines AKART as “represent(ing) the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge”. In thirty years, in-water containment, uplands recirculating, and feeding technology has advanced in the aquaculture industry.*

*An AKART study is necessary at this time for Cooke to report on the most current and economically feasible technologies available to reduce pollutants in a net pen discharge. Specifically, structural/operational best management practices and pollution source controls are commonly used to establish AKART when traditional effluent treatment is not available. In this case, the analysis of treatment technology is a review of and shall consist of recommendations for use of the latest structural/operational BMPs as well as source controls, such as closed-containment, for in-water culturing of finfish in the net pens. Additionally, an analysis of recirculating aquaculture system technology at an uplands location must be reported.*

Kathy Hansen of the Rich Passage Estates Homeowners' Association (Comment Code O-7)

**Comment:**

On September 18, 1996, Ecology issued NPDES permits including the three in Rich Passage. Eight of these permits were administratively extended, without modification (other than to reflect the change in ownership), in 2007 and again in 2012. When was the last AKART analysis? The public has voiced repeated concerns regarding discharges of feces, uneaten food, antibiotics, nitrogen and metals and their impacts on water quality and threatened and endangered species. AKART should be a condition of the permit modification not the potential renewal of the permit in 2024.

**Response:**

*Ecology will require Cooke to complete an AKART study to continue their finfish aquaculture operations for the next permit cycle. While the change in species does not change impact to water quality, the change in species allows the company to continue operations and apply for new aquatic land leases. If Cooke reapplies for their next NPDES permit cycle, they must submit an AKART study as specified in this permit and the recommendations from the required AKART study may identify new minimum standard technology that could be implemented in the next permit cycle.*

Shari Tarantino, President, Orca Conservancy (Comment Code O-8)

**Comment:**

Washington Pollution Control Board (WPCB) has found that escaped salmon are “agricultural or industrial waste,” another statutory example of the definition of pollutant. As the federal government also considers aquaculture to be a form of agriculture, escaped salmon may similarly be treated as agricultural or industrial waste under the CWA. Meaning, said pollutant, must be introduced into the water from outside the water. Therefore, open net fish farms, “physically introduces a pollutant into water from the outside world.”

**Response:**

*In May 1997, the Washington Pollution Control Hearings Board (PCHB) issued a First Order on Summary Judgment, finding that escaped Atlantic salmon are pollutants but do not cause or tend to cause pollution. The PCHB in their final ruling in November 1998 stated that “Atlantic salmon that inadvertently or accidentally escape from Permittees’ farms, absent large regular releases in the future, do not cause or tend to cause —pollution under RCW 90.48.080 nor do they constitute a —man made change to the biological integrity of state waters under 33 USC §1362(19).”*  
*The net pen permits being modified have updated language to require Cooke to contain all their sterile-triploid steelhead or any other permitted native finfish being cultured. Specifically see Page 7, SI Discharge Limits: The discharge limitation is updated to include fish that are permitted to be reared through Cooke’s current WDFW Marine Aquaculture Permits. The release of fish from the net pens is prohibited. Furthermore, requirements for pollution prevention and fish escape prevention specify that any fish must be contained within the net pens and escape prevention, response, and reporting will be implemented in such a way to reduce the risk of a discharge and enact responses to and mitigate for any release of fish if it occurs.*

Rebecca Jenkins for the Aquatic Life Institute, Fish Welfare Initiative, Animal Equality, Center for Chilean Animal Law Studies, Professor. Kathy Hessler (Director of The Aquatic Animal Law Initiative) (Comment Code O-9)

**Comment:** Discharges of excess nutrients, particularly nitrogen, into Puget Sound from domestic wastewater treatment plants (WWTPs) are contributing to low oxygen levels in Puget Sound. As these WWTPs are contributing human sources of excess nutrients to Puget Sound, the state must take action to control this pollution. On Jan. 30, 2020, The Dept. of Ecology announced their decision to move forward with developing a draft Nutrients General Permit for Puget Sound. The proposed Nutrients General Permit would apply to all facilities discharging to marine and estuarine waters of Puget Sound. The overall nutrient discharge from such open net aquaculture facilities should also be considered under this new initiative.

