

Review of the Australian Standards for the Export of Livestock (ASEL)

Submission by Sentient on Stage 2: Issues Paper

2: Overview/ Introduction

2.1: It is important that the standards are easily understandable, non-ambiguous, animal welfare focused and can be regulated by an independent regulator. It is not possible for the Department of Agriculture and Water Resources (DAWR) to regulate these standards due to the inherent conflict of interest arising from its dual role of regulating and promoting the live export trade.

3: Reporting and investigations

3.1: Reportable mortality rates:

Mortality rates should not be reported only for export voyages but should encompass the entire export process, from leaving the farm gate to entering a slaughter house overseas (or if breeders, from leaving the farm gate to leaving the quarantine area/ time line in the importing country).

3.1.1: Current requirements:

All current reportable mortality rates should be halved, with 0% mortality rates for novel consignments such as deer and camels. Furthermore, mortality rates should be recorded as "acceptable" %/day of voyage, as the voyage could be 15 days or 42 days and be allowed same "acceptable" death rate. In other words, we are suggesting an "acceptable daily mortality rate", versus a voyage mortality percentage. As a 15 day voyage is allowed 1% of sheep so does a 40 day voyage. No voyage should go above that % of course, but it means long haul voyages would require lower stocking densities and greater provisions of care.

Questions about reportable mortality rate:

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| 1) Should there be a relationship between the average mortality rate and the RMR and should it be reviewed annually? |
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It should be reviewed annually to aim for a lower number and prove higher quality welfare during transport and preparation of animals throughout the chain.

- 2) What should be the stated purpose of an RMR, and what should be the consequence(s) of exceeding the RMR for a voyage?

The consequences of higher mortality rates should include light loading on the following voyage (20%?), an independent observer on following voyage or termination of licence.

- 3) Should the RMR be replaced by, or supplemented with, reportable levels for more general welfare indicators (e.g. see McCarthy Review report)? If so, what should the welfare indicators be and what should be the reportable level for each?

Welfare indicators should include the number of animals requiring any treatment (even if just chaff for shy feeders) and the number of animals ill or injured.

3.2: Voyage reporting requirements:

3.2.1: ALL voyages should have daily reports, not just long haul voyages.

3.2.2: Reporting of mortalities/ treatments should be pen specific, not just deck or tier. All pens are meant to have clear numbering.

3.2.3: We agree with the comment in the McCarthy Review report (May 2018) that *'in general, the existing reporting system is probably outdated and new technology is available that may revolutionise the reporting process, particularly with the advent of automated environmental monitoring.'*

Questions about voyage reporting:

- 4) Should there be on board real-time monitoring of animals and vessel conditions? If so, what should these be and what would be the cost?

Yes, there should be real time CCTV of animal decks. Temperature (dry and wet) and NH3 (Ammonia) levels should all be electronically data logged and fed to bridge, acted on/ archived for further use if reportable incident.

- 5) Should there be specific recording and reporting of additional environmental parameters on vessels during voyages? What might these be, and can or should reportable 'trigger' levels be set?

Yes, there should be specific recording and reporting of NH3 and CCTV of decks all observable from the bridge.

- 6) Should there be specific recording and reporting of animal welfare indicators during, and at the conclusion of a voyage? If so, what might these welfare indicators be, how frequently should they be measured and can/should reportable trigger levels for these measures be established?

CCTV kept for the entire voyage and longer if reportable incident occurs.

- 7) If reporting requirements are increased, what might be this cost and who would pay?

Daily and EOVR- no increase in cost as easy and quick to do, especially with standardized format. Any automated logger system should be the cost of the ship owner.

4: Heat Stress Risk Assessment

We submit that the Department has had 50-odd years to research and develop “a welfare-based approach to the heat stress risk assessment (HSRA) model” and that the need for this was evident well before Dr McCarthy’s recommendations.

Questions about limits relating to heat stress risk assessment application:

- 1) Should paragraph 3A.4 (a) (ii) be amended to include other geographical locations?

It is unclear what legislation this refers to.

- 2) Is the restrictive period of May to October for voyages departing to the Middle East appropriate? Are these the high risk months for heat stress for animals being exported to the Middle East? If not, what months should be considered as high risk?

The restrictive period of May to October for the Middle East is appropriate and should be lengthened if the Middle East heat risk is extended due to weather factors.

