# Stage 2: Issues Paper

Review of the Australian Standards for the Export of Livestock

Technical Advisory Committee, August 2018



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Cataloguing data

This publication (and any material sourced from it) should be attributed as: Department of Agriculture and Water Resources 2018, *Stage 2: Issues Paper* Review of the Australian Standards for the Export of Livestock, Technical Advisory Committee, Canberra, August. CC BY 4.0.

This publication is available at haveyoursay.agriculture.gov.au/asel-review.

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## Foreword

The Australian Standards for the Export of Livestock v2.3 (ASEL) set out the requirements to ensure animals are fit to export and manage the risks to animals’ health and welfare throughout the export voyage. The Technical Advisory Committee (the Committee) has been appointed by the Department of Agriculture and Water Resources (the Department) to review the standards. The review process was co-designed with stakeholders in order to improve the scientific rigour of the standard-setting process and serve to address perceptions of conflicting interests.

In Stage 1 of the review, the Committee released an issues paper and draft reformatted standards, seeking public comments on priority areas for review in order to create a work-plan for this and the next stages of the review. The Committee considered the issues raised by stakeholders in submissions, the 13 unresolved issues from the 2012-13 ASEL review, and the requirements of the Committee’s Terms of Reference to develop a draft work-plan to be completed in mid-2019.

On 24 May 2018, the Hon. David Littleproud MP, Minister for Agriculture and Water Resources announced the acceleration of the review to be completed by the end of 2018. To ensure the proper consideration of issues, the scope of the review has been amended to defer consideration of issues relating to livestock exports by air to a future time. The amended scope has retained most issues raised by stakeholders through Stage 1 of the review and the remaining unresolved issues from the 2012-13 ASEL review, and added those items referred to the Committee by Dr Michael McCarthy in the Independent Review of Conditions for the Export of Sheep to the Middle East during the Northern Hemisphere Summer (the McCarthy Review). The amended terms of reference for the ASEL review are available at agriculture.gov.au/animal/welfare/export-trade/review-asel.

To contribute to the scientific integrity of the review, the Committee has requested the Department provide an independent literature review of scientific research relating to livestock exports. It is expected this literature review will be provided to both the Committee and the ASEL review reference group, then released to the public along with the Committee’s draft report.

To help prepare the draft report, the Committee is seeking:

* Your views on issues relating to livestock prepared for export and exported by sea.
* Any additional research projects or publications, and the provision of any economic data that might relate to these issues.
* Your comments on proposed minor amendments to the standards that were raised in Stage 1 submissions. Your feedback will help the Committee identify whether these matters require further consideration prior to amending the requirements.

This issues paper offers guidance on how to provide feedback to the Committee.

Contents

[Stage 2: Issues Paper 1](#_Toc522606669)

[Foreword 3](#_Toc522606670)

[1 Consultation 6](#_Toc522606671)

[1.1 Making submissions 7](#_Toc522606672)

[1.2 Publication of submissions: 7](#_Toc522606673)

[2 Overview/Introduction 8](#_Toc522606674)

[2.1 What is the problem we are trying to solve? 8](#_Toc522606675)

[2.2 What is the role for government? 8](#_Toc522606676)

[2.3 Scope of the paper 9](#_Toc522606677)

[2.4 Summary of issues 10](#_Toc522606678)

[2.5 Minor amendments 10](#_Toc522606679)

[3 Reporting and investigations 11](#_Toc522606680)

[3.1 Reportable mortality rates 11](#_Toc522606681)

[3.2 Voyage reporting requirements 14](#_Toc522606682)

[4 Heat Stress Risk Assessment 17](#_Toc522606683)

[4.1 Application of the HSRA model 17](#_Toc522606684)

[5 Sourcing and preparation of animals 19](#_Toc522606685)

[5.1 Sourcing Bos taurus cattle 19](#_Toc522606686)

[5.2 Shearing sheep and hair sheep 20](#_Toc522606687)

[5.3 Maximum weight of cattle and buffalo sourced for export by sea 22](#_Toc522606688)

[5.4 Minimum time sheep, goats, cattle and buffalo must remain at a registered premises prior to export by sea 23](#_Toc522606689)

[5.5 Management of shy feeders and inanition in sheep 24](#_Toc522606690)

[5.6 Pregnancy test requirements and limits 25](#_Toc522606691)

[6 Stocking densities 28](#_Toc522606692)

[6.1 Onboard stocking densities 28](#_Toc522606693)

[6.2 Registered premises stocking densities 31](#_Toc522606694)

[7 On board resources and management 33](#_Toc522606695)

[7.1 Management of bedding, and ammonia levels 33](#_Toc522606696)

[7.2 Water, fodder and chaff requirements on vessels 35](#_Toc522606697)

[8 On board personnel, animal management and care 38](#_Toc522606698)

[8.1 On board personnel and the monitoring and management of animals 38](#_Toc522606699)

[8.2 Requirements for vulnerable/special classes of animals 40](#_Toc522606700)

[9 Minor amendments 42](#_Toc522606701)

[9.1 Exclusion of deer and camelids 43](#_Toc522606702)

[9.2 Updating definitions and body condition scoring 45](#_Toc522606703)

[9.3 On board veterinary medicines and equipment 47](#_Toc522606704)

[9.4 Minimum liveweights for export 48](#_Toc522606705)

[9.5 Secondary inspection of goats prior to export 49](#_Toc522606706)

[9.6 Horn requirements 50](#_Toc522606707)

[9.7 Sourcing of sheep through Darwin, Weipa or Wyndham 51](#_Toc522606708)

[9.8 Water engorgement management 51](#_Toc522606709)

[9.9 Proposed duplication areas with the Land Transport Standards 52](#_Toc522606710)

[9.10 Extension of long-haul voyage requirements 53](#_Toc522606711)

[10 Definitions 54](#_Toc522606712)

[11 Supporting documents 56](#_Toc522606713)

[Appendix A – Pastoral and Station sheep as agreed in AAWSEL 57](#_Toc522606714)

[Appendix B—Body condition scoring updates 60](#_Toc522606715)

## Consultation

The Committee is developing recommendations to improve the Australian Standards for the Export of Livestock. These recommendations will be provided to the Department.

