

Audit Clause		Current Clause	Public Comment	BAP Response
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Comments forwarded from the BAP Farm Std public consultation

1.1		Hatcheries shall conduct an assessment that identifies potential food safety risks. The hatchery shall develop a management plan that describes procedures to monitor and control those risks and provide evidence that the plan is operational and effective.	<p>Will Atlantic salmon hatcheries raising smolt for transfer to sea water facilities be exempt from 1.1? There are two distinct production phases – freshwater (hatchery) and seawater (cage culture). The current practice is to monitor/test the flesh prior to harvest; thereby collecting information based on the entirety of life history of the cultured salmon and the environmental influences which may be found at each individual farm. Amalgamated monitoring requirements are specified by the Canadian Food Inspection Agency, the US Food and Drug Administration and the requirements of the importing country covering fish disease agents, environmental pollutants, microbial agents and risk related to the handling of fish during farming, slaughter and processing.</p> <p>Monitoring results are logged into a Flesh Quality Database, Heavy Metal Tracking Database and a Listeria Database. BAP certified salmon farms must be in compliance with section 11. Food Safety - Control of Potential Food Safety Hazards, BAP Salmon Farm Standards - Issue 2 Revision 3 - October 2016</p>	<p><b>BAP response:</b> The focus of this clause is twofold:</p> <ol style="list-style-type: none"> <li>1. Prohibition of the use of banned anti-microbials., and,</li> <li>2. Responsible use of any therapeutants and/or other chemical compounds that may persist in the tissue of the animals up to the time of harvest and processing for commerce.</li> </ol> <p>It is commendable the Canadian Food Inspection Agency recognizes these potential hazards and has developed programs to monitor them.</p> <p>Best practice would be for hatcheries to make an independent assessment of any likely food safety hazards for a given site.</p> <p>Compliance of for the monitoring of these risks could then be demonstrated by citing CFIA findings.</p> <p>It is recommended that any hatchery consider ALL potential hazards, not just those that the CFIA is monitoring and to develop programs to monitor those that may fall outside of the scope of CFIA surveillance.</p> <p>No change to Standard deemed necessary at this time.</p>
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1.1		Hatcheries shall conduct an assessment that identifies potential food safety risks. The hatchery shall develop a management plan that describes procedures to monitor and control those risks and provide evidence that the plan is operational and effective.	The proposed Hazard Analysis and Critical Control Point system for management of food safety risks would identify, evaluate, and control food safety risks that occur during production. This plan fails to recognize there are preventative/proactive measures hatcheries could take to limit any future food safety issues. Such measures are closely related to increased welfare considerations such as stocking density, optimal water quality, and enriching the animals' environment, all leading to decreased susceptibility to disease which is a core component of adequate food safety. Species specific information can be found here. (Link provided in original email)	<b>BAP response:</b> <b>Proposed Change to Standard (Changes in red)</b> Hatcheries shall conduct an assessment that identifies potential food safety risks. The hatchery shall develop a management plan that describes procedures to <b>prevent</b> , monitor and control those risks and provide evidence that the plan is operational and effective.
1.2 and 1.3		1.2: All drug, chemical, or hormone use shall be based on recommendations and authorizations overseen by a licensed veterinarian or Aquatic Animal Health Professional (AAHP) with specialized training that has been recognized by local/national competent authorities. Documentation confirming the qualifications of the licensed veterinarian or AAHP shall be held on file at the hatchery. Protocols for all treatments shall be described in the facility's Health Management Plan	Members advise the hatchery standard wording is confusing in relation to treatment protocols. Wording has been amended to specify treatments only for diagnosed diseases precluding prophylactic treatments. However, Section 1.3 in the updated standard then states: Records shall be maintained for every application of drugs or other chemicals used for approved prophylactic and therapeutic treatments, or during transport of live animals. Prophylactic and therapeutic uses are very different and it could be argued that when	<b>BAP response:</b> <b>Proposed Change to Standard (Changes in red)</b> <b>The facility's Health Management Plan (HMP) shall describe protocols for all drug, chemical, or hormone treatments. Such treatments shall only be used in accordance with instructions on product labels and with adherence to all applicable local and national regulations.</b>