**Response:**

*The Nutrients General Permit is specific to domestic wastewater treatment plants. General permits target a type of operation, not a discharge parameter. Ecology recognizes the need for data to accurately identify what quantity of nitrogen net pens may contribute to Puget Sound. As part of the*

*Statement of Basis*  
*Cooke Aquaculture Pacific, LLC*  
*Orchard Rocks - Saltwater IV*  
*NPDES Permit WA0031542*

*changes to the permit for the modification to rear steelhead, Cooke must begin reporting the nitrogen content of their feed.*

## **2. Comments on other permit requirements not part of the modification**

Amy Trainer, Environmental Policy Director Swinomish Indian Tribal Community (Comment Code T-2)

### **Comment:**

#### **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.

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

##### 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.

***Response:***

*Ecology acknowledges the Swinomish tribe's comment about how the current permit is written and implemented. While these are outside of the scope for the modifications to rear steelhead, the comment is recorded here for Ecology to consider during the reissuance process.*

Marcia Lagerloef (Comment Code I-113)

**Comments:**

Specific Comments on Permit Terms and Conditions My primary concerns, beyond those expressed above, have to do with the monitoring and reporting requirements.

1) If I understand correctly, under Section S1, Discharge Limits, page 7, any release of fish from the net pens is prohibited and each fish released is a separate permit violation. Section G3 A.1., on page 29, goes on to state under Permit Actions that a violation of any permit term or condition is cause for "terminating the permit during its term or for denying a permit renewal application." I

support these terms and hope that the State will respond appropriately when a release occurs, both terminating the permit, and fining the company per permit violation, as found under Section G.14., page 33.

2) Section 2, Monitoring Requirements. Monitoring should be done by a third party contractor agreed to by Ecology, not by the company. This section is confusing in terms of how the decisions proceed on whether to perform Exceedance and Enhanced Monitoring. What governs how soon after the initial sediment monitoring the applicant is required to perform Exceedance and Enhanced Monitoring? Sediment biological impacts and toxicity should be assessed as soon as an exceedance is detected, not after the annual monitoring report is submitted to Ecology in January, in order to accurately assess the full extent of impacts from the exceedance.

3) Section S 2.L, Antibiotic Resistance Monitoring, on page 13 should be a required element of this permit modification rather than requiring reliance on the vague threshold of an “unusually high usage” level, and the administrative processes to revise the permit requirements after the fact. Antibiotic usage should be assumed to be ongoing with these facilities, and antibiotic addition to the marine environment is a pollutant with ecosystem impacts.

4) Section S3, Reporting and Recording Requirements S3.B.3.a. – Fish Mortality Monitoring and Reporting – it appears that the only concern is to report to WDOH when fish mortality exceeds 5% of the fish in any calendar week due to a harmful algal bloom. This is important in terms of monitoring toxic algal blooms and potential impacts on shellfish harvesting, fishing and ingestion of water by swimmers. However, what does not appear to be addressed is how a decision is made as to when the fish disease incidence and mortality from pathogens in the pens is at a level that is an unacceptable risk to native fish and wildlife nearby. Monthly DMR reporting of fish mortality is insufficient to halt a serious disease outbreak that threatens populations outside the net pens. Increase reporting of fish mortality and its causes. S3.G.2.b. – page 18, 24-hours is too long a period to allow for reporting of a noncompliance occurrence that “may endanger health or the environment.” For example, an accidental release of fish from a net pen failure should be reported immediately. How is the quoted phrase above to be interpreted?

5) Section 4, Operations and Maintenance Manual S4.A.3.e. – pg. 20, How is “frequent basis” defined for removal of fish carcasses? Disintegrating carcasses can carry disease and become particles that are disease vectors in either the water column or sediments outside the pens. Please specify a frequency and what would constitute a reason to increase that frequency of removal of carcasses. S.4.a.3.1 – pg 21. There should be no discharge of toxic chemicals unless specifically authorized by the permit. S9. Fish Escape Prevention, Reporting and Response Plan S.9.N, pg 26 – fish escapes must be reported immediately, not within 24 hours. The initial response is critical for recovering fish and assessing the size of the escapement S.9.X, pg 27 – Ironically, an Annual Fish Release Report presupposes that this activity will result in release of fish. This entire circumstance is unacceptable and has already been declared as a permit violation that can (and should) result in termination of the permit.