The Committee is undertaking public consultation throughout the review. The Committee is conscious of the effort required from individuals and businesses to participate in consultations and intends to take advantage of the synergies possible by directly considering relevant information in submissions made to the McCarthy Review, the 2012-13 ASEL Review and in Stage 1 of this review.

The Committee is consulting widely to ensure that consultation captures the diversity of stakeholders affected by any regulatory changes. The Committee is also aware of the high level of community interest in the welfare of exported livestock. Interested parties are strongly encouraged to make a submission to this paper so that the Committee may better understand the potential impacts of any regulatory changes.

There will be several opportunities to participate in the ASEL review, as outlined in Table 1.

Table 1 Key consultation dates

|  |  |
| --- | --- |
| Date | Activity |
| 23 August 2018 | Issues paper released – beginning of consultation period (this document) |
| 19 September 2018 | Submissions close – consultation period ends. |
|  | Analysis of submissions by the Technical Advisory Committee, in consultation with the ASEL reference group as required |
| Late October 2018 | Draft report and standards released – beginning of second consultation period |
| November 2018 | Submissions close – consultation period ends. |
| December 2018 | Final Committee report due to the Department, including delivery of a consultation report outlining the relevant issues raised by stakeholders and the Committee’s considerations in reaching their final recommendations. |

### Making submissions

Individuals and organisations are encouraged to contribute to the review process by making submissions, which are due before 5pm on **19 September 2018**.

You are invited to comment on any aspect of this issues paper, however, we are particularly seeking to:

* Collect evidence and factual data to support different options listed within the paper or alternatives.
* Elicit information from stakeholders to improve the standards.
* Clarify the possible impacts of the issue or recommendation on you, regulated parties, governments and the wider community.
* Quantify the likely costs and benefits of any regulatory measures on affected stakeholders, including the long term economic viability of the industry.
* Identify areas where the obligations of the regulated party are duplicated between different pieces of regulation or standards and where it may be appropriate to simply adopt or refer to that regulation.

We also welcome further information on:

* Additional scientific papers describing relevant research findings.
* Details of perceived barriers and challenges to achieve effective and sustainable animal health and welfare management in livestock exports, within the scope of ASEL (that is, prior to unloading of the vessel).

In making a submission, please:

* Write clearly and be specific about the issues that are of concern to you, linking them back to the page and section of the Issues Paper your comments relate to.
* If you agree or support a particular option, recommendation or part of the Issues Paper, please say so.
* If you disagree with a particular option, recommendation or part please tell us what you disagree with and why.
* Suggest any recommended changes, alternative wording or solutions you may have.
* Provide a copy or link to any supporting evidence relevant to your submission.

### Publication of submissions:

Submissions will ordinarily be available at agriculture.gov.au, unless you request otherwise. Please indicate clearly on the front of your submission should you wish it to be treated as confidential, either in full or part. The Committee and the Australian Government reserves the right to refuse to publish submissions, or parts of submissions, which contain offensive language, potentially defamatory material or copyright infringing material. A request may be made under the *Freedom of Information Act 1982* (Cth) for a submission marked confidential to be made available. Such requests will be determined in accordance with provisions under that Act.

## Overview/Introduction

### What is the problem we are trying to solve?

The Australian Standards for the Export of Livestock (ASEL) have not been updated since 2011. Whilst a review of the standards took place over 2012-13 following the Farmer Review, it was not finalised. In the meantime, animal science and industry practices have evolved meaning that the requirements in the standards are not necessarily fit-for-purpose.

This review aims to address concerns that:

* + The standards do not deliver acceptable animal welfare outcomes for exported livestock within a viable industry.
  + The standards do not meet community expectations for the welfare of animals.
  + The standards are not based on the best available scientific evidence.

It is important that national minimum standards are set for livestock exports that ensure consistent welfare outcomes across the industry, and which provide industry participants with clear criteria for demonstrably meeting their duty of care to the animals they manage along the export supply chain. As the standards are mandated by law in Australia they must, to the maximum extent possible, be evidence-based, supported by contemporary science relevant to Australian systems and the conditions faced during voyages from Australia. Additionally, the standards need to be sufficiently flexible to accommodate newly developed animal management and transport systems, hence be outcomes-based where possible rather than overly prescriptive.

The standards and this review use the World Organisation for Animal Health (OIE) definition of animal welfare, which means:

… how an animal is coping with the conditions in which it lives. An animal is in a good state of welfare if (as indicated by scientific evidence) it is healthy, comfortable, well nourished, safe, able to express innate behaviour, and if it is not suffering from unpleasant states such as pain, fear, and distress. Good animal welfare requires disease prevention and appropriate veterinary treatment, shelter, management and nutrition, humane handling and humane slaughter or killing. Animal welfare refers to the state of the animal; the treatment that an animal receives is covered by other terms such as animal care, animal husbandry, and humane treatment. (OIE 2016c, p. 1)

### What is the role for government?

The Productivity Commission in its report Regulation of Australian Agriculture. No. 79, 15 November 2016, suggested that the role for government was in addressing those instances where ‘animal welfare and profitability are not complementary because the market is largely unable to provide society with desired states of welfare’ (p. 199). This misalignment establishes animal welfare as ‘a public good externality and is addressed by establishing and enforcing standards for animal welfare’ (McInerney, 2004).

The Productivity Commission further identified that in setting standards, government must ensure that credible science underpins animal welfare standards and they are effectively regulated:

The government has a role in ensuring this minimum level of welfare is achieved, where it would not otherwise be achieved as a result of the commercial incentives and actions […] Ethical considerations are important in determining the acceptability of welfare standards, but it is critical that views about animal welfare are based on credible science. People may perceive a practice to be cruel because they do not understand the actual welfare outcomes for an animal. […]And most people accept that there can be tradeoffs between standards and the costs and practicality of achieving them. For that reason, it is important that factual (scientific and economic) considerations are separated from judgements about what is appropriate (ethics). (2016, p. 202-205)

Further,

‘An important policy question is whether regulatory arrangements can effectively manage the welfare of Australian live exports without imposing costs that lead to a substitution to exports from other countries.’ (2016, p. 247)

### Scope of the paper

The review of Stage 1 has been completed with a reformatted version of ASEL being endorsed. Stakeholders said the reformatted ASEL reduces duplication and inconsistencies within the text and has primed the document for further review.