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		<p>(HMP) and used only to treat diagnosed diseases in accordance with instructions on product labels and in adherence to all applicable local and national regulations. Off-label use of drugs shall only be done with the approval and guidance of a qualified veterinarian or AAHP. A list of therapeutics and other approved substances used by the facility shall be available.</p> <p>1.3: Records shall be maintained for every application of drugs or other chemicals used for approved prophylactic and therapeutic treatments, or during transport of live animals. These records shall include the date, the compound used, the approving veterinarian or AAHP, the dose, and the date on which the animals were transferred to another facility and the name of that facility. If the animals were harvested for human consumption, records of compliance with required drug withdrawal times shall also be maintained in addition to the residue levels complying to the country where the harvested products are sold.</p>	<p>treating with an in-feed antibiotic the usage is usually prophylactic</p>	

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1.3		Records shall be maintained for every application of drugs or other chemicals used for approved prophylactic and therapeutic treatments, or during transport of live animals. These records shall include the date, the compound used, the approving veterinarian or AAHP, the dose, and the date on which the animals were transferred to another facility and the name of that facility. If the animals were harvested for human consumption, records of compliance with required drug withdrawal times shall also be maintained in addition to the residue levels complying to the country where the harvested products are sold.	The transportation of sick/unhealthy animals must be explicitly prohibited here. This clause states that chemical/drug records shall be maintained during transport and shall include the date, compound used, approving veterinarian or AAHP, the dose, and the date animals were transferred to another facility. However, animals currently undergoing treatment or given treatment immediately prior to transport could be less capable of dealing with the stress live transportation causes. Being exposed to high levels of stress in addition to previous treatment may drastically increase mortality. This could also increase biosecurity risks associated with live transport.	<b>BAP response:</b> No change to Standard deemed necessary at this time.
1.7		Where toxicant-based antifouling agents are used on net-pen/cage nets, documents shall be available to demonstrate that their usage is in accordance with local and national regulations. Net-cleaning procedures that allow the collection, treatment, and disposal of wash water shall be in compliance with local and national regulations.	Within the proposed new Salmon Farm standard there is a ban proposed from 1.1.23 on all copper based antifoulants on nets and other underwater structures. This should be mirrored in the Hatchery Standard	<b>BAP response:</b> Insert ban on copper based antifoulants from 01.01.23
Section B. Chemical and		Audit clauses 1.2 to 1.11	No mention within this section that antimicrobials must not be used that are listed as critically important for human medicine by the World Health	<b>BAP response:</b> BAP is developing a Raised Without Antibiotics to address the issue of WHO Critically Important for Human Medicine antibiotics.

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Drug Management – All Production Systems			Organisation (WHO)(Clause 10.26 in Salmon Farm Standard)	<b>BAP response:</b> No change to Standard deemed necessary at this time.
2.6		The hatchery shall demonstrate interactions with the local community to avoid or resolve complaints or conflicts through meetings, committees, correspondence, service projects or other activities performed at least annually.	Australia's legal and approvals framework includes consultation as a part of the approvals process and is quite extensive. The robust nature of Australia's approval system ensures that community needs and consultation requirements are taken into consideration at the approvals stage (In some cases, ongoing consultation is a condition of approval). Imposing ongoing community face to face consultation within Australia's robust legal framework is not necessary.	<b>BAP response:</b> Let the existing language stand. The Australian facilities can simply point to the government requirements for dialog/consultation and any evidence of ongoing dialog to show compliance.  No change to Standard deemed necessary at this time.
1.2 B		1. For farms not using any antimicrobial agents, a Non-Antimicrobial Surveillance and Verification Program shall be in place. 2. Records of laboratory testing results needs to show no trace of antimicrobial agents in water bodies and fish samples. 3. Should hormones be used for non-growth purposes, treatment duration should not exceed 7.5% of the fish growth cycle.	We propose adding two more clauses to <b>Clause B. Chemical and Drug Management</b> to supplement subclause 1.7 and enhance the criteria in this important area.	<b>BAP response:</b> No change to Standard deemed necessary at this time.