**Response:**

*Ecology acknowledges this comment about how the reissued permit is written and implemented. While these are outside of the scope for the modifications to rear steelhead, the comment is recorded here for Ecology to consider during the reissuance process.*

Kathy Hansen of the Rich Passage Estates Homeowners' Association (Comment Code O-7)

**Comment:**  
Training



A key component of preventing fish escapes and pollution is appropriate training. From the Fish Escape Prevention Plan, the applicant states that: Cooke will train all staff on the requirements and procedures of the Operations and Maintenance Manual, Pollution Prevention Plan, Fish Escape Prevention Plan, and Fish Escape Reporting and Response Plan annually by March 30 of each calendar year. New employees will be trained during their three-month probationary period. Additional training will be provided if plans are updated or changed. An employee training log will be maintained by the Site Manager at each location and will be updated as needed. Updated training logs are sent to the General Manager, Permit Coordinator and Business Support Analyst. While Ecology reserves the right to inspect records with regard to training, actual inspections have only been recorded in PARIS three to four times in the past fourteen years. Given the poor record of the applicant, Ecology should consider more frequent site visits or request of records. Ecology should consider a response simulation exercise to verify the operator's ability to execute the plan. 7 The fact that Ecology felt compelled to create an entire section related to unusual events, points to training deficiencies and/or inability of the operator to respond to potential emergency events.

#### **Discharges to Marine Waters**

In response to the reporting of the discard of debris from the harvesting operations into the Puget Sound waters, we were informed via phone conversation that Ecology considers the reported activity de Minimis in terms of water quality, but "technically" not in compliance with the permit requirements which should have resulted in at least a warning letter. The industry should be held to the requirements of the permit. The permit does not nor should it specify a matter of degree which is subject to interpretation. The permit should include language that is consistent with WDFW: The discard of carcasses, fish parts, or offal is also a violation of Cooke's NPDES permit. WDFW: 10. Prior to harvest, Cooke must provide WDFW, DNR, and Ecology the approximate dates for harvest. Within one month after harvesting is completed Cooke must provide to WDFW, DNR, and Ecology a report documenting the facility harvested, dates in which harvesting occurred, the total number of fish harvested per day, and any complications that may have occurred during harvesting. Cooke must report immediately if any live fish escaped during harvesting, or if any fish carcass, parts, or offal were discarded into the Puget Sound waters. The discard of carcasses, fish parts, or offal is also a violation of Cooke's NPDES permit. Cooke also must report the number and species of bycatch caught during harvesting. If requested by WDFW, DNR, or Ecology, Cooke must allow appropriately trained personnel from these agencies to monitor the harvesting activities. From Ecology's pollution prevention plan: 6.3 Carcass and Leachate Disposal During Harvesting During harvesting operations, the harvest boat shall be tied securely to the net pens adjacent to the pen that is being harvested. The harvest fish are pumped from the pen and onto the harvest boat. Blood water from the harvesting operations (leachate) shall be contained within the fish harvesting machine that is located on the harvest boat. The harvested fish and blood water are contained and stored inside the fish holds of the harvest boat. Upon completion of the harvesting operation by the harvest boat at the facility, the harvested fish and blood water are transported by the harvest boat to the upland fish processing plant. The harvested fish and the blood water are then pumped off the vessel at the fish processing plant and the blood water is disposed of into the sanitary sewer system located at the fish processing plant. 6 6.4 Solid Waste Storage and Disposal Practices Solid wastes generated by the daily operation of the sites include feed bags, wooden pallets, used line, ordinary household wastes, and other non-hazardous items. Proper containment, handling and storage of these waste materials shall be the priority of all employees to ensure these materials do not enter the water. These items shall be stored in secured containers or bundles before transport to a land-based facility. Solid waste is collected and routinely removed from the facilities and transported to the landbased support facilities for proper disposal and/or recycling. Earlier, Ecology had indicated

via email that: Pollution prevention plan must include 9. How solid and biological wastes are collected, stored, and ultimately disposed of at an upland facility. Among the solid wastes of concern are: a. Any fish mortalities under normal operations. b. Fish mortalities due to a fish kill involving more than five percent of the fish within one week. c. Blood and waste from harvesting operations. Again, the language in the NPDES should be consistent with WDFW: The discard of carcasses, fish parts, or offal is also a violation of Cooke's NPDES permit.