The Committee is specifically considering the remaining unresolved issues from the 2012-13 review of ASEL, issues raised in Stage 1 of this review and issues referred to the Committee by the McCarthy Review.

#### Out of scope

In addition to the items listed in the Committee’s terms of reference as out of scope for the review, the Minister for Agriculture and Water Resources, the Hon. David Littleproud MP’s announcement of the acceleration of the review led to a tightening of the scope. This review will now exclude consideration of the preparation and shipment of livestock by air which will be reviewed at a later time.

The following issues are also out of scope for this review;

* Consequences and penalties for breaching ASEL
* Performance of the regulator
* Broader legislative framework for live animal exports
* The Exporter Supply Chain Assurance System (ESCAS)
* Changes to domestic animal health and welfare standards and policies
* Independent Observers (IOs)
* Framework by which Australian Government Accredited Veterinarians (AAVs) are engaged
* Heat Stress Risk Assessment Model

### Summary of issues

Each issue is set out under three main areas:

* Current Requirements—this includes the current regulatory requirements as reformatted into the ‘Reformatted Australian Standards for the Export of Livestock’ in Stage 1.
* ASEL 2012-13—Information and options as discussed in the 2012-13 review of ASEL, and
* Stage 1—2018 Review—Comments received from stakeholders in the previous stage of this review.

The Committee strongly encourages you to read the supporting material provided in the submissions and supporting documents referred to throughout this paper, for further context around the issue. Submissions are available at: agriculture.gov.au/animal/welfare/export-trade/review-asel and links to supporting documents are available at section 11 of this issues paper.

### Minor amendments

The minor amendments suggested in submissions received during Stage 1 of the review with proposed recommendations have been included for your consideration. Where the Committee considered these issues would be more appropriately addressed at the same time as the issue to which they relate, they have been included under ‘issues’.

After further review, pregnancy test requirements and limits has been moved into the ‘issues’ section as a straightforward recommendation was not easily formed.

## Reporting and investigations

### Reportable mortality rates

The current ASEL standards sets a whole-of-consignment mortality rate for livestock export voyages which, if exceeded, triggers a requirement for an investigation of that voyage by the Department and reports published on the Department’s website. These trigger levels are referred to as the ‘reportable mortality rate’ (RMR) and vary for different species of livestock and different voyage length. As a result of the investigation, compliance and/or corrective actions may be taken.

#### Current Requirements

Within ASEL, the reportable mortality rate which is considered to trigger a notifiable incident within ASEL is the percentage listed below, or three animals, whichever is the greatest number of deceased animals:

* Sheep and goats: 2 per cent
* Cattle and buffalo, voyages ≥ 10 days: 1 per cent
* Cattle and buffalo, voyages < 10 days: 0.5 per cent
* Camelids: 2 per cent
* Deer: 2 per cent

Over the past three financial years (2015-16 to 2017-18), the average voyage mortality rates recorded for the various classes of livestock exported by sea have been as follows:

* Sheep 0.75 per cent across 107 voyages (5.4 million sheep exported)
* Goats: 0.00 per cent across one voyage (700 goats exported)
* Cattle and buffalo, voyages ≥ 10 days: 0.17 per cent across 459 voyages (1.77 million head exported)
  + Cattle: 0.16 per cent across 443 voyages (1.76 million cattle exported)
  + Buffalo: 0.46 per cent across 16 voyages (7,431 buffalo exported)
* Cattle and buffalo, voyages < 10 days: 0.09 per cent across 453 voyages (1.28 million head exported)
  + Cattle: 0.08 per cent across 423 voyages (1.27 million cattle exported)
  + Buffalo: 0.33 per cent across 30 voyages (8,596 buffalo exported)
* Camelids: no exports of camelids by sea occurred during this period
* Deer: no exports of deer by sea occurred during this period.

An important task of the 2018 ASEL review is to review the current reportable mortality rate requirements, determine if there is a case for change, and if so recommend revised standards.

#### ASEL 2012-13

The previous ASEL Review Steering Committee did not reach agreement on whether the reportable mortality rates should be reduced or not. The Steering Committee noted that mortality rates have been incrementally improving since ASEL was developed, and the reportable mortality rates originally introduced are much higher than average mortalities currently experienced. There was discussion over whether triggering additional investigations by reducing the reportable mortality rate would reduce mortalities and whether such investigations would be able to identify what factors led to the high mortality level and, where possible, recommend mitigation strategies. There was also discussion about whether the mortality rates should apply to different classes of the same species and that the lack of individual identification of sheep may mean the total number of animals is not accurate.

The Steering Committee proposed either leaving the reportable mortality rate at the status quo, or halving the rate for each species.

It was also raised that the standards must relate to morbidity and not just mortality and apply to each animal, which must be identifiable at all stages of the live export chain.

#### McCarthy review

The McCarthy Review recommended that ‘*The reportable mortality level for sheep exported by sea to the Middle East should be reduced from 2% to 1%*’. McCarthy further noted that *‘A reduced reportable level could require more resources if existing investigation procedures are maintained and behaviour remains unaltered.’*

The Department noted that mortality, in isolation, is an insufficient measure of animal health and welfare. The Department implemented McCarthy’s recommendation and has further extended the reduction for the 1 per cent sheep mortality rate to apply year-round. This new requirement may be subject to change as a result of this ASEL Review.

#### Stage 1—2018 review

A number of submissions to Stage 1 of this review commented on voyage reporting requirements. These comments ranged from calls for the thresholds to be proportionally linked to averaged mortality rates, to comments that the reduction of rates will not improve voyage outcomes and only increase the cost burden to industry. It was also noted that the recalibration of the reportable mortality rate would not lead to improvements without effective reporting, investigations, and actions to address issues identified.

