A - Salmon Biosecurity

The need for rigorous biosecurity standards, matching world-standard, has underpinned Huon's operations since the beginning.

We take biosecurity very seriously, and public actions taken over many years demonstrate the company's commitment to protect the environment in which we farm. Biosecurity is not only a matter of good hygiene and disinfection procedures but also requires that fish have optimal nutrition, live in high quality water and avoid stress. Disease control in aquaculture production requires a holistic approach. Good site management, animal husbandry and rigorous biosecurity measures are central to reducing the risk of disease outbreaks and controlling the spread of infectious diseases.

Huon already has a comprehensive, regularly updated, Veterinary Health and Biosecurity Plan (VHBP) which is based on a detailed Risk Assessment Review across Huon operations, consolidated with the collective experience and standard operating procedures of Huon staff over 35 years and an extensive review of biosecurity practices in overseas salmon producing countries. The VHBP describes the principles and procedures used by Huon to maintain the health and wellbeing of fish throughout all stages of the lifecycle, from hatchery to harvest.

The Tasmanian salmon industry prepared a statewide biosecurity plan back in 2013, which was updated following the Blue Future Salmon Conference in 2017, and that draft Plan was reviewed by a third-party expert (Professor Larry Hamell, University of Prince Edward Island, Canada). A final version of the Plan was agreed in consultation with the relevant Tasmanian authorities i.e. Biosecurity Tasmania, then DPIPWE, Inland Fisheries and the EPA, however, implementation was stalled while the State Government determined the most appropriate way to manage the Plan in conjunction with the new Biosecurity Act framework (received Royal Assent in 2019).

In general, Huon is concerned that many of the draft standards are not appropriate for application to industry activities, nor do they meet the original or stated intention, or worse, are too detailed or prescriptive and should instead be written into more specific and explanatory guidelines. There is also ambiguity in many standards. We are concerned this may lead to differences in interpretation between industry, auditors and the general public. Standards where this ambiguity exists, need to be clarified before release of the final version. It would also appear that compliance with the draft BS relies on a suite of exemptions being granted to individual companies that are in no way guaranteed and as such, some standards may be more appropriately applied with a phased-in approach.

Huon also notes that there is no requirement for daily removal of mortalities in this program. This is considered a fundamental measure to improve biosecurity and removal on a daily basis, or as often as reasonably practicable, should be referenced.

We also feel there should be consideration paid to the biosecurity risks of movement of aquaculture vessels from interstate ports and finally, images of salmon used in Schedule 4 are in poor condition with scale loss and ragged fins. These fish do not emulate gold standard health, welfare and biosecurity so should not be used as images in this, or any documentation relating to biosecurity of the Tasmanian salmon industry.

Specific comments in relation to the BS are as follows:

1. [redacted]

[redacted]

2. [redacted]This standard hinges on the definition of a Marine Farm, not a biosecurity improvement.

3. [redacted]

4. [redacted]The wording of this standard is ambiguous because it could be interpreted that if fish are on the lease continuously then it doesn't need to be fallowed.

5. MOS 35 - Huon has various sites where used equipment is moved to specifically for the purposes of maintenance and cleaning. Clarity is required that this standard, as currently written, will not prohibit this activity.

   More appropriate would be to replace the words "to and from" in MOS 35(a) and MOS 35(b) with "between" as items may be removed from marine farms for disposal or to other areas that do not necessarily represent a biosecurity risk. In addition, the definition of "used salmonid equipment" is very broad, and should be refined.

6. MOS 14a & 15 - The 0.5% threshold for reporting on one single day is inappropriate and does not address the intent for improved biosecurity outcomes.

   The lower 0.25% threshold for 3 consecutive days is a much more logical and sensitive measure to detect possible biosecurity risks posed by a population, so we propose this measure is retained whilst the 0.5% measure is removed. A one-off exceedance of 0.5%, that is not accompanied by concurrent exceedance of the 0.25% threshold for 3 days, is unlikely to be due to infectious disease of concern, so we do not feel it is appropriate to notify the former unless there is identification or suspicion that it is caused by an infectious disease agent. An appropriate alternative could be for the Joint Salmonid Industry Health Group to identify the key pathogens of concern, and that these detections or suspicions are notified of instead. Another example of where this notification would not be appropriate in promoting biosecurity is when we have a small number of fish left in a harvest pod. In this case it only takes a single figure mortality to trigger a notification. Notification should therefore only be required if there is suspicion of an infectious disease as the cause.