- 3) Are there different high risk months for different markets that aren’t considered in the standards?

Yes- heat stress is a major problem for slaughter weight *Bos taurus* cattle from Southern Australia to China over the equator, especially during the monsoon period. Stocking density should be reduced considerably, especially in light of two recent reportable mortality events (MV Dareen and MV Yangtze Harmony).

5: Sourcing and Preparation of Animals

5.1: Sourcing *Bos taurus* cattle:

5.1.1

- 1A.3.2 (c) (iii): “*Bos taurus* cattle from an area of Australia south of latitude 26° south must not be sourced for export to the Middle East from May to October unless an agreed livestock heat stress risk assessment indicates the risk is manageable as per the testing criteria specified in this Standard.” *Bos taurus* cattle from this area of Australia should also not be sourced for export to China or the Northern hemisphere from May to October.
- 1A.3.2 (c) (iv): “*Bos taurus* cattle with a body condition score of five (5) or more must not be sourced for export from or through any area north of latitude 26° south from 1 October to 31 December (inclusive).” Note that body condition score of 5 is often slaughter weight. *Bos taurus* cattle should just never be transported on a hot ship any time of year, southern or northern summer, to anywhere. They basically melt and die.

5.1.2 The limit on the upper body condition score of *Bos taurus* cattle to be sourced above 26 degrees South from October to December should be body condition score of 4 (Option 2)

5.1.3 The transport of *Bos taurus* cattle of BCS 5 should be prohibited.

5.2: Shearing sheep and hair sheep

5.2.1: ALL sheep, wool or hair, should be shorn because they are equally vulnerable to heat stress and it is otherwise difficult to monitor for weight loss, bloat, respiratory rates and sometimes scours with fat tails if not shorn.

5.2.2: There should be no departmental discretion to wool/hair length for goats, sheep or alpacas. They must have hair no more than 2.5 cm maximum, or monitoring will be inhibited. Export within 10 days immediately post shearing should be prohibited due to cuts that fester and cause septicaemia on ships.

5.2.3: We agree with McCarthy’s recommendation that: ‘the wool length categories are re-visited in any revisions of the heat stress risk assessment model. ‘Off shears’ sheep are far more heat tolerant.’

5.2.4: Is a Wellard and RETWA interest only as no one else has sheds, especially in Portland where weather is more likely to be very cold.

Questions about shearing livestock with wool, fibre or hair:

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| 1) Should there be a minimum period of time off-shears and/or wool length to apply for all wool sheep being sourced for export? |
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Yes - 10 days off shears, and 2.5 cm max of any wool/ hair length.

2) Should all hair sheep and alpacas be subject to the same requirements as wool sheep?

Yes.

3) Should the standards be amended to alter the specifications currently in place prescribing time-off periods for shorn wool sheep and shorn hair sheep? If so, what would you suggest?

Yes, as above.

5.3: Maximum weight of cattle and buffalo sourced for export by sea

Questions:

1) Should the maximum weight for sourcing and exporting cattle and buffalo be the same?

The maximum weight of any cattle or Buffalo should not exceed 500kgs for reasons cited above

2) Should cattle and buffalo exported for feeder and slaughter purposes have a different maximum weight to cattle and buffalo exported for breeder purposes?

No. Cattle and buffalo have the same physiology and anatomy and hence the same risks.

3) Is 500 kg appropriate? Is 650 kg? Should it be higher/lower and why? What are the animal health and welfare risks? Are there any mitigating measures that must be taken?

500 kg MAXIMUM for reasons cited above unless VERY deep bedding is applied and double the space to enable easier rising and lying down.

4) Is a weight restriction appropriate and are there extra conditions that should apply or should it be more specific, for instance, a body condition score and breed?

As above.

5.4: Minimum time sheep, goats, cattle and buffalo must remain at a registered premises prior to export by sea

Questions about minimum hold times in registered premises:

- 1) What is the minimum time that sheep and goats should be held in an outdoors registered premises prior to loading aboard an export vessel? Should other provisions be included regarding seasonal factors, feeding and pre-conditioning to shipboard rations?

Sheep and goats' minimum clear days should be 7 days to ensure they are not shy feeders and that they are not about to begin shedding salmonellosis in a pathogenic manner as are likely to be destined for long haul voyage with limited resources on board to deal with outbreaks and shy feeders.