Questions about reportable mortality rate

*Note: Please provide rationale and evidence to support your position.*

1. Should the current reportable mortality rates (RMR) be revised and, if so, how?
2. At what level of mortality should a notifiable incident be declared, thereby triggering an investigation?
3. Should there be a relationship between the average mortality rate and the RMR and should it be reviewed annually?
4. What should be the stated purpose of an RMR, and what should be the consequence(s) of exceeding the RMR for a voyage?
5. Should the RMR also relate to classes of livestock (within species), different areas of the vessel etc. as well as length of journey?
6. 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?

### Voyage reporting requirements

#### Current Requirements

The reformatted ASEL includes reporting requirements within section 4E and includes the following reporting requirements during the voyage:

* Notifiable incidents (as defined in ASEL)—reported by the Master or AAV within 12 hours of occurring
* Daily reports—reported by the AAV or stockperson for voyages over 10 days
* End of voyage report—reported by the AAV or the stockperson regardless of the duration of the journey, and provided within five days of completion of discharge at final port of disembarkation.

The templated content of these reports can be found at Appendices J and K.

#### ASEL 2012-13

The ASEL Review Steering Committee discussed the following difficulties raised in submissions, that the reports:

* do not include pen or specific area reports smaller than the deck/tier level
* are not standardised and therefore are administratively burdensome
* include few animal welfare indicators other than respiratory type, faeces type and feed and water consumption, and
* focus on mortality and environmental reporting.

It was suggested that the daily report be expanded to include other information such as the average temperature (wet bulb reading) on the hold and the bridge in addition to on decks

It was suggested that the end of voyage report be expanded to include the following:

* Name of AAV and Accredited Stock-person where applicable
* Date(s) of loading, name of ports of discharge
* Date(s) of discharge in each port
* Duration of the voyage in days
* Fodder and water consumed during the voyage and detail of any issues surrounding their supply, availability and /or quality
* Feed consumption – average per head
* Water consumption – average per head
* Number of livestock born during the voyage and the identities of the dam(s) by species, commercial class and ear tag
* Number of abortions during the voyage and the identities of the dam(s) by species, commercial class and ear tag
* Detail of any health and welfare issues that emerged during the voyage, measures used to mitigate any issues and their effectiveness
* Treatment report including (the number treated during the voyage, reason(s) for the above treatment(s), drugs and equipment used in treatment and an assessment of their availability and effectiveness (The AAV or stock-person should be prepared to make their detailed treatment records available to the Department upon request)
* Detail on the conditions of the decks during transit in relation to bedding and any wash down(s) undertaken including an assessment as to their timeliness and effectiveness
* Environmental conditions during the voyage including sea conditions, temperatures and humidity as well as an assessment of the effectiveness of the vessels ventilation
* Detail of any vessel related issues that affected the health and welfare of the livestock
* Total mortalities by deck, hold and tier for each species loaded as a part of the consignment
* Total mortalities by species and commercial class for the consignment
* Total mortalities by species and cause for the consignment including the number euthanased
* Detail of any miscounts detected at the completion of discharge
* Assessment of relationships between Master/Accredited Stock-person/Accredited Veterinarian and Crew
* Any other relevant information including activities attempting to board or delay the vessel, piracy precautions, unforeseen delays due to weather and foreign government officials

#### McCarthy review

The McCarthy Review recommended that ‘*the use of both a panting score and a heat stress score should be a mandatory requirement in the daily report.*’

Following the provision of McCarthy’s report in May 2018, the Department has implemented panting scores and heat stress scores as a mandatory requirement in daily reports, as per McCarthy’s recommendation 19.

McCarthy also discussed 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*.’

#### Stage 1—2018 review

Whilst voyage reporting requirements were mentioned in submissions, limited specific detail was provided. Livecorp noted its project, W.LIV.3032 ‘Development and assessment of animal welfare indicators - Quantifying welfare improvements in the live export industry’, which aims to provide reliable measures other than mortality, by which to assess an animal’s welfare.

It was also proposed during Stage 1 that records of an animal’s treatment history should be retained for 10 years rather than 2 years. However, this time is stipulated in the *Export Control (Animals) Order 2004.*

Questions about voyage reporting

*Note: Please provide rationale and evidence to support your position.*

1. What further changes, if any, do you think are necessary to the voyage reporting requirements of the standards?
2. Should the voyage reporting changes recommended by the McCarthy Review and then instituted by the Department be applied more broadly?
3. Some stakeholders would like voyage reports to be publicly available, while others argue that this approach may limit candour. What is the best approach to balance public transparency with frankness in 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?
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?
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?
7. If reporting requirements are increased, what might be this cost and who would pay?

## Heat Stress Risk Assessment

Further to the McCarthy Review, the Department has undertaken to test and consult on the development of a welfare-based approach to the heat stress risk assessment (HSRA) model arising from Dr McCarthy’s recommendations 3-5, 7 and 8. The Department has established a Technical Reference Panel to provide expert advice and a findings and proposals document on the HSRA model. The Technical Reference Panel will consult stakeholders as part of its work in the coming weeks. As such, the HSRA model and its settings are not considered as part of this Issues Paper.

### Application of the HSRA model

#### Current requirements

The current (reformatted) ASEL states:

* 3A.4 (a) (ii): For exports to the Middle East, an agreed heat stress assessment must be completed and indicate the risk is manageable as per the testing criteria in this Standard.

May to October has been considered as the high risk period for the export of livestock to the Middle East since prior to the introduction of the standards in 2003. The standards identify additional risk management measures that are required during the months of May to October for exports to the Middle East. For example, stocking density requirements in ASEL provide specified (increased) space requirements for sheep exported to the Middle East departing from May to October. The Department requires that a heat stress risk assessment be applied to all voyages travelling through the Arabian Sea. This includes voyages that travel to the Red Sea.

#### ASEL 2012-13

The ASEL Review Steering Committee considered livestock were at a higher risk of heat stress having travelled from Australia’s southern winter to the northern summer during May to October as they are less acclimatised to hot temperatures, in addition to the high voyage temperatures likely to be experienced during this period.

The Department noted at the time:

* Voyages now also pass through the Middle East without unloading cattle and therefore, ‘through’ the Middle East should also be included. This would cover voyages to Turkey, Russia and Libya.

The period of May to October as a limiting factor more generally was not discussed.

#### McCarthy Review

The McCarthy Review used the months of May to October, as prescribed in ASEL, to define the Northern Hemisphere Summer.

