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24th January 2017,

Stakeholder Submission RE: Initial Full Assessment Report, Cermaq Canada Ltd Raza Island, by SAI Global Assurances Services (Public comment period 3rd – 24th January 2017)

Upon review of the draft Aquaculture Stewardship Council (ASC) audit for Cermaq Canada Ltd's Raza Island farm, conducted by SAI Global, the below-noted stakeholders have deep concerns about the robustness of the audit and believe that approving ASC certification of this farm would severely undermine the salmon standard established by the ASC.

Firstly, we find it completely inappropriate and irresponsible for the SAI Global to be awarding ASC certification to Discovery Island farms before September 30th, 2020 as based on the Cohen Commission's recommendations.

Secondly, we find the draft audit report to be insufficient in evidence to demonstrate the farm successfully met the salmon standard criteria. We submit this is due to SAI Global failing to meet the requirements of the ASC Certification and Accreditation Requirements (CAR).

Lastly, we submit SAI Global has wrongly concluded Raza Island farm need not participate in an Area-based Management scheme as required by the salmon standard.

Our comments and concerns are provided in detail below. We look forward to hearing how the SAI Global will address the outstanding concerns.

Sincerely,

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I. Inappropriate to Award Certification to Discovery Islands Farms

The Cohen Commission of Inquiry into the Decline of Fraser River Sockeye Salmon final report, *The Uncertain Future of Fraser River Sockeye*, provided a number of key recommendations in relation to aquaculture, with a particular reference to the densely farmed Discovery Islands located on the critically important migration route of Fraser River sockeye.

Recommendation 18 states: “If at any time between now and September 30, 2020, the Minister of Fisheries and Oceans determines that net-pen salmon farms in the Discovery Islands (fish health sub-zone 3-2) pose more than a minimal risk of serious harm to the health of migrating Fraser River sockeye salmon, he or she should promptly order that those salmon farms cease operations.”

On August 9th 2016, Fisheries and Oceans Canada provided an update on progress¹: “Scientific research is being conducted and a disease risk assessment process is underway and will be completed by 2020.”

Therefore, we find it completely inappropriate and irresponsible for SAI Global to be rewarding ASC certification to Discovery Island farms before September 30th, 2020.

¹ <http://www.dfo-mpo.gc.ca/cohen/report-rapport-eng.htm>

II. Process Requirements and Audit Timing

a) Exclusion of harvest activities from initial audit

The ASC CAR V1.0 requires that *“The CAB’s initial audit shall include harvesting activities of the principle product to be included for certification.”* (Audit Timing 17.4.2).

There is no justification, as required in the CAR (17.4.6.1/17.4.6.2), provided for conducting the audit earlier and not witnessing the harvest of the principle product.

b) Inability to verify the Chain of Custody

17.5.1 of the CAR V1.0 states *“The CAB shall determine if the system of tracking, tracing and segregation in the aquaculture operation is sufficient to make sure all aquaculture products identified and sold as certified by the operation originate from the certified unit of certification...”*

Without the auditor witnessing the harvest and therefore, the principle product entering the chain of custody, the auditor is unable to verify that the tracking, tracing and segregation is indeed “sufficient”. While the farm may well have a system in place on paper that appears to provide for the necessary elements, the purpose of an on-site audit is to prove that implementation of policies and procedures takes place—that is the essence of the determination of “sufficiency”.

Table C1 of Annex C of the CAR requires the CAB to describe the consideration taken for the “Determination of the start of the CoC”. The draft audit report states: “Only one certified farm is harvested at one time...” (page 91). We question how this claim can be made without witnessing the harvest.

c) Insufficient records and evidence

A number of salmon standard indicators are listed in the audit report as “conforming” despite insufficient records or evidence due to the audit taking place before the harvest. CARv1.0 Audit Timing (17.4) states:

17.4.2.3 Audits should be conducted when all control points and sufficient records/evidence are available

With the audit taking place before harvest, the records and evidence for the applicable standard requirements are simply not available.