- 2) What is the minimum time that sheep and goats should be held in sheds registered premises prior to loading? Should other requirements be made for seasonal factors, feeding and pre-conditioning to shipboard rations?

As above.

- 3) Should the standards be amended to alter the specifications currently in place prescribing timelines for various classes of livestock to remain at a registered premises prior to export by sea? If so, what would you suggest?

No.

- 4) What would be the cost implications of any changes to the times livestock must spend in registered premises?

Cost to exporter of feed, savings in less mortalities.

Cattle should all have a minimum of 3 clear/ full days in registered premises before sailing regardless of long haul or short haul as short hauls have been known to become long hauls easily, especially with multiple discharge ports or using large ships such as Ocean Drover etc.

5.5: Management of shy feeders and inanition in sheep

5.5.1: Shy feeders and inanition refers to the same phenomenon, whereby sheep are starving to death whilst looking at feed they do not recognize as feed. Inanition is an industry word and is not the same as inappetence.

5.5.2: Hence the time in the registered premises to adjust to feed or be removed from export chain.

5.5.3: Agree in part, it is also a finding well known amongst exporters that young sheep coming from weaning/ fresh spring pick are more likely to stress, shed salmonella and succumb to it.

That's what was believed to be the issue of the 1900 who died in the registered premises in Perth in 2007 in 3 days that was covered up by both the exporter and likely a DAFF employee in WA.

Questions about the management of shy feeders and inanition in sheep:

- 1) What measures should be required to reduce the incidence of inanition and salmonellosis in sheep? Are the current requirements in the standards adequate to manage shy feeders and inanition in sheep?

Seven clear days in the registered premises before loading for ship, allowing for the removal of any animal with evident scours/ empty rumen upon visual inspection of individuals.

- 2) If not, what changes would you suggest?

As above, and inspection and shy feeders to be removed from the mob before loading on truck for port due to the risk of extra stress on animals and more chance to spread any disease.

- 3) What would be the cost implications of any proposed changes to these requirements?

Fewer deaths on the ship and better and more easily attained management of affected sheep in the registered premises compared with on the ship.

5.6: Pregnancy test requirements and limits

Questions relating to pregnancy requirements:

- 1) What is the risk of changing the pregnancy test requirement from all Damara sheep to only those that weigh over 40 kg?

Often Damara rams run with the flock all year round, hence could lamb at any time. Would need statutory declaration from Vendor to state if this was so, if not possibly valid at over 40 kgs only.

- 2) Should the standards be expanded to include all fat-tailed sheep and not just Damara? Fat-tail sheep being: sheep distinguished by a genetic predisposition for the accumulation of fat in the tail and hindquarters.

Depending on the breeding program, as per Damaras

- 3) Must pregnancy testing be undertaken by a veterinarian, or is a competent pregnancy tester acceptable? Should it be expanded to any livestock pregnancy tester as accredited by the state or territory?

Should be a qualified and certified pregnancy tester. Many vets may be good vets, but not so accurate with aging of unborn calves or sheep.

- 4) Should the 30 day period prior to export for pregnancy testing be extended to 45 days as a blanket change? Should there be discretionary allowances for low-risk cases, such as unjoined heifers or a shipping delay, where adverse animal welfare outcomes are likely to result from re-testing.

Yes

- 6) Are the methods for carrying out pregnancy tests appropriate? Are there any appropriate national pregnancy testing criteria currently in place that should be adopted/referred to in the standards?

Possibly adequate if utilized and implemented properly. However, the number of newborns at sea proves there is an issue with either implementation or procedure.

- 7) Should breeder cattle and buffalo only be determined as too small to be manually palpated safely by a veterinarian accredited under the National Cattle Pregnancy Diagnosis Scheme (NCPD) or should this be any veterinarian?

Not every veterinarian is good at aging unborn calves, need accreditation.

- 8) What would be the cost implications for any proposed changes to these requirements?

Cost implications are insignificant when compared to fewer deaths at sea of newborns and mothers, less mastitis, and less potential for rejection by importers when an exporter sells pregnant freisan cows who birth jersey cross calves mid voyage.

6: Stocking Densities

Questions about stocking density:

- 1) Do you agree with the application of an allometric model for densities? What is the appropriate k value and why? Should the k coefficient value vary depending on the species and voyage length?

Yes, minimum K coefficient should be 0.033, and greater if animals are pregnant.