A submission to the McCarthy Review included analysis of seasonal patterns of mortality rates for sheep exported to the Middle East. The submission noted that mortalities were more likely to occur when voyages commenced in May to October, corresponding to the hotter months in the region.

#### Stage 1—2018 Review

It was generally agreed that there should be restrictions on exports to the Middle East during the hottest months of the year, but there were differing views on how that period should be defined. Questions were also raised about the geographic region that should be covered by that restriction.

Questions about limits relating to heat stress risk assessment application

*Note: Please provide rationale and evidence to support your position.*

1. Should paragraph 3A.4 (a) (ii) be amended to include other geographical locations?
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?
3. Are there different high risk months for different markets that aren’t considered in the standards?

## Sourcing and preparation of animals

### Sourcing *Bos taurus* cattle

#### Current Requirements

The current (reformatted) ASEL states:

* 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.
* 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).

#### ASEL 2012-13

The ASEL Review Steering Committee proposed two options for the limit on the upper body condition score of *Bos taurus* cattle to be sourced above 26 degrees South from October to December:

* Option 1—upper body conditions score of 5
* Option 2—upper body condition score of 4

The ASEL Review Steering Committee also proposed two options for the export of *Bos taurus* cattle to the Middle East from May to October. The options were a prohibition, or the status quo:

*Bos taurus* cattle bred in an area of Australia south of latitude 26° south must not be sourced for export to or through the Middle East from May to October unless a livestock heat stress risk assessment agreed by the Department indicates that the risk is manageable.

#### Stage 1—2018 Review

It was again raised in 2018 review submissions that *Bos taurus* cattle originating from southern Australia are at significant risk of heat stress if transported during the Middle Eastern summer.

It was noted through Stage 1 that the exclusion period for sourcing fat *Bos taurus* cattle above 26 degrees South from October to December does not align with either the southern or northern hemisphere summer, nor with the northern Australian wet season.

Questions about sourcing Bos taurus cattle

*Note: Please provide rationale and evidence to support your position.*

1. Should Paragraph 1A 3.2 (c) (iii) be retained in its current form?
2. Should Paragraph 1A 3.2 (c) (iv) be retained in its current form?

### Shearing sheep and hair sheep

#### Current Requirements

The current (reformatted) ASEL states:

* 1A.3.4(d): For export by sea, all sheep must:
  + have **wool** not more than 25 mm in length
  + either be:
    - 10 days or more off shears when sourced, or
    - be shorn during the 10 day period before export and accommodated in sheds on the registered premises.

#### ASEL 2012-13

##### Shearing hair sheep

Sheep prepared in sheds under the current requirements can be shorn immediately prior to export, and there is no requirement for hair sheep to be shorn. The current words of ‘wool no longer than 25mm’ have been interpreted literally allowing hair sheep to not be shorn.

It was suggested to the 2012-13 review that monitoring the health of sheep, especially in a crowded pen situation is made more difficult as personnel are unable to determine the animals respiratory rate or body condition due to a full or part fleece/ hair growth. Because of this, ‘fat tailed’ sheep should not be excluded from the requirement to be shorn. This would to facilitate health care, monitoring and wellbeing.

The ASEL Review Steering Committee agreed that ‘wool’ should be changed to ‘hair’ and proposed two new options for hair sheep, goat and alpacas:

* Option 1—Departmental discretion for hair length
  + Sheep, goats and alpacas must only be sourced for export if they:
    - have hair not more than 25 mm in length, unless approved by the department based on a heat risk assessment model agreed by the Department and at least an additional 10 percent space provided.
* Option 2—No discretion for hair length

##### Shearing sheep

No agreement was reached by the 2012-13 ASEL Review Steering Committee on the issue of time off shears or sourcing of sheep with hair more than 25mm. Currently, sheep shorn on farm can be shorn 10 days prior to export, but this does not apply at the registered premises for sheep held in sheds.

It was recommended that sheep are not to be exported within 10 days of shearing as given the cumulative stress experienced with transport and shearing, the animals require sufficient time to recover before the next stage in the journey (see W.LIV.0254).

The ASEL Review Steering Committee proposed three new options:

* Option 1—Expanded requirement to include goats, alpaca and hair sheep
* Option 2—Amend the standard to reduce the time off period (two days off shears)
* Option 3—Amend the standard to reduce the time off period (three days off shears)

#### McCarthy review

##### McCarthy part 6.1.12

McCarthy ‘strongly recommended 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.’

#### Stage 1—2018 review

##### Shearing sheep

Comments were provided in relation to time off-shears for shorn sheep. It was suggested that the requirement to have newly shorn sheep accommodated in sheds should be based on the risk of an extreme weather event at the registered premises. It was also suggested that the requirement to source sheep for preparation in paddocks more than 10 days off shears with less than 25mm of wool, restricts the ability to shear the sheep closer to the export date, which would result in better animal welfare outcomes.

##### Shearing hair sheep

The adoption of ‘hair’ or ‘fibre’ to replace ‘wool’ was taken in Stage 1 of the report to have been an agreed outcome of the 2012-13 ASEL review. However, a comment received in Stage 1 stated that to change the requirement to include ‘fibre’ or hair sheep was not agreed and significant because *‘The only breed of long-haired sheep exported in any numbers is the Awassi. […] renowned for heat tolerance’* and that there are economic and welfare implications in shearing hair sheep. Further, it was noted that there are colder markets where heat stress is not a factor and having fibre cover might be advantageous so there should be Departmental discretion in wool length requirements.

Questions about shearing livestock with wool, fibre or hair

*Note: Please provide rationale and evidence to support your position.*

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?
2. Should all hair sheep and alpacas be subject to the same requirements as wool sheep?
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?
4. Are any other changes necessary to the requirements for wool sheep and hair sheep?
5. Should the current standards regarding timing of shearing prior to loading for export by sea be revised?

### Maximum weight of cattle and buffalo sourced for export by sea

#### Current Requirements

The reformatted ASEL states:

1A.3.2(c): for export by sea, cattle must have an individual liveweight between 200kg and 650kg inclusive.

1A.3.3(c): For export by sea, buffalo must have an individual liveweight between 200kg and 650kg inclusive.