The full assessment audit failed to meet CARv1.0 17.4.2.3 requirements, as the data and sufficient records/evidence covering the periods of time specified and required in the salmon standard were not yet available. Specifically, the audit took place before sufficient and complete records/evidence were available to assess:

- 2.1.1 Redox potential or sulphide levels
- 2.1.2 Faunal index score
- 2.1.3 Number of macrofaunal taxa
- 3.4.1 Maximum number of escapees in the most recent production cycle
- 3.4.3 Estimated Unexplained loss
- 4.2.1 Fishmeal Forage Fish Dependency Ratio
- 4.2.2 Fish Oil Forage Fish Dependency Ratio
- 4.7.3 Evidence of testing for copper level in the sediment...
- 4.7.4 Evidence that copper levels are < 34mg...
- 5.1.5 Maximum viral disease-related morality
- 5.1.6 Maximum unexplained morality rate
- 5.2.1 On farm documentation... chemicals and therapeutants used...
- 5.2.5 Maximum farm level cumulative parasiticide treatment index (PTI) score
- 5.2.7 Allowance for prophylactic use of antimicrobial treatments
- 5.2.8 Allowance for use of antibiotics listed as critically important...WHO
- 5.2.9 Number of treatments of antibiotics
- 5.4.4 If an OIE-notifiable disease is confirmed...

With the exceptions of 2.1.1; 2.1.2; 2.1.3, 4.7.3, 4.7.4; **the indicators above are listed as “conforming” - despite not having available any of the records and evidence required.**

The CAR requires sufficient records and evidence for the initial full assessment audit, requiring a complete production cycle in order to confirm conformance to all applicable salmon standard indicators. An incomplete production cycle equates to incomplete evidence and records.

Consequently, we find the CAB failed to meet their obligations under the ASC’s CAR.

III. Indicator 3.1.1 Participation in an Area-Based Management scheme.

Requirement: Participation in an Area-Based Management (ABM) scheme for managing disease and resistance to treatments that includes coordination of stocking, fallowing, therapeutic treatments and information-sharing. Detailed requirements are in Appendix II-1.

The CAB incorrectly evaluates this indicator as “N/A” and states, “There is no ABM as the farm is by itself and the nearest other farms are over 15 Kilometers away in the Okisol[li]o channel”.

The Salmon Standard Appendix II-1 specifies the following definition of “area”:

“II-1. A Definition of “area”

If area-based management is already a regulatory requirement of the farm’s jurisdiction, then farms will use this definition of “area” for the purposes of these requirements. In jurisdictions where ABM is not a regulatory requirement, the area covered under the ABM must reflect a logical geographic scope such as a fjord or a collection of fjords that are ecologically connected. The boundaries of an area should be defined, taking into account the zone in which key cumulative impacts on wild populations may occur, water movement and other relevant aspects of ecosystem structure and function.”

Taking into account the key cumulative impacts on wild populations would include the potential disease and pathogen impacts that Discovery Island farms collectively pose to Fraser River sockeye, as identified by the Cohen Commission. The Department of Fisheries and Oceans has just developed particle disbursement modeling to try to determine likely zones of impact in this complex waterway and initial modeling results indicate the potential for long-range transportation of particles exists and is influenced by a number of factors. Linear distance alone is a poor indicator of the “zone in which key cumulative impacts on wild populations may occur”.

Figure 1 Discovery Island area (Fish Health Zone 3-2) and Figure 2 Discovery Island salmon farm locations, below illustrate the defined “area”. Located within the critically important migration route of Fraser River sockeye, the collection of narrow and confined fjords including the Raza, Nodales, Okisollo, Hoskyn and Cardero Channels in the Discovery Islands meet the boundary definition of “area” as per the ASC salmon standard Appendix II-1.