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2.9		All records of recruitment, compensation, benefits, access to training, promotion and termination shall be separated by sex.	<p>Canadian human rights law prohibits interviewers to ask questions concerning gender or sexual orientation; therefore, records are not separated by sex. Does the separation by sex in 2.9 go against the wording in 2.37 or is the intent of 2.9 to be used for compliance to 2.37?</p> <p>GSA/BAP comment:</p> <p>The GSA and BAP continue to strive towards more gender equity in the seafood workspace and fully supports the UN Sustainable Development Goal No. 5: Achieve gender equality and empower all women and girls.</p> <p>For the Canadian case, Canadian law would take precedence over requirement to showing compensation, benefits, etc., by gender.</p>	<p><b>BAP response:</b></p> <p>No change to Standard deemed necessary at this time.</p>
2.10		The hatchery shall ensure that workers are paid at least the legal minimum wage, or the wage rate established by an employment contract or collective bargaining agreement, whichever is higher. Regular wages and compensation shall cover the workers' basic expenses and allow for some discretionary funds for use by workers and their families.	How will the regular wages and compensation against the worker's basic expenses be audited?	<p><b>BAP response:</b></p> <p>BAP auditors are specifically trained on how to evaluate this clause.</p> <p>Additionally, BAP audit reports are reviewed frequently to determine efficacy of all audit clauses.</p> <p>No change to Standard deemed necessary at this time.</p>
2.17		Hatcheries shall comply, at a minimum, with national laws regarding meal and rest breaks during work shifts. Hatcheries shall	In British Columbia there are employment standards regulations that apply specifically to employees who work on fish farms that produce finfish. If an employee	<p><b>BAP response:</b></p> <p>Companies are allowed to set work weeks and schedules and when scheduling calls for extended</p>

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		respect the right to a rest day after six consecutive days worked.	is required to work at a fish farm on a 24-hour live in basis, the employee must be paid at least 1.5 times their regular wage for all hours worked in excess of 40 hours per week. Hours can be averaged over one to eight weeks as long as the averaging period is specified before the work begins. <a href="https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/forms-resources/fish-farm-employees">https://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/forms-resources/fish-farm-employees</a> .	work periods. Employees must agree (in writing) and be compensated accordingly.  No change to Standard deemed necessary at this time.
3.37 – 3.49			Hatcheries that produce juvenile animals with average live weights of over 5 g and use more than 50 mt of dry feed yearly shall minimize the use of fishmeal and fish oil derived from wild fisheries.	<b>BAP response:</b> This can be accomplished through the responsible use of other sources of protein, such as plant-based alternatives to the extent they do not impair welfare by altering the nutritional profile for the species being reared  No change to Standard deemed necessary at this time.
3.58		The hatchery shall demonstrate effective control over any non-certified suppliers of broodstock, eggs, smolt/fry/juveniles/post larvae, spat or any other stocking material and any outsourced activity that impact food safety, environmental, social, animal welfare and traceability. Control measures at these non-certified suppliers and outsourced entities (e.g., nurseries)	Does the internal auditor require any specific certification or specific training? Do egg or breeder suppliers have to comply with 100% of the GAP indicators?	<b>BAP response:</b> At this point, it must be specified the qualities that are required of the internal auditor and what record will be requested to verify compliance with the indicators.  No change to Standard deemed necessary at this time.

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		shall include either annual audits by a hatchery's own internal auditors to the full scope of the BAP Hatchery and Nursery Standard, or third-party certification against this Standard. Records of all control measures shall be available.		
3.59		A site risk analysis, updated at least annually, shall be conducted that identifies the potential and actual causes of escapes, determines the relative likelihood of their occurrence or recurrence, and identifies critical control points for effective escape risk monitoring, reduction, and response.	Preventing escapes is an imperative component to biosecurity and animal welfare for both farmed and wild populations. Rigorous production cycles can weaken facility infrastructure and must be evaluated more than once a year.	<b>BAP response:</b> <b>Proposed Change to Standard (Changes in red)</b> A site risk analysis, updated at least <b>after every production cycle</b> , shall be conducted that identifies the potential and actual causes of escapes, determines the relative likelihood of their occurrence or recurrence, and identifies critical control points for effective escape risk monitoring, reduction, and response.
3.72			In order to effectively prevent escapes, operational checks must be carried out more frequently. Checks must be carried out by an employee with adequate/knowledge related to the equipment being used.	<b>BAP response:</b> <b>Proposed Change to Standard (Changes in red)</b> All operational nets shall be surface checked for holes <b>daily</b> and checked subsurface with an underwater camera or by a diver at least <b>once every week</b> , weather permitting. Nets and cage superstructure shall be checked for holes and other indications of structural damage <b>immediately</b> after risk events such as cyclones or big tides when inspections can be safely conducted.