#### ASEL 2012-13

The ASEL Review Steering Committee considered, but did not agree on, two maximum weights for cattle and buffalo sourced for export as slaughter and feeder animals:

* Option 1—status quo (650 kg)
* Option 2—lower maximum weight (500 kg)

Throughout the review it was discussed that heavy animals are at higher risk of abrasive injuries due to the exertion applied/transferred against their joints by their sheer weight. It was suggested that cattle greater than 500 kg should not be sent on long haul voyages as their weights are not compatible with musculoskeletal health when housed on ship deck surfaces.

The Steering Committee also referenced an MLA Project W.LIV. 0254 which stated “It was commonly reported to the authors that heavy cattle (over 380 kg) will, depending on the surface of the pen floor and stability of the ship, incur more injuries than other cattle”.

#### Stage 1—2018 review

It was recognised through submissions to the 2018 review that cattle over 500 kg are a higher risk category and at greater risk of being unable to get up should they fall or suffer foot and leg problems during the voyage. It was suggested extra risk management factors for these heavier cattle should be applied and alternate views suggested heavier cattle should be precluded from export.

Questions about maximum weight for cattle and buffalo to be exported by sea

*Note: Please provide rationale and evidence to support your position.*

1. Should the maximum weight for sourcing and exporting cattle and buffalo be the same?
2. Should cattle and buffalo exported for feeder and slaughter purposes have a different maximum weight to cattle and buffalo exported for breeder purposes?
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?
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?

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

#### Current Requirements

Within the reformatted ASEL:

* Table #8 sets out the minimum time cattle and buffalo must spend in a registered premises prior to loading.
* Table #9 sets out minimum pre-export holding times and feed requirements for sheep and goats.

#### ASEL 2012-13

Industry research presented to the 2012-13 ASEL Review Steering Committee (LIVE.123), stated ‘Sheep assembled for 7 to 8 days had a lower risk of mortality than those assembled for 3 to 6 days’. As such, the Steering Committee proposed the following options for minimum times animals were to be held at the registered premises:

Sheep and goats held **in paddocks** during any or all of November, December, January, February, March and April

* Option 1—status quo (5 clear days excluding the days of arrival and departure)
* Option 2—increased time in registered premises (7 clear days excluding the days of arrival and departure)

Sheep and goats held **in paddocks** during any or all of November, December, January, February, March and April

* Option 1—status quo (3 clear days excluding the days of arrival and departure)
* Option 2—increased time in registered premises (7 clear days excluding the days of arrival and departure)

Sheep and goats held **in sheds** during any or all months of the year

* Option 1—status quo (3 clear days excluding the days of arrival and departure)
* Option 2—increased time in registered premises (7 clear days excluding the days of arrival and departure)

The minimum length of time that **cattle and buffalo** must remain in a registered premises prior to departure is as follows:

* Option 1—status quo
  + a long haul voyage — 2 clear days;
  + for a short haul voyage in a vessel with multiple port loadings or multiple port discharges — 1 clear day;
  + for a short haul voyage in a vessel with 1 port of loading or 1 port of discharge – 24 hours; or
  + for an extended long haul voyage — 3 clear days.
* Option 2 – increased minimum time in registered premises
  + For a short haul voyage in a vessel with 1 port of loading or 1 port of discharge – 24 hours. For all other voyages, all cattle and buffalo must remain in registered premises for a minimum of 3 clear days prior to departure for export.

#### Stage 1—2018 review

A number of submissions to Stage 1 of the review made comments about minimum times for livestock to remain at a registered premise prior to export by sea, although views differed on what this time should be. It was generally held that the time in the premises is crucial for animal welfare outcomes. However, it was also raised that there can be adverse animal outcomes from requiring sheep to be held outdoors in inclement weather.

Questions about minimum hold times in registered premises

*Note: Please provide rationale and evidence to support your position.*

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

### Management of shy feeders and inanition in sheep

#### Current Requirements

The reformatted ASEL specifically mentions that ill-thrift or inappetence (inanition) is a criteria for rejection that means that an animal showing signs of ill-thrift or inappetence is not fit for export and so, must not be sourced or prepared for export.

#### ASEL 2012-13

In the 2012-13 review, the following comments were made about inanition:

Salmonella induced enteritis, inanition, or a combination of both, are the cause of nearly 80% of sheep mortalities during export. R&D reports have identified a number of criteria which could be applied to reduce the risk of mortality, including implementing a uniform information management system to track sheep performance. Consideration must be given to a system of compulsory feedback to ensure that individual animals can be tracked and monitored and how high risk animals can be excluded from selection

#### McCarthy review

The McCarthy Review made a number of observations about the practicalities of managing shy feeders and inanition in sheep. The review also took a careful look at the science. McCarthy discussed the increased risk of Salmonellosis in select lines of sheep such as older, heavier and generally fatter merino wethers due in part to acclimatization during preparation. McCarthy also stated that:

“Research has shown that careful attention to the sourcing of sheep during the late winter period has a profound effect on mortality rates […and…] research would indicate that there is a strong link between a subclinical Salmonellae and inanition but there is also evidence that it can have a link to metabolic factors”.

#### Stage 1—2018 review

A couple of submissions to Stage 1 of the 2018 review commented on management of shy feeders and inanition in sheep. It was commonly acknowledged that the inanition/salmonellosis complex is the major cause of morbidity and mortality on routine sheep voyages. Livecorp reported that industry is developing a vaccine to manage Salmonella.

It was also noted that identification of shy feeder sheep during pre-export lairage, to reduce deaths from inanition, must be part of any pre-voyage preparations. Industry research completed in 2017 (W.LIV.0142) outlined some best practice guidelines for pre-embarkation treatment of sheep to minimise the incidence of inanition and Salmonella.

Questions about the management of shy feeders and inanition in sheep

*Note: Please provide rationale and evidence to support your position.*

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?
2. If not, what changes would you suggest?
3. What would be the cost implications of any proposed changes to these requirements?