7. MOS 14b - The key issue here is that it is impossible to detect disease affecting such a low percentage of fish without performing destructive daily testing on thousands of fish per pen to demonstrate compliance with this standard. In addition, pathogens such as *Neoparamoeba perurans* would be expected to affect significant numbers of fish every day, due to their

ubiquitous nature, so it is inappropriate and not beneficial to notify on a daily basis for this pathogen. Instead, notifications should be done when infectious diseases of concern are detected and where there is a risk of spread to other companies or industries. Examples should include POMV, RLO, Vibrio and Aquabirnavirus.

Therefore, the standards should read:

(a) *any incidence of fish mortalities, that are unrelated to predation, misadventure or other similar event, affecting greater than 0.25% of fish per day for three consecutive days; and*

(b) *any incidence of suspected or confirmed disease, from pathogens identified by the JSIHG, affecting greater than 0.25% of fish per day for three consecutive days in an individual pen, or affecting more than 0.5% of fish in a single day in an individual pen; and…*

There is also considerable ambiguity on how often notifications are required during the course of a disease outbreak. For example, if there is an infectious disease issue affecting a given pen and resulting in 0.6% mortality for a number of days, is the requirement just to notify once or every single day until mortality drops back below 0.25%? The wording of this standard does not adequately address this ambiguity.

It is also important these standards (MOS 14a & MOS 14b) clarify that when morts are not removed daily, "averages over days" must to be determined, ie. One day with zero morts due to non-removal should not interfere with the 0.25% daily for three days criteria. The wording of this standard therefore does not adequately address ambiguity in a number of areas.

8. MOS 30 – There is no definition of a therapeutant. Is the intent to notify of antibiotic use? If so, this should be specified to reduce ambiguity.

9. [redacted]

10. MOS 40(1) - Wording is inconsistent with MOS 39. It penalises operators with many smaller tanks compared to fewer larger tanks and does not take into consideration the population of fish as a risk unit. This standard should be re-written as follows:

MOS 40. Certification of fish from freshwater facility to marine farm

(1) A salmonid producer must ensure that no live fish or group of live fish from a freshwater facility is moved into a marine salmonid biosecurity zone unless a veterinary biosecurity certifier has issued a biosecurity certificate in respect of the fish, which certifies the following matters:

(a) the vaccination of the fish in accordance with a vaccination program endorsed by the Joint Salmonid Industry Health Group and approved by the Chief Veterinary Officer; and

(b) the fish being from a population of fish (represented by a tank, tanks, pond or ponds of fish) that has passed, not more than 28 days prior to the day of movement, a health assessment which –

- *accounts for the history of the population; and*
- *considers the disease status of all relevant populations on the respective facilities, and*
- *which may include (at the discretion of the certifier):*
    - *a gross external inspection of the fish population by a person competent in fish health; and*

- *sampling of fish for necropsy and laboratory testing, with sampling biased to the highest risk fish identified within the population.*

a. *the fish being sufficiently seawater adapted for entry into the zone.*

11. MOS 41 - Disinfection after each individual trip is not required when fish are coming from the same hatchery and there is no introduction of water or any other material into the tanker between trips. Therefore, this standard should be re-written as:

    MOS 41. A salmonid producer must ensure that live fish transport vehicles under the control or management of the producer undergo effective treatment measures to ensure biosecurity risk related to movements from the freshwater to marine, or freshwater to freshwater environments are prevented, eliminated or minimised so far as is reasonably practicable.

12. FOS 23 - It is not appropriate to notify of all therapeutant usage in private freshwater farms, otherwise the expectation should be the same for all terrestrial farms. If there is particular interest in antibiotic use then this should be specified rather than having a blanket 'therapeutant use' clause which would see very frequent notifications for routine treatments using salt, chloramine-T etc.

13. FOS 27 - As with MOS 40 (10), wording is inconsistent. It penalises operators with many smaller tanks compared to fewer larger tanks and does not take into consideration the population of fish as a risk unit. This standard should be rewritten in the same fashion described for MOS 40.

14. FOS 29 - Disinfection after each individual trip is not required when fish are coming from the same hatchery when no water or any other material are introduced between trips. Therefore, this standard should be written as:

    FOS 29. A salmonid producer must ensure that live fish transport vehicles under the control or management of the producer undergo effective treatment measures to ensure biosecurity risk related to movements from the freshwater to marine, or freshwater to freshwater environments are prevented, eliminated or minimized so far as is reasonably practicable.

15. POS 12 – depending on the site, blood-water tanks may remain connected to the harvest system, and as such, do not need to be cleaned between uses. It is important there is no ambiguity in this standard that would preclude current set up of these harvest systems.