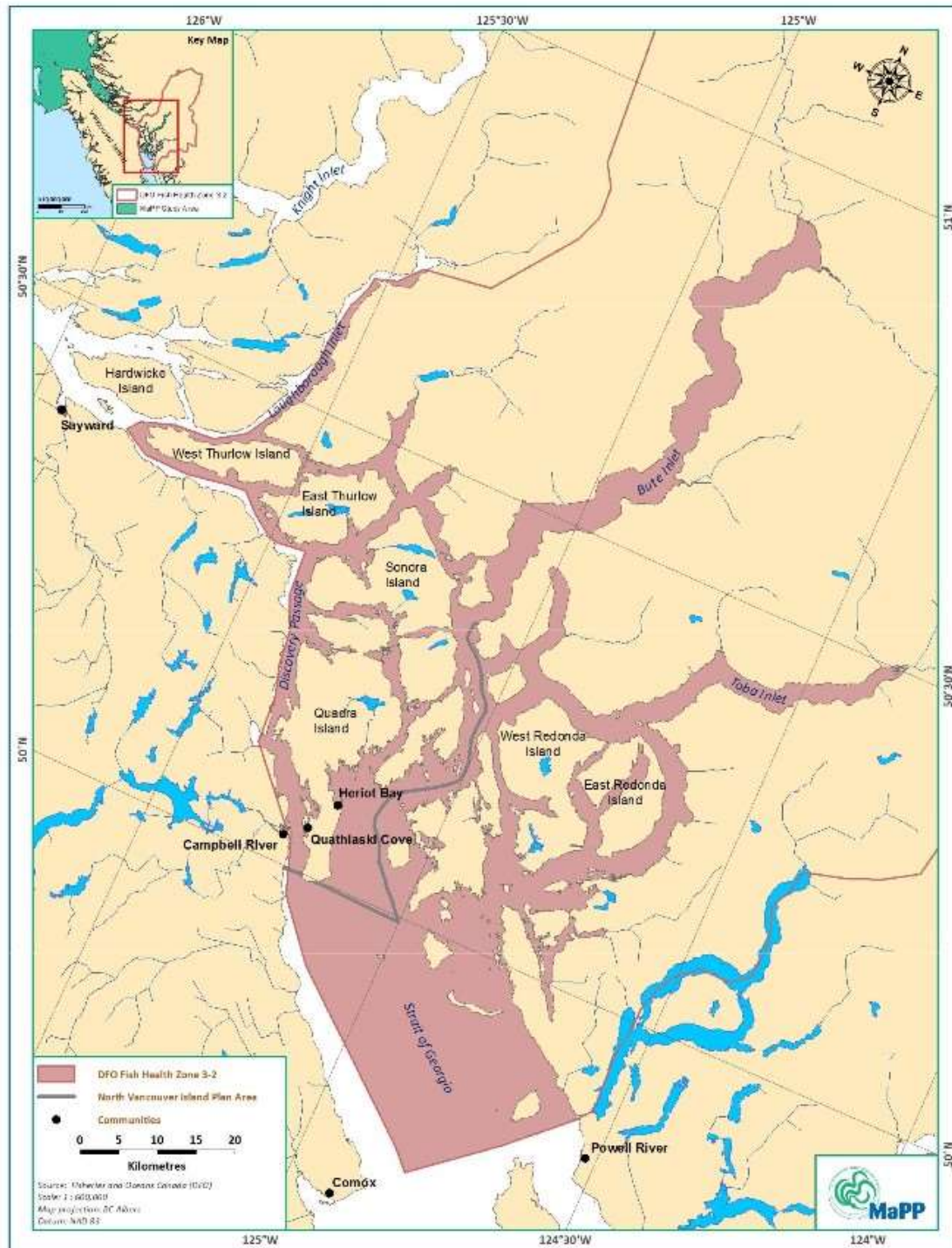


Figure 1. Discovery Islands – DFO Fish Health Zone 3-2 as identified by the Cohen Commission (Source: MaPP 2016)