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3.73		Boats shall have protective guards on the propellers and staff members who operate the boats shall be trained to avoid contact between boats and cage nets.	<p>Using propeller guards is inefficient when trying to maneuver the boat, in addition to the fact that due to the high currents in the country of Chile, it can be risky to handle boats with propeller guards due to the loss of power it entails, in addition to the fact that currently all the salmon farms have predator nets, which offer protection against leaks, being an additional barrier before reaching the fish nets, so it is unlikely that a propeller could break a fish net and result from an escape.</p> <p><b>GSA/BAP comment:</b> I believe that the issue here is proper training for operators and familiarization of the handling characteristics propellor guards may have on engine performance and maneuverability.</p>	<p><b>BAP response:</b> No change to Standard deemed necessary at this time.</p>
Section F 4.11, 4.18			<p>These clauses pertain to health indicators which are not defined/described in detail in this section. The next section (Section B Welfare) includes a list of Welfare Indicators.</p> <p><b>GSA/BAP comment:</b> Consider aligning hatchery standard clauses with Farm 3.0, or be more descriptive in these clauses regarding health and/or welfare indicators.</p>	<p><b>BAP response:</b> No change to Standard deemed necessary at this time.</p>

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4.27			Relates to the above. Part of the clause states “Records of survival rates used as an indicator of the adequacy of such procedures shall be available.” However, it does not include all welfare indicators described in the implementation section below it.	<b>BAP response:</b> Consider aligning hatchery standard clauses with Farm 3.0, or be more descriptive in these clauses regarding health and/or welfare indicators.
4.1 – 4.19			In “Implementation”, BAP states that the Animal Welfare Section (AWS) of the HMP shall include details of how brood animals are to be treated, which includes eyestalk ablation in shrimp. This practice must be banned as it causes undue harm with limited “success”. The routine use of mutilations to achieve faster exploitation should be unacceptable.	<b>BAP response:</b> No change to Standard deemed necessary at this time.
4.20 – 4.28			In “Implementation”, BAP states, “For aquatic animals in aquaculture, welfare can be defined simply as an animal that is healthy and whose needs are met by the hatchery operator.” This is an inaccurate definition of welfare that needs to be remedied to reflect how we should be treating aquatic animals in general. The most widely accepted paradigm is The Five Domains Model, a modernized version of the original Five Freedoms Model of animal welfare assessment. The Five Domains Model is regularly updated to reflect significant developments in animal welfare science thinking, such as the emerging interactions between physiological (biological health) and	<b>BAP response:</b> No change to Standard deemed necessary at this time.

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			<p>psychological (subjective experience) aspects of animal welfare and the critical importance of promoting positive experiences in addition to reducing pain and suffering in captivity. The Five Domains Model is generally considered the gold standard of holistic animal welfare assessment criterion.</p> <p>This part of the document also addresses some handling procedures that are critical for welfare without providing welfare guidelines for those procedures.</p> <p>And while on farm euthanasia is addressed here, we suggest the use of anaesthesia overdosing (e.g with isoeugenol) as a humane slaughter option in this context. Considering that fish slaughtered on farms at hatcheries are usually not destined to be consumed, this context allows an easier use of this method exempt from issues related to food safety regulations regarding anaesthetics residues in the flesh.</p>	
4.3		<p>The hatchery shall demonstrate familiarity with the OIE Animal Health Code and FAO Technical Guidelines for Responsible Fisheries 5, Supplement 2: Health Management for the Responsible Movement of Live Aquatic Animals and be able to explain how the HMP incorporates these provisions.</p>	To include URL links to said documents	<p><b>BAP response:</b> URL links added</p>

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4.5		Potential pathogens relevant to the species reared at the hatchery shall be listed in the HMP. This list shall include diseases listed by the World Organization for Animal Health (OIE currently-listed diseases, infections and infestations) and other diseases of national or regional concern (Ref. 2) and other pathogens of concern to the hatchery. The HMP shall include specific measures to address surveillance and response measures to each disease.	To include URL links to said documents	<b>BAP response:</b> URL links added
T.5		Hatcheries that purchase stocking materials from both BAP and non-BAP certified facilities shall identify and record all sources and have adequate systems in place to prevent mixing/comingling of stocking materials. All product harvested from use of stocking material from non-BAP certified facilities shall be eligible to claim the hatchery-associated BAP star status.	What is the meaning of hatchery-associated BAP star status and the implication for claims of BAP 3 and 4 stars status? Aside from segregation, how and what other criteria needed to claim such BAP status?	<b>BAP response:</b> BAP Star Status to be explained on BAP website
Appendix B			<p>On RAS you use input water not output water as your basis for decision making. You should note that you will always have &gt; 1% (a cm in a 1 Meter deep tank) input water requirement even with a zero discharge system.</p> <p>The only exception would be a cold-water system with chillers condensing water</p>	<b>BAP response:</b> <b>Proposed Change to Standard (Changes in red)</b> Change nitrate for RAS to “less than 50 mg/l”