### Pregnancy test requirements and limits

The current (reformatted) ASEL states:

* 1A.3.2(c)(i): (export by sea) female feeder or slaughter cattle must be determined not to be detectably pregnant by a valid pregnancy test or accompanied by a valid spay declaration.
* 1A.3.2(c)(ii): (export by sea) female breeder cattle must not be more than 190 days pregnant at the scheduled date of departure and tested in accordance with the requirements of a valid breeder pregnancy test.
* 1A.3.3(c)(i): (export by sea) female feeder or slaughter buffalo must have been determined not to be detectably pregnant by a valid pregnancy test or accompanied by a valid spay declaration
* 1A.3.3(c)(ii): (export by sea) female breeder buffalo must be no more than 220 days pregnant at the scheduled date of departure and tested in accordance with the requirements of a valid pregnancy test.
* 1A.3.4(c): all female feeder or slaughter sheep over 40 kg and all Damara female sheep must be determined to be not detectably pregnant and tested in accordance with the requirements of a valid pregnancy test.
* 1A.3.4(d)(iv): (export by sea) if female breeder sheep, must not be more than 100 days pregnant at the scheduled date of departure and tested in accordance with the requirements of a valid pregnancy test.
* 1A.3.5(d): if female feeder or slaughter goats, must be determined not to be detectably pregnant and tested in accordance with the requirements of a valid pregnancy test.
* 1A.3.5(e)(ii): (export by sea) if female breeder goats, be determined to be no more than 100 days pregnant at the scheduled date of departure and tested in accordance with the requirements of a valid pregnancy test.
* 1A.3.6(a): all female feeder or slaughter camelids must have been determined not to be detectably pregnant and tested in accordance with the requirements of valid pregnancy test.
* 1A.3.6(d)(i): (export by sea) all female breeder alpaca and llamas must not be more than 228 +/- 2 days pregnant at the scheduled date of departure and tested in accordance with the requirements of valid pregnancy test.
* 1A.3.7(f)(v): (deer, export by sea) if female, have been tested in accordance with the requirements of a valid pregnancy test and determined to be not detectably pregnant, or in the case of breeders, must not be more than 140 days pregnant at the scheduled date of departure.
* Under the current testing arrangements there are three classes of people who can pregnancy test different classes of animals:
  + National Cattle Pregnancy Diagnosis Scheme (NCPD) accredited veterinarians
  + Registered veterinarians (with demonstrable relevant experience in pregnancy diagnosis for the species)
  + A person able to demonstrate a suitable level of experience and skill

#### ASEL 2012-13

Submissions to the 2012-13 ASEL review indicated that current pregnancy testing requirements are inadequate. There was a general view that requirements for competency of pregnancy testing must be consistent and of the highest standard. It was noted that research project LIVE.208 recommends a limit to pregnancy of 180 days (end of second trimester).

It was also suggested that individual identification of all pregnant sheep loaded onto a ship, confirming they have been pregnancy tested empty would help trace-back for any births on board to allow future risk mitigation.

#### Stage 1—2018 review

There were a number of submissions to Stage 1 of the current review that have commented on pregnancy test requirements and limits, including that:

* pregnancy testing criteria for beef cattle should reflect an Australian national standard for pregnancy testing once it has been developed/implemented.
* pregnancy testing of all animals must be performed by competent veterinarian.
* references to Damara sheep should be removed as they ‘are not significantly different to other breeds of sheep […and…] there is no reason to believe that Damara sheep breed at a significantly earlier age or lower bodyweight than other breeds of sheep.’

It was suggested that only allowing a NCPD accredited veterinarian to determine whether breeder cattle and buffalo were too small to be manually palpated safely was too restrictive. Instead, it was suggested this requirement be expanded to any registered veterinarian.

It was noted that animals should not be in their third trimester and with submission comments calling for the standard relating to beef cattle be reduced, to no further than 206 days gestation and so that no cattle are more than 220 days pregnant on completion of post-arrival quarantine.

It was suggested that the Committee consider the lack of discretion in pregnancy testing, including minimum weight/age for species, and whether the 30 day period for testing is adequate for increased pre-export quarantine periods in certain markets.

Questions were raised about the practicality of pregnancy testing of five-month old ewe lambs or goat kids, exported as breeders, which must be pregnancy scanned and certified as not more than 100 days pregnant; and re-pregnancy testing of unjoined heifers because there has been a shipping delay and the previous pregnancy test is now a week outside the allowable 30-day pregnancy testing window.

Questions relating to pregnancy requirements

*Note: Please provide rationale and evidence to support your position.*

1. What is the risk of changing the pregnancy test requirement from all Damara sheep to only those that weigh over 40 kg?
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.
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?
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.
5. Should the age that goat kids and ewe lambs are pregnancy tested be increased to more than five months? What would be an appropriate age for goat kids and ewe lambs to be tested?
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?
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?
8. What would be the cost implications for any proposed changes to these requirements?

## Stocking densities

### On board stocking densities

#### Current Requirements

ASEL has established a suite of stocking densities. These include:

* Standard/default stocking densities. These stocking densities provide base space allowances for livestock during standard exports (e.g. short-haul exports).
* Additional space allowances above the standard stocking densities for:
  + Exports associated with a higher risk of heat stress (predominantly associated with exports of *Bos taurus* and sheep between May to October to the Middle East). These allowances are provided as additional space within the stocking density tables or through a requirement for a heat stress risk assessment, either under ASEL or on the instruction of the department.
  + Individual characteristics that necessitate additional space. These include pregnancy, horned rams, goats with specific horns and sheep with more than 25 mm of wool.
  + Cattle on long haul voyages and voyages to the Middle East.

The reformatted ASEL includes the same stocking densities both on board and in registered premises as ASEL 2011 v2.3. Following the McCarthy Review, the Department immediately implemented an allometric stocking density of k=0.033 for sheep to be exported to the Middle East during the Northern Hemisphere Summer.

#### ASEL 2012-13

No agreement was reached by the ASEL Review Steering Committee on whether the current on board stocking densities are appropriate or should be changed. It was proposed to make the stocking densities for sheep and goats consistent throughout and to introduce a stocking density for hospital pens on board.

The extension of requirements for pregnant *Bos taurus* to pregnant buffalo was also discussed.

It was suggested by some stakeholders that the ASEL 2.3 stocking densities compromise animal health and wellbeing and are non OIE compliant.