**Response:**

*Ecology acknowledges this comment about how the reissued permit is written and implemented.*

*While these are outside of the scope for the modifications to rear steelhead, the comment is recorded here for Ecology to consider during the reissuance process.*

Rebecca Jenkins for the Aquatic Life Institute, Fish Welfare Initiative, Animal Equality, Center for Chilean Animal Law Studies, Professor. Kathy Hessler-Director of The Aquatic Animal Law Initiative (Comment Code O-9)

**Comment:**

Conclusions NPDES permits protect water quality by restricting pollution and requiring monitoring, reporting, and utilization of best management practices. Improved protections and requirements to reduce environmental impacts from net pen operations could include: increasing underwater video monitoring; conducting regular inspections to assess structural integrity of the net pens and submitting inspection reports certified by an objective third party; requiring improved maintenance and cleaning of the net pens, water quality monitoring, and maintenance procedures; requiring transparent reporting if fish mortality rate exceeds 0.5 - 1% (rather than the proposed 5%)<sup>3</sup>; refraining from self-reporting and instead relying on a third party to assess and disclose pertinent information; developing site-specific response plans for implementation in the event that fish escape; conducting and participating in emergency preparedness training; and maintaining contact information to promptly notify area tribes and state agencies in the event of an escape.

**Response:**

*Ecology acknowledges this comment about how the reissued permit is written and implemented.*

*While these are outside of the scope for the modifications to rear steelhead, the comment is recorded here for Ecology to consider during the reissuance process.*

Kristine Holm (I-60)

**Comment:** Will the permit explain how the level of PCBs in the fish feed will be assessed and reduced as required by state regulations concerning PCBs in products? How will PCB assessment and treatment in feed be addressed as part of the AKART requirement? I don't see any reference to impacts on water quality from PCBs in feed, waste, wastewater discharge or in fish as a discharge. This issue needs to be part of any AKaRt analysis for feed waste or related discharges.

Stephanie Ross (I-111)

**Comment:** The PCBs not only will be present in the hatchery feed of the change of species See "Overview" supra, but also will be present in the fish, the fish waste and the water column.

**Response:**

*Ecology acknowledges this comment about how the reissued permit is written and implemented.*

*While these are outside of the scope for the modifications to rear steelhead, the comment is recorded here for Ecology to consider during the reissuance process.*

### **3. Comments outside Ecology authority and other issues**

#### **Overall Comments:**

The majority of comments identified generalized risk to native fish and water quality in addition to Cooke's past track record as a reason the modified permits should not be granted to Cooke to rear steelhead.

**Overall Response:** *The legislature legislates and passes laws to identify whether native finfish commercial aquaculture is a legal business to be conducted in the state of Washington. WDFW is the authority to determine risk to native fish from finfish net pen aquaculture in Puget Sound and regulates the industry for fish health purposes. Ecology implements our authority to protect water quality through the U.S. Clean Water Act. Cooke is currently in compliance with the water quality standards as determined through monitoring of the sediment impact zone in accordance with WAC 173-204-412. The four net pen permits currently being modified were issued in July 2019 with an increased frequency of sediment and water quality monitoring. Ecology has determined that rearing steelhead as compared to Atlantic salmon will not change the impact to the sediment or surrounding waters through their wastes, feed usage, and use of antibiotics. Operationally, the culturing of steelhead will resemble Atlantic salmon, however, with a shorter grow out. The permits will continue to require Cooke to monitor at the increased frequency and will be further assessed for trends or changes at the time Cooke requests a renewal of their permits. During the transition to sterile, all-female steelhead, Ecology will work closely with WDFW to oversee Cooke's implementation of permit requirements.*

Rebecca Jenkins for the Aquatic Life Institute, Fish Welfare Initiative, Animal Equality, Center for Chilean Animal Law Studies, Professor. Kathy Hessler-Director of The Aquatic Animal Law Initiative (Comment Code O-9)

#### **Comment:**

Atlantic salmon are generally more efficient at converting feed to biomass than trout are, with trout being more variable in feed conversion rates and more susceptible to environmental controls (temperature and salinity) on growth (Fry 2018).