- 2) Should the McCarthy Review application of a k coefficient of 0.033 be applied more broadly?

Yes- all year round. Preferably greater coefficient in the Northern summer months.

- 3) How would you standardise liveweights? Is it appropriate to apply a factor associated with curfew and anticipated weight during the voyage? How else can curfew and weight gains after leaving the registered premises be accounted for?

Weights should be recorded on a weighbridge at the port by an independent weigher not affiliated with the exporter. Weight gain should be estimated and load plan should be based on maximum weights expected throughout voyage, not minimum weights loaded.

- 4) What is the financial impact of changing on board stocking densities?

Improved animal welfare and fewer deaths lead to improved industry reputation.

6.2: Registered premises stocking densities

Questions about registered premises stocking densities:

- 1) Are stocking densities at registered premises an issue?

In intensive pens and shed, most definitely. Open paddocks for sheep not so much.

- 2) What do you think about the options presented in the 2012-13 review? Should any of those options now be implemented?

Reassess based on McCarthy review outcomes,

- 3) What are the cost implications of changing stocking densities in registered premises?

Better animal welfare, increased weight gain, fewer shy feeders, reduced stress induced salmonellosis, reduced fighting with bulls and rams.

7: Onboard Resources and Management

Questions on bedding and ammonia levels:

- 1) What specific requirements (i.e. volume, usage, and components) should exist for bedding material for export consignments of cattle and sheep? Should these apply to all voyages or only some? Should it apply to all species or only some?

Massive increase from current levels of bedding on ALL cattle/ buffalo voyages, and some provisions in slippery or wet sheep areas or on hand as a contingency measure for leaks etc. ALL voyages of cattle and Buffalo as standard bedding, on ALL sheep voyages as a mitigation tool and

on all goat voyages as a form of roughage well known at sea to be consumed by goats and alleviate scouring.

- 2) Should the standards be amended to alter the specifications currently in place to manage provision of bedding for livestock and ammonia levels on vessels? If so, what would you suggest?

Yes. At least triple the current allowance per m2 and enough to replace every 3-4 days of voyage length as well as load and discharge needs.

- 3) Should there be a requirement that bedding is used to manage an appropriate faecal pad? Should a statutory reserve amount of bedding be required as a contingency amount to manage any flooded pens?

Yes.

- 4) What would be the costs of any changes to the current arrangements?

Improved welfare, more likelihood of animals resting more, possible weight gain and reduced illness from faeco-oral transmission of pathogens through ingestion by trough contamination or from self-grooming.

7.2.2: "Livestock are more difficult to unload when there is feed in the troughs causing the process to be slower." (ASEL 2012-13). Livecorp/MLA proposed specific phrasing to provide a requirement for feeding the animals while waiting to be discharged, but allow a judgment to be made while discharging (when animals are unlikely/should not be feeding):

This is incorrect. Once the animals see an open gate after a voyage they leave, and they follow one another very willingly walking past troughs with fodder in them unless they have been shy feeders and this is their minimal access. If this is the case the voyage has been managed poorly and this is the problem, not remaining fodder. There is no scope for curfewing animals during discharge due to the unreliable timing of truck arrivals and discharge sequence changes.

Curfewing water is NEVER acceptable. Water should always be automated and easily accessible to the type of livestock being carried- ie, Awassi had automated cattle water troughs that the sheep couldn't reach, hence relied on manual waterers that proved inadequate.

Questions on water, chaff and fodder requirements on vessels:

- 1) Should paragraph 3A.3.2 (c) be amended as follows:
- a) 'For all long-haul and extended long-haul cattle voyages, at least 1 per cent of the fodder required for cattle must be chaff and/or hay.'

At least 1% as much of it gets wet during the voyage, goes mouldy and is used as additional bedding.

- 2) There are a range of issues relating to shipboard fodder requirements being reviewed within Industry. In the interim, are there any other changes to water, fodder and chaff requirements that need to be addressed?

Chaff should be provided on board for medicinal mitigation purposes for shy feeders, scouring cattle, when fines are too common and bloat occurs and to entice shy feeders onto pellets.

- 3) Should automated water systems be mandatory on all voyages? What would be the cost associated with this change and who should pay?

Yes. The ship owner should pay.

- 4) Should there be extra fodder provisions for voyages longer than 10 days?