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			<p>from the required air flow (for CO2 removal).</p> <p>Nitrate specification of 5 mg/l is just silly making it below drinking water standards and exposes a lack of technical understanding in your organization and your so-called experts who haven't designed or operated system with denitrification.</p> <p>Drinking water used to be 15 mg/l NO3 -N standards for preventing Blue Baby, where drinking water used for powdered baby formula can create denitrifying bacteria in the babies gut converting nitrate to toxic nitrite. Activists without data shoved the standard down to 10 mg/l and now without real data you are shoving it down lower into a lower range where denitrification becomes more of a control issue with large economies of scale that can kill RAS aquaculture and all other high intensity aquaculture. Operating at very low ORP necessary for &lt; 1 NO2 and &lt; 5 NO3 gets you very close to the H2S generation range with any SO4 in the water.</p> <p>Utilize a rational concept for RAS water usage that looks at the liquids discharged, including sludges. Basis like cumulative feed burden (CFB) or kg of feed / M3 of discharge or the inverse L of discharge liquid/ kg of feed make sense for RAS.</p>	

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			<p>For example, with a with a warm salt water RAS the makeup water would be fresh water at a rate &gt; 1% of system volume per day just for evaporation with zero discharge, where you recover 100% of the valuable salts. Just the air used for CO2 removal would remove more than 1% water/day by evaporation. At least use the EPA 10 mg/l NO3-N standard not some number dreamed up by activists.</p>	
General Comments			<p>The numbering system within the document is confusing, Letters are used for the main sections and then again within those sections in addition to numbers for the clauses. It would make more sense to use a number-based system throughout. Clause numbering has several errors in section E clause numbers go from 3.11 to 3.13 and 3.25 to 3.28. The numbers in between are missing. Section G changes its numbering system to become T1 T2 etc.</p>	<p><b>BAP response:</b> The numbering system will be reviewed and changed (where needed) to provide better consistency and clarity.</p>
			<p>Including “environmental enrichment” as an element of improving animal welfare in captivity has been extensively proven. While the scientific community will continue to discover contemporary enrichment strategies for individual species, available research reveals many</p>	<p><b>BAP response:</b> No change to Standard deemed necessary at this time.</p>

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			<p>promising, cost-effective interventions for the most farmed species. These studies illustrate the variety of benefits that come with an enriched environment for both animals and producers.<sup>1,2,3</sup> Some of these changes are very easy to implement and would require minimal capital investment and disruption to a farm's operations.</p> <p>For hatcheries, substrate provision as a form of enrichment may be particularly applicable. Substrates can include materials such as rocks, sand, gravel, vegetation, or hatching mats that occupy the foundation of the habitat. Other forms of enrichment such as PVC tubes as shelter (Näslund et al. 2013, included in the enrichment table linked below) also provide promising initiatives.</p>	
4.24		<p>The hatchery shall define and justify acceptable minimum water quality limits for the species being reared. Daily or more frequent monitoring records shall show that when these limits are breached, immediate corrective action is taken</p>	<p>I believe that all BAP standards should require that facilities have a written Water Quality Management Plan (WQMP).</p>	<p><b>Proposed Change to Standard (Changes in red)</b>  The hatchery shall have a written Water Quality Management Plan (WQMP) which defines and justifies acceptable minimum water quality limits for the species being reared. Daily or more frequent monitoring records shall show that when these limits are breached, immediate corrective action is taken.</p>
BAP Salmon Farm Std.		<p>Once fish are harvested, survival rate and Food Conversion Ratio (FCR) shall be calculated for each year class and, for Atlantic salmon and Rainbow</p>	<p>The BAP Salmon Farm Standard requires reporting of survival.</p>	<p><b>BAP response:</b>  No change to Standard deemed necessary at this time.</p>

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4.7		<p>trout, in the absence of extenuating circumstances, survival shall be equal to or greater than 85% and FCR equal to or less than 1.4.</p> <p>(Note: Limits have not yet been established for other salmonid species but will be added once adequate data has been accumulated. Until then, survival rate and FCR shall be calculated and included in the audit report for information only.</p>		