Amy Trainer, Environmental Policy Director Swinomish Indian Tribal Community (Comment Code T-2)

#### **Comment:**

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

#### **Response:**

Ecology disagrees with the reported findings the commenters state Fry et al. 2018 identifies. The article both commenters cite is titled "Feed conversion efficiency in aquaculture: do we measure it correctly?" by Jillian P Fry, Nicholas A Mailloux, David C Love, Michael C Milli, and Ling Cao and can be found at <https://iopscience.iop.org/article/10.1088/1748-9326/aaa273/meta#references>. Fry et al. 2018 attributes FCR ranges for rainbow trout (*Oncorhynchus mykiss*) and Atlantic salmon (*Salmo salar*) that are from Tacon A G J and Metian 2008 Global overview on the use of fish meal and fish oil in industrially compounded aquafeeds: trends and future prospects *Aquaculture* 285 146–58. Tacon and Metian 2008 group rainbow trout with brook trout (*Salvelinus fontinalis*) and brown trout (*Salmo trutta*) calling it a trout species group based on reporting from FAO 2008a. Similarly,

*the authors group Atlantic salmon (Salmo salar), Coho salmon (Oncorhynchus kisutch), and Chinook salmon (Oncorhynchus tshawytscha). The authors report FCRs based on these species group indicating the “salmon group” has a FCR range of 1.2-1.5 and the “trout group” with a range of 1.1 to 1.8. Tacon and Metian 2008 and therefore Fry et al. 2018 do not specify a species difference between rainbow trout (Oncorhynchus mykiss) and Atlantic salmon (Salmo salar). Further Tacon and Metian 2008 estimates each of the species groups by 2020 will have an EFCR [estimated average species-group economic feed conversion ratio (total feed fed / total species-group biomass)] of 1.3.*

*Marine cultured steelhead and Atlantic salmon FCRs comparison studies have yet to be conducted. The literature and anecdotal evidence highly suggests feeding and metabolic processing will be similar between the species not impacting the surrounding water quality. This is further supported by Krogdahl et al. (2004) where they reported similar nitrogen retention efficiency and energy retention efficiency between Atlantic salmon and rainbow trout of the same age, fed the same diets, and under the same conditions. Azevedo, et al. 2004 states that within species, weight gain, feed efficiency, and energy retention efficiency were not affected by diet ( $P < 0.05$ ). Furthermore, Tacon 2004 reports a farmed salmon average EFCR of 1.3 with farmed salmon to include large rainbow trout (i.e., steelhead). (Tacon, A.G. 2004. Use of Fish Meal and Fish Oil in Aquaculture: A Global Perspective. Aquatic Resources, Culture and Development 1(1):3-14.) Current FCRs calculated for Cooke’s Atlantic salmon operations range from 1.2 to 1.7. Ecology maintains there is no evidence that the change of species will change the impact to the surrounding waters from metabolic waste or feed as indicated by similar, overlapping FCRs.*

Shari Tarantino, President, Orca Conservancy (Comment Code O-8)

**Comment:** A new tier II analysis should be required in accordance to Washington’s Antidegradation Policy (WAP). Meaning, SRKWs, as a species listed under the ESA, falls under the Antidegradation policy<sup>9</sup> as ‘existing uses’ and is covered under the water quality standards. Simply put, antidegradation means that no pollutant discharges or activities will be permitted if these may cause surface waters already meeting water quality standards to drop below those standards.

**Response:**

*Ecology disagrees with the need to perform a Tier II analysis because it was determined the change in species from Atlantic salmon to steelhead does not change water quality impact or the wasteload therefore does not cause a new or expanded pollution. A Tier II review will only be conducted for new or expanded actions if it is expected to cause a measurable change in the quality of the water. Cooke will continue to conduct sediment monitoring and Ecology will be tracking for any increased pollutant loads.*

Amy Trainer, Environmental Policy Director Swinomish Indian Tribal Community (Comment Code T-2)

**Comment:**

- 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 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

- 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.