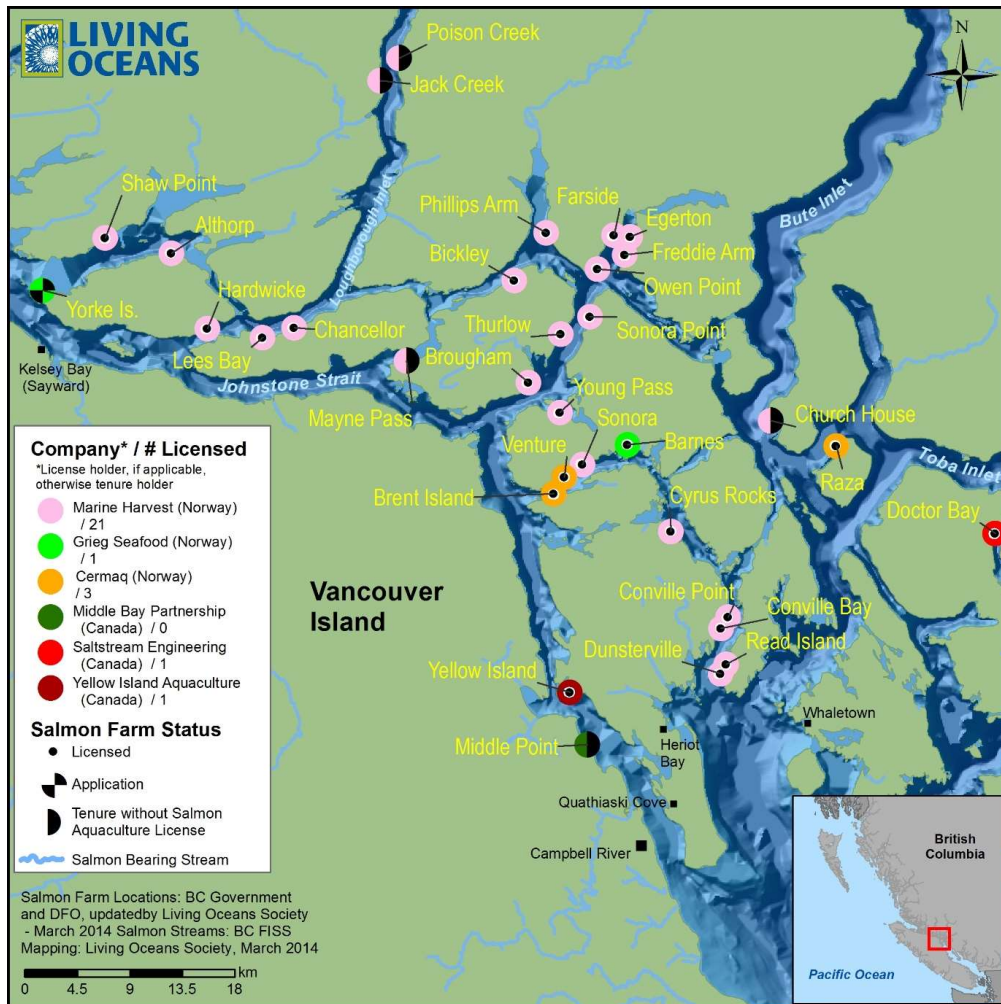


Figure 2. Discovery Island salmon farm locations (Source: LOS 2014)

The 2001-2003 infectious haematopoietic necrosis virus (IHNV) epidemic in B.C. provides a clear example that pathogens are able to spread beyond 15 kilometers. Using genetic sequencing, Saksida (2006)² was able to trace IHNV's spread to 32 salmon farms along the B.C. coast back to one Discovery Islands farm, where it was determined the epidemic began. Table 1 illustrates the location transmission distance between infected farms – note 'Area 1' being the Discovery Islands.

² Saksida, SM 2006, 'Infectious haematopoietic necrosis epidemic (2001 to 2003) in farmed Atlantic salmon *Salmo salar* in British Columbia', *Diseases of Aquatic Organisms*, vol. 72, pp. 213-223.

Table 1. 2001-2003 IHNV farm infections between farms, starting in Discovery Islands (Area 1)

Table 1. Farms infected with IHNV. Outbreaks in each area (chronological order), and location relative to nearest previous infected farm in respective area in km and in terms of net surface water flow direction (upstream, downstream, cross-stream), different channel, inlet or area. Where a farm was the first diagnosed in an area, distance to nearest farm outside the area is given. No. of days since index case/1st report: time of outbreak relative to index case in Area 1 and to first report in relevant area, respectively. Average fish wt. is average weight (g) of the affected population. Case no.: case number in overall outbreak; shaded rows: distance and location for all unaffected farms in Areas 1, 3, and 5, and for 8 farms nearest to affected farms in Area 2.

