

# Monterey Bay Aquarium Seafood Watch®

## Seafood Watch® Standard for Aquaculture Public comment period – 4: Comment Form

Please include your contact details below

All documents submitted during the public consultation process will be posted on our website. Documents will be posted exactly as we receive them except that this front page will be removed. The organization/author field below will be displayed as the 'author' of the online posted document. If you wish for your document to remain anonymous, please indicate in the check box below. If 'Anonymous' is selected, the 'author' of this document when posted on our website will then simply read 'Anonymous.'

Organization/Author	Marine Harvest Canada
Name of point person	Katherine Dolmage
Email	Katherine.dolmage@marineharvest.com

Click if you would you like to remain anonymous

### Public Comment Guidance:

This document provides an opportunity to comment on some changes that we are proposing to implement based on our use of the Aquaculture standard over the course of the last year. Our intent with these changes is to improve clarity and ease of use of the standard. Most are minor clarifications, but one area which could potentially be more substantive is regarding the percent of harvested, farmed fish byproducts that are used for further protein production, addressed under Criterion 5.

Seafood Watch is accepting comments on these proposed changes to the Standard for Fisheries from August 18<sup>th</sup> through September 18<sup>th</sup> 2016.

**Criterion 1 – Data**

**Public comment guidance -**

No proposed changes. No comment required.

**Criterion 2 – Effluent**

**Public comment guidance -**

**Factor 2.1b – Production system discharge**

Changes proposed in Criterion 2 Factor 2.1b are clarifications to the text which would not materially affect the outcome of assessments. It is to clarify that we assess water exchange rates as an average, annual, daily rate over an entire grow out cycle, rather than on a day-to-day basis, which the earlier language could be interpreted to mean. This is not a change to the way Seafood Watch will assess water exchange rates in ponds. It is a clarification of the language.

Any comments on the language used can be made in the space below.

**Factor 2.2a – Content of effluent management measures**

Changes proposed in Criterion 2 Factor 2.2a are clarifications to the scoring option for score 3 out of 5. They do not affect the outcome of assessments, only help to clarify the intent of this scoring option. The proposed changes to text clarify that this scoring option is applicable in scenarios where management measures set effluent limits that are site-specific, but are not part of a larger, cumulative or area-based management strategy for effluent.

Any comments on the language used can be made in the space below.

**Comments on Factor 2.1b – Production system discharge**

**Comments on Factor 2.2a – Content of effluent management measures**

### Criterion 3 – Habitat

#### Public comment guidance -

No proposed changes. No comment required.

### Criterion 4 – Chemical use

#### Public comment guidance –

##### Background and rationale

The proposed additional clarifies that the trend adjustment, which was added as part of the Seafood Watch Aquaculture Standard update in 2015, cannot be applied if the base score for Criterion 4 is Critical.

This functions to ensure that if ongoing activities are egregious enough to warrant a Critical score, a decline in chemical use will not improve the score and sweep those activities under the rug.

Any comments on this proposed additional guidance can be made in the comment box below.

##### Criterion 4 – Chemical use – Score 4 out of 10

The proposed language change clarifies the application of this scoring option. It is intended to be applicable to management measures for limits on frequency of use, total use, and mitigation measures (as seen in the proposed update in score 2 out of 10 below).

Any comments on this proposed language can be made in the comment box below.

##### Criterion 4 – Chemical use – Score 2 out of 10

The proposed additional text is intended to capture scenarios where there is confirmed resistance, and management measures are either not in place or are ineffective.

This clarifying text is proposed in order to differentiate this scoring option from the proposed language discussed in the Score 4 out of 10 (as seen in the proposed language for score 4 out of 10 above).

Any comments on this proposed language can be made in the comment box below.

##### Criterion 4 – Chemical use – Score Critical

The proposed text is intended to decrease subjectivity and clarify the intent of this scoring option.

This scoring option is intended for long-term negative impacts from illegal chemical use.

The original wording could have been incorrectly interpreted as applying to a scenario where a one-time illegal activity had a minimal, short-term ecological impact.

Any comments on this proposed language can be made in the comment box below.

**Comments on Background and rationale proposed change**

Overall, background and proposed changes are acceptable.

Reference to 70-80% excretion rates of antibiotics administered is not an accurate value. The reference given should be verified and updated- please see references below. The Christensen study referenced does not itself evaluate antibiotic lost to the environment, but references other studies- this goes back to research by Samuelsen, Torsvik and Ervik (1990), which is outdated and considers only oxytetracycline. Farming practices and antibiotic choice have changed greatly since this research.