**Response:**

*The predicted biomass on site is more predictable of whether there would be an increase of feed, antibiotic use, and feces. Cooke reported that biomass is not to change and the FCRs are similar leading to the conclusion no change of impact to water quality or wasteload increase. Ecology disagrees with the need to perform a Tier II analysis. A Tier II review will only be conducted for new or expanded actions if it is expected to cause a measurable change in the quality of the water. Cooke will continue to conduct sediment monitoring and Ecology will be tracking for any increased pollutant loads.*

Multiple submissions

**Comment:** The January 2020 State Environmental Policy Act (SEPA) determination by WDFW and subsequent issuance of the Marine Aquaculture Permit for Cooke to rear steelhead is being legally challenged. WDFW should have determined the need for a new EIS because of the change from Atlantic salmon. There is new information that was not considered during the SEPA process for the permits (including Cooke's plan for marking steelhead, Cooke's "no-recovery response" plan, and Cooke's plans for new pen structures). WDFW requires Cooke to prepare a steelhead marking plan, and a "no-recovery response" plan in the event of farm fish escapes. Cooke is planning to replace some net pens at its Orchard Rocks location, but no plans or engineering data on the new structures have been provided. Ecology, should delay its NPDES decisions until it has received and reviewed the imminent submission of additional information about Cooke's proposed operations. Ecology should not authorize Cooke's modified NPDES permits until the lawsuit challenging WDFW determination and environmental review process is complete.

**Response:**

*Ecology disagrees that the issuance of NPDES permit modifications be delayed until WDFW SEPA challenge is complete. Ecology maintains that WDFW has the authority to determine risk to native fish and regulate the marine finfish net pen industry for fish health. In addition to NPDES permit applications and updated NPDES permit required plans, Cooke submitted all supporting information for water quality that was included in their WDFW permit application and SEPA checklist for Ecology to evaluate.*

*Additionally, until Ecology issues the permit modifications can Cooke begin to develop all the NPDES permit required plans and WDFW's marking and no-recovery response plan. Ecology and WDFW plan to collaborate in the development of these plans and future reviews of the structural integrity engineering assessments required by both permits.*

Multiple submissions

**Comment:**

Ecology should delay issuing Cooke's modified NPDES permits until NOAA Fisheries has provided the final biological opinion on the impact of Puget Sound net pens on ESA-listed species. The

National Oceanic and Atmospheric Administration is in the process of conducting an Endangered Species Act biological opinion on the impacts from Puget Sound net pens.

**Response:**

*In 2008, EPA authorized sections of WAC 173-204-412 regarding marine finfish rearing facilities and sediment source control under Section 303(C) of the Clean Water Act. In April 2011, NMFS (i.e., NOAA Fisheries) concurred with EPA's biological evaluation that the approval action may affect, but is not likely to adversely affect listed fish species or marine mammals or their critical habitat in Puget Sound. Due to continued litigation, EPA and NOAA are now formally consulting regarding the approval. The permits have reopener clauses that can be invoked if necessary to modify or revoke a permit based on new information that may be developed as part of the consultation process.*

Multiple submissions

**Comment:**

Ecology should undergo formal consultation with all impacted local, state, federal, and tribal governments before reaching a decision on these permits.

**Response:**

*Ecology had conducted two public comment periods around the modification of these permits. The department solicited input directly by emailing tribes, interested local and federal government agencies, and sister state agencies that regularly coordinate to oversee the industry. Multiple times, Ecology has met and directly communicated with affected tribes and local government to discuss the permit modifications.*

Multiple submissions

**Comment:**

Ecology's review for issuing a modified NPDES permit to Cooke should be based specifically on whether Cooke's proposed operations will meet the state's goals, as stated in HB 2957, to "eliminate...escapement and to eliminate negative impacts to water quality and native fish, shellfish and wildlife," instead of concluding simply that the conditions of the current NPDES application are similar to those of past permits. Washington's landmark 2018 law, HB2957, created a new and stricter regulatory regime for marine net pen aquaculture, which places higher standards for regulating and monitoring water quality.