Yes. Too many risks of delay and running out which happens frequently and causes the need for rationing of fodder during the voyage. This increases bullying, shy feeders, illness and poor welfare. All voyages should have ad-lib feeding.

8 Onboard personnel, animal management and care

Questions about onboard personnel and the monitoring and management of animals:

- 1) In addition to the ship's crew, which on board personnel should accompany livestock export consignments? Should this apply to all consignments? Please provide detail.

An AAV should accompany all livestock export consignments.

- 2) Should the current requirements in the standards be amended and, if so, what elements should be changed?

Yes, as above and suggested increase in stockman to stock ratio adopted.

- 3) What is your view of the three options for AAVs accompanying voyages proposed during the 2012-13 review, and why?

Option three is the only sensible one. Only the AAVs are trained to actually diagnose a range of diseases, and too commonly stockmen with great intentions misdiagnose conditions and use inappropriate treatment. As soon as there is a reportable on a voyage without a veterinarian, a

veterinarian is sent to the discharging port to diagnose and add credibility. It is essential instead to have a veterinarian there all the time.

- 4) Does the requirement for Independent Observers now in place modify or change the need for AAVs to accompany some or all voyages?

No, an Independent Observer could accompany normal personnel. There does not appear to be a guarantee that enough Independent Observers will be veterinarians. Furthermore, their job is to observe, not monitor, treat, euthanize and take legal responsibility for medication use and possible residues found in meat for human consumption.

- 5) What do you believe the roles and responsibilities of the following personnel should be, and why?

- a) AAVs
- b) Stockpersons

AAVs, as stated above. Stockmen augment veterinary activities and help crew manage animal movements, monitoring and treatments.

- 6) If AAVs are to be placed on more or all voyages, what is the additional cost and who should pay?

Daily rate of the veterinarian, cost to be paid by exporter.

- 7) Is it a practical requirement for stock handlers on board to be able to observe all animals at all times during a voyage? If not, what requirement should exist to ensure animal health and welfare is appropriately monitored during a voyage?

It currently is not. It should be a requirement to ensure that all animals are monitored and observed at least daily. It is imperative for correct treatment, animal welfare, and reporting for animals to be easily observed by all stockpersons.

8.2: Requirements for vulnerable/special classes of animals.

Questions about vulnerable/special classes of animals:

- 1) Are there specific requirements that need to be in place for vulnerable or special classes of livestock, which are currently not addressed in the ASEL? Which categories of stock and what additional requirements are needed? Could these be managed under specific management plans, or departmental discretions?

Yes. Goats, stress badly at sea, will eat sawdust as extreme roughage to reduce high incidence of scouring and subsequent deaths. Deer are almost impossible to manage, and always dangerous to

the personnel to treat if they become ill or die in the middle of the pen. Extra training on these issues should be undertaken and gear provided. Specific plans should be included in ASEL.

- 2) Should the requirements in the standards be amended to address concerns raised about safeguards for vulnerable/special classes of animals? If so, what changes should be made?

Yes. As above.

9: Minor Amendments

9.1.1: We agree with RSCPA Australia that deer and camelids should not be exported. They experience immense stress during loading and during voyage. They also pose great risk to personnel trying to load, tend, treat or discharge them. If they are to travel they should be accompanied by a Veterinarian whom is very experienced with the species in question.

9.2: Updating definitions and body condition scoring.

ASEL Review Technical Advisory Committee interim recommendation:

4. Terms to be quantified through drafting the standards text to remove legal uncertainty of certain standards. Definitions list to be thoroughly reviewed, considering the Australian Animal Welfare Standards and Guidelines definitions.

Agree.

9.3: Onboard veterinary medicines and equipment

5. Amend ASEL to reflect that Appendix F Table #10 applies to all classes of cattle and buffalo exported by sea, not only slaughter and feeder classes.

Amend ASEL to reflect current drug regimes as understood by the veterinarians who should be travelling and using them.

ASEL Review Technical Advisory Committee interim recommendation:

6. Appendix F—Mandatory veterinary medicines and equipment—is updated:

- b) Upon completion of research by Livecorp into Shipboard drug use
- c) In consultation with experienced shipboard AAVs
- d) With consideration to the causes of poor welfare outcomes and mortalities upon review of consignments

Yes- with scientific, peer reviewed supporting evidence.