More commonly used antibiotics, such as florfenicol, are more readily absorbed by salmon, with far lower excretion levels than oxytetracycline. For example, Florfenicol has a bioavailability of 96.5% in cultured salmon (Martinsen et al. 1993). In contrast, oxytetracycline has a much lower bioavailability, ranging from 0.6 to 8.6% depending on food intake, fish species and water quality parameters (Cravedi et al., 1987; Grondel et al., 1987; Plakas et al., 1988; Bjorklund, 1991). This information demonstrates that these drugs differ in their pharmacokinetics (how the salmon processes the antibiotic), and that the 70-80% figure should not be used to describe antibiotic excretion across the board.

**Comments on Chemical use – Score 4 out of 10 proposed change**

**Comments on Chemical use – Score 2 out of 10 proposed change**

**Comments on Chemical use – Score Critical proposed change**

**Commented [LT1]:** Not part of the request for feedback. Will be addressed in 2019 update.

**Criterion 5 – Feed**

**Public comment guidance –**

**Factor 5.2 – Net protein gain/loss**

One of the assumptions currently made in Seafood Watch’s calculation of protein gain/loss is that 100% of the by-products generated during processing of harvested farmed fish (i.e. the materials

often considered non-edible, such as skin, viscera, head and rack, etc.) are used for further protein production, unless it is known that such products are not utilized.

We are requesting constructive comment on this assumption, and welcome specific, referenced suggestions for an alternative value that is representative of the global aquaculture industry's further use of harvesting by-products.

*\*Please note that this assumption is not applicable to unfed species or systems (i.e. shellfish), as those species/systems are automatically awarded a Feed Criterion score of 10 out of 10.*

Any comments and relevant references can be made in the comment box below.

**Comments on Feed Factor 5.2 request for feedback**

## Criterion 6 – Escapes

### Public comment guidance –

#### Factor 6.1 – Escape risk

Proposed additional scoring option for score 4 out of 10. This text has been added in order to maintain consistency with similarly themed scoring options in other scores within this factor.

Any comments on this proposed additional scoring option can be made in the comment box below.

#### Factor 6.2 – Invasiveness

The proposed title change from “Invasiveness” to “Competitive and genetic interactions” is to reduce confusion about the applicability of this factor. “Invasiveness” implies impacts from non-native species, whereas this factor focuses on impacts from both native and non-native escaped, farmed species to wild species and environments.

Any comments on this proposed title change can be made in the comment box below

We have concerns with wording in the background/rational. P. 48 notes that, through escape events and introduction attempts, no reports of reproducing Atlantic salmon have been found in BC, yet states that establishment is “uncertain”. Recommend included the most recent literature, Andres, 2015 (<http://www.dfo-mpo.gc.ca/Library/357053.pdf>) which states that “it can reasonably be concluded that...establishment of feral populations has not occurred” (p. 18) and removing the word uncertain.

**Comments on Factor 6.1 – Escape risk additional scoring option**

**Commented [LT2]:** Not related to any specified updates. Will be addressed with 2019 update.

Reference to footnote 41 under moderate is incorrect
<b>Comments on Factor 6.2 – Invasiveness title change</b>

**Commented [LT3]:** Addressed

**Criterion 7 – Disease**

**Public comment guidance -**  
 No proposed changes. No comment required.

We have serious concerns with footnote 63- “the values are not contested by conservation organizations”. Because a value is contested by a conservation organization does not mean that it is not scientifically robust. For example, in British Columbia, sea lice thresholds have been set at a level that is conservative and for the purpose of protecting wild salmon. These levels have been shown to be effective in this purpose (e.g. <http://bamp.ca/images/2013%20Rogers%20et%20al%20-%20journal.pone.0060096.pdf>), but remain contested by groups who will argue that any louse is too many. Contestation by a conservation organization is not a reasonable rationale to downgrade a score on this criterion.

**Commented [LT4]:** The quoted text has been deleted.

**Criterion 8X – Source of Stock**

**Public comment guidance -**  
 No proposed changes. No comment required.

**Criterion 9X – Wildlife interactions**

**Public comment guidance -**  
 No proposed changes. No comment required.

**Criterion 10X – Escape of non-target species**

**Public comment guidance -**

This proposal is to change the title of Criterion 10X from “Escape of non-target species” to “Escape of secondary species.” There has been confusion over the interpretation of “non-target,” and we believe “secondary” better captures the intent, which is to describe species that are unintentionally moved along with the target species.

An example would be in the transport of shrimp post larvae (target species). Any pathogens that are unintentionally transported along with the post larvae would be considered secondary. This criterion assesses the risk of secondary species entering and exiting the grow-out site.

Any comments on this proposed language change can be made in the comment box below.

**Comments on Criterion 10X – Escape of non-target species title change**