**Response:**

*Ecology disagrees the issuance of modified permits to rear steelhead be delayed until or following the development of guidance to in accordance with EHB2957. The law does not create a new or stricter regulatory regime. Engrossed House Bill 2957 mandated that Ecology and WDFW, WSDA, WDNR create guidance for government and industry to "eliminate negative impacts to water quality". The permit modifications reduce risk of negative impact and Cooke currently meets the water quality standards within our authority under the Clean Water Act.*

*Simultaneously, Ecology (together with WDFW, WDNR, and WSDA) is developing guidance around water and sediment assessments in the effort to mitigate risk to the receiving waters and benthos from a new or existing net pen facility. Ecology has tracked this guidance effort and has ensured, that while the modification to rear steelhead is narrow in scope, relevant guidance is being implemented. The modified permits contain more reporting requirements around escapes and feed consumption. Importantly, an AKART analysis must be reported to Ecology at the time Cooke reapplies for their next permits to consider what minimum BMPs and source control technology should be used in the future. These are consistent with what is being recommended in the guidance.*

#### Multiple Submissions

**Comment:**

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.

**Response:**

NPDES permits implemented across the country rely on self-reporting and monitoring. Cooke must report monthly feed consumption, biomass, medicated feed use, and now FCRs. They must record and perform their operation and maintenance in accordance with their plans. Also, the permits require Cooke to use a certified marine engineer to perform the biennial structural integrity assessments of each net pen facilities. Additionally, while not a permit requirement, Cooke hires a contractor to perform the sediment monitoring sampling in accordance with an approved sampling and analysis plan. All sediment analysis must be conducted at an Ecology accredited lab. Ecology also performs on-site inspections during the permit cycle of their operation to ensure compliance with NPDES permit requirements. Ecology also attends sister agency inspections.

#### Multiple Submissions

**Comment:**

The required biennial Net Pen Structural Integrity Assessment versus Ecology Inspections

**Response:**

Commenters used the PARIS database to review inspections and noted that the net pen structural integrity inspection and assessment report appeared missing. The location of this assessment report is not in the inspection query of the database since it's a report submitted by Cooke done by an independent certified marine engineer. Only one report has been submitted for the Clam Bay net pen facility. The remaining are expected after issuance of the modified permits. The net pen structural integrity inspection and assessment report requirement (S7) was first placed in the 2019 reissued permits and must be done within two years at the time of reissuance in July 2019. Furthermore, all Atlantic salmon have now been harvested from the four net pens; all of which are fallow.

This same structural integrity assessment report must also be submitted to WDFW. As per RCW 77.125.060, Cooke's WDFW Marine Aquaculture Permit requires that a Fish Transfer Permit to move steelhead from the hatchery to the net pen will not occur until the report is evaluated by WDFW engineers indicating the net pen facility is in good working order. Ecology will continue to coordinate with WDFW regarding their evaluation.

#### Multiple Submissions related to WDFW authority

**Comment:**

The modified NPDES permits must consider and address the risk of toxic pollutants like viruses and disease.

**Response:**

WDFW is the regulating authority ensuring pathogenic viruses and bacteria are prevented from risking both the farmed fish and native fish stock harm. See WAC 220-370-050 and Section 4.2.6 of the document "Justification for the Mitigated Determination of Non-Significance (MDNS) for Washington Department of Fish and Wildlife SEPA 19-056 and for the Approval of Cooke Aquaculture Pacific's Marine Aquaculture Permit Application".

**Comment:**

There is a concern about the transfer of sea lice parasites from the swarms that develop and expand at the farms, to wild and resident fish populations. Low-count lice loading has been proven to be detrimental and fatal to immature salmonids, forage fish, and Native Steelhead smolts.

***Response:***

*WDFW is the regulating authority and determined in their SEPA mitigated determination of non-significance that sea lice do not pose a risk to native fish stock by the net pen fish. Refer to Section 4.2.6.3 of the document "Justification for the Mitigated Determination of Non-Significance (MDNS) for Washington Department of Fish and Wildlife SEPA 19-056 and for the Approval of Cooke Aquaculture Pacific's Marine Aquaculture Permit Application".*

***Comment***

Bycatch must be monitored during harvest. We are concerned with the potential for attracted forage fish, immature salmonids, and Native Steelhead smolts, to become trapped residents in the pens, and a "take" from the Public Commons as an added "free" food source for the Cooke fish farms. This has been well-documented through the use of underwater cameras in British Columbia aquaculture operations.

***Response:***

*WDFW the regulating authority and has required that Cooke report bycatch at harvest and allow the sister agencies (WDFW, WDNR, or Ecology) to monitoring harvesting. See item 10 in the list of requirements of the Marine Aquaculture Permit.*