	IHNV isolate	Outbreak no.	No. of days since index case 1st report		Location relative to nearest infected farm	Distance from nearest case (km)	Average fish wt. (g)	Case no.
Area 1	A	1	0	0			3000	1
	A	2	4	4	Downstream	3	2490	2
	A	3	12	12	Downstream	5	5230	3
	A	4	42	42	Down/Cross-stream	6	660	4
	A	5	80	80	Cross-stream	3	4580	5
	A	6	155	155	Upstream	30	500	9
	A	7	156	156	Upstream	1	96	10
	A	8	161	161	Downstream	10	5900	11
	A	9	196	196	Cross-stream	2	687	14
	A	10	197	197	Cross-stream	4	1800	15
	A	11	203	203	Different inlet	15	1800	16
	A	12	210	210	Upstream	5	4630	17
	A	13	225	225	Downstream	3	6800	18
Area 2					Different channel	29		
					Different channel	31		
					Different channel	29		
	A	1	135	0	Different area	>100	159	6
	A	2	183	48	Different channel	3	1200	12
	A	3	353	218	Different channel	30	290	21
	A	4	520	385	Different area	55	5000	29
	A	5	590	455	Upstream	5	6500	34
	A	6	660	525	Different area	40	4500	36
					Upstream	7		
					Upstream	8		
					Upstream	13		
					Downstream	13		
Area 3					Downstream	15		
					Different channel	7		
					Different channel	8		
					Different channel	10		
					Different channel	10		
Area 4	A	1	137	0	Different area	>100	176	7
					Upstream	14		
					Upstream	17		
Area 5	A	1	150	0	Different area	60	1132	8
	A	2	326	176	Downstream	8	418	20
	A	3	502	352	Downstream	8	925	26
	A	4	502	352	Cross-stream	17	1170	27
	A	5	577	427	Downstream	20	4000	32
	A	6	583	433	Downstream	8	1800	33
	B	1	188		Different area	>100	60	13
	B	2	253	65	Upstream	5	1900	19
	B	3	425	237	Downstream	7	1590	22
	B	4	486	298	Different channel	30	2150	23
Area 6	B	5	489	301	Upstream	5	4100	24
	B	6	491	303	Upstream	12	4900	25
	B	7	506	318	Down/Cross-stream	3	3500	28
	B	8	521	333	Upstream	18	220	30
	B	9	521	333	Upstream	6	3500	31
	B	10	597	409	Downstream	3	130	35
					Upstream	10		

Transmission occurred between Discovery Island farms that were 15 km and 30 km apart. Similarly, St-Hilaire et al. (2002)³ also found the 1992-1996 IHNV epidemic spread within a 20 km radius of the initial infected farm site. These cases evidently show pathogens are capable of transmission beyond 15 kilometers and require a concerted area-based management scheme to control and mitigate outbreaks. Therefore, we disagree that Raza Island farm is “by itself” and does not require to be included in an ABM.

Compliance with salmon standard indicator 3.1.1 should therefore be determined on the basis of the Discovery Islands “area” and as per Appendix II-1. B *Requirements related to participation in the scheme*, compliance requires that at least 80 percent of farmed production in the Discovery Islands is participating in the ABM scheme. With five different companies operating some 27 farms within the area, Cermaq’s own production in only 3 farms cannot possibly constitute 80 per cent of farmed production. Compliance with this indicator would require Cermaq to demonstrate co-ordination with Marine Harvest and Grieg Seafood for the following ABM components and guidance, as per Appendix II-

1.C *ABM components and guidance*:

1. Application and rotation of treatments;
2. Stocking;
3. Fallowing;
4. Monitoring schemes; and
5. Setting and revising a maximum ABM lice load.

³ St-Hilaire S, Ribble CS, Stephen C, Anderson E, Kurath G, Kent ML 2002, ‘Epidemiological investigation of infectious hematopoietic necrosis virus in salt water net-pen reared Atlantic salmon in British Columbia Canada, *Aquaculture*, vol. 212, pp. 49– 67.