7. Divided into minimum requirements for the voyage and minimum doses per quantity and class of animals.

Not divided into minimum requirements. As per voyage risk is likely to see the maximum need required. Need to allow for wastage.

9.4: Minimum liveweights for export

ASEL Review Technical Advisory Committee interim recommendation:

- 8. Amend 1A.3.4(d)(i) to increase the minimum liveweight of sheep for export by sea from 28 kg to 32 kg
- 9. Amend 1A.3.4(e)(i) to increase the minimum liveweight of goats for export by sea from 22 kg to 24 kg

Don't rely on weights, rely on body condition score (nothing below a 2.5).

9.5: Secondary inspection of goats prior to export

ASEL Review Technical Advisory Committee interim recommendation:

10. Paragraph 1A.1.1 (b) should be amended to:

- a) 'When goats are exported by sea, they must be inspected by an authorised officer or AAV at least once during export preparation, (excluding the day of delivery to the registered premises and day of final inspection prior to loading), to confirm the goats have been held in the registered premises for five (5) days and fed appropriately as per Appendix D.'

b) apply to all sea voyages of goats.

Agree, but preferably do NOT export goats due to the risk of mortality.

9.6 Horn requirements

ASEL Review Technical Advisory Committee interim recommendation:

11. Consistent with the Land Transport Standards 'Horned bulls should have the nonvascular tip removed to a diameter of three cm.'

- a) Paragraph 1A.3.2 (b) should be replaced with a requirement that horned cattle must have the nonvascular horn tip removed to a diameter of three centimetres.

13. Paragraph 1A.3.5 (b) for goats with horns, should be amended to read 'If horned, with horns that are likely to restrict access to feed and water during transport and/or endanger other goats or stock handlers, the horns must be tipped to remove the points, with only the solid non-vascular horn cut.'

14. No removal of long horn management plans.

11) This recommendation could reduce cruel dehorning practice, but we suggest reducing stocking density to allow for extra trough space and less horn interference/ injury.

13) Don't export horned goats.

14). Disagree. Needs to be managed better.

9.8: Water engorgement management

ASEL Review Technical Advisory Committee interim recommendation:

16. The provision of water to animals within a registered premise is under the domain of state or territory legislation and the Australian Animal Welfare Standards and Guidelines. Paragraph 2B.1 (c) to be deleted

Delete this as there should be NO water curfew.

9.9: Proposed duplication areas with the Land Transport Standards

ASEL Review Technical Advisory Committee interim recommendation:

17. While ASEL 2B.6 (a) and (b) address issues that come under the domain of the Australian Animal Welfare Standards and Guidelines and may be considered as duplication, are considered fundamental to ASEL and are to be retained.
18. Appendix B contains shorter periods of curfew and travel before rest for animals to be exported. This is due to the cumulative stress of transport through the supply chain. Appendix B should be retained.

Animals should not be expected to go more than 12 hours without access to water unless under extenuating circumstances, such as next stop is 13 hours away. To avoid unnecessary unloading / loading injury risk.

Shorter periods should be the goal.

9.10: Extension of long-haul voyage requirements

ASEL Review Technical Advisory Committee interim recommendation:

19. Paragraph 3A.3.2 (h) should be amended as follows:

- a) 'For all sea voyages via the Suez Canal, the Cape of Good Hope, the Panama Canal or Cape Horn, or via any other route where the voyage is expected to be longer than 30 days, the statutory reserve of additional fodder that must be loaded must be increased to at least seven (7) days.'

Agree. The Suez canal does not make ships run out of fodder – it's the most predictable and efficient part of the voyage. Extra days make a ship run out of fodder so more days, more fodder plus reserves are required as greater chance of delays for a ream of reasons. Must only load as many cattle or sheep as can be provided with 7 days extra fodder as many ships cannot carry more than this with current stocking densities.

10: Definitions



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Long Haul voyage- change to “loaded for 10 days or more (not just sailing days).”

Add **morbidity-** any illness or injury that an animal expresses or experiences that does not result in death during a section of the chain of export, ie morbidity occurred during voyage, mortality occurred at the post discharge quarantine station.

Short haul- again, loaded time, not sailing time. Loaded time no greater than ten days. Otherwise very misleading to the first animal on, who is usually the last animal off. Make consistent with following definition of Voyage length which is in reality, Loaded length.

19/9/2018

Contact: Dr Rosemary Elliott, President