##### Pregnant animals

The ASEL 2012-13 Review Steering Committee considered, but did not agree on, the following stocking density options for pregnant animals:

* Option 1—status quo
* Option 2—increased space for all voyages (additional 15%)
* Option 3—Status Quo with increased space (15%) for long and extended long haul voyages

***On board stocking density***

The 2012-13 ASEL Review Steering Committee examined different on board stocking densities based on the allometric model, with k coefficients based on research from Petherick et al, 2007 literature review which states that:

* a k coefficient of 0.027 allows the simultaneous lying of animals, but data suggests there is reduced lying time of animals stocked at this allowance, and it is unknown whether this would provide sufficient space for animals to adequately access feed and drink on board a vehicle/vessel.
* a k coefficient of 0.033 appears to be the threshold below which risks to welfare and productivity are increased. It appears to be a threshold below which behaviour, productivity and some indicators of stress are adversely affected.
* a k coefficient of 0.047 allows all animals additional space to that required for all animals to be lying simultaneously, to potentially enable better access for all animals to resources.

The stocking densities considered were:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ASEL V2.3 Sheep and Goats | | | | | |
| Average weight of sheep (kg) | On board ship (Nov-Apr) | On board ship (May-Oct) | Allometric allowance\* | | |
| 30 | 0.265 | 0.265 | 0.255 | 0.311 | 0.444 |
| 40 | 0.290 | 0.290 | 0.308 | 0.377 | 0.536 |
| 50 | 0.315 | 0.315 | 0.357 | 0.436 | 0.621 |
| 60 | 0.360 | 0.381 | 0.403 | 0.492 | 0.701 |
| 80 | 0.502 | 0.563 | 0.487 | 0.595 | 0.847 |
| 90 | 0.575 | 0.658 | 0.526 | 0.643 | 0.916 |
| K-value |  |  | 0.027 | 0.033 | 0.047 |

\*A = *k*W0.66 where A= area in m2, W= weight in kg

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ASEL v2.3 Cattle and Buffalo | | | | | | | |
|  | ASEL V2.3 on board ship (m2) | | | | Allometric allowance\* | | |
| Weight/ head (kg) | Default Table A4.1.1 | Table A4.1.2 (Southern exports May-Oct) | Table A4.1.3 (Southern exports Nov - Apr) | Pregnant *Bos taurus* cows |  | | |
| 200 or less | 0.770 | 0.847 | 0.770 | 0.889 | 0.891 | 1.089 | 1.552 |
| 300 | 1.110 | 1.221 | 1.110 | 1.282 | 1.165 | 1.424 | 2.028 |
| 400 | 1.450 | 1.668 | 1.450 | 1.751 | 1.408 | 1.721 | 2.452 |
| 500 | 1.725 (SH) | 2.060 | 1.932 | 2.163 | 1.632 | 1.995 | 2.841 |
| 1.790 (LH) |
| 600 | 2.000 (SH) |  |  |  | 1.841 | 2.25 | 3.204 |
| 2.130 (LH) |
| k-value |  |  |  |  | 0.027 | 0.033 | 0.047 |

\*A = *k*W0.66 where A= area in m2, W= weight in kg

#### McCarthy review

##### Recommendation 2

McCarthy recommended that ‘sheep destined to the Middle East from Australia during the northern hemisphere summer should be allocated space allometrically using a k-value of 0.033 or such further space as required by the industry heat stress risk assessment model.’ And that ‘use of this allometric stocking density should be reviewed by the ASEL Review Technical Advisory Committee and/or an independent taskforce at the end of the forthcoming northern hemisphere summer.’

McCarthy also suggested that the ASEL Review Technical Advisory Committee address the anomaly in livestock weights due to curfew.

In response, the Department supported allocating space on vessels allometrically at a k coefficient of 0.033 and introduced a mandatory curfew weight calculation of 12 per cent and allowed for weight gain in transit (40 gram per day weight gain) in the *Australian Meat and Live-stock Industry (Export of Sheep by Sea to Middle East) Order 2018*.

The Department noted:

There is a need to standardise weight estimates for loading and input into the heat stress risk assessment model. However, the Department considers it preferable to extend this recommendation further to include an estimate of arrival weight in the Middle East, the point at which the sheep experience high heat and humidity. For example, for a 50 kg sheep, assuming an average weight gain of 100 grams per day, per animal, would increase in weight on a 24 day voyage by 2.4 kilograms.

#### Stage 1—2018 review

Stocking density was the most raised issue through Stage 1 of the review, most comments suggested the current stocking density rates are inadequate. Comments were around four main areas:

* Allometric modelling and the research completed by Petherick and Phillips (2009) which looks at appropriate space requirements for confined livestock.
* Stocking density based on true numbers of stock and not estimations.
* Stocking density based on the true live-weights of stock allowing for weigh gain during the voyage and weight loss due to curfew of animals prior to loading.
* Increases to stocking densities to allow for:
  + pregnant animals
  + individual visual inspection and identification of shy feeders, and
  + for all animals to be lying down at the same time; for all animals to easily access food and water; for all animals to be able to move freely; for the identification of shy feeders; and for visual inspection of all animals.

In discussing the allometric model, another view was that while it is a useful theoretical model, stocking densities must also be informed by assessments of the outcomes achieved in the actual export situations. It was further suggested that there are a range of things that need to be considered in determining an appropriate K coefficient including:

* The type of animal and its state;
* The extent of packing that is appropriate – what is acceptable based on research, evidence, observation and judgment;
* The type of journey – what activity is required during the voyage, what risks need to be managed.

Questions about stocking density

*Note: Please provide rationale and evidence to support your position.*

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?
2. Should the McCarthy Review application of a k coefficient of 0.033 be applied more broadly?
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?
4. What is the financial impact of changing on board stocking densities?

### Registered premises stocking densities

#### Current Requirements

The current (reformatted) ASEL states:

* 2B.4 Animals have an appropriate amount of space
  + Livestock in the registered premises must be provided with the appropriate amount of space in accordance with the relevant registered premises stocking density in Appendix C.

#### ASEL 2012-13

The ASEL Review Steering Committee discussed the proposal that there should be a standard stocking density for each species, regardless of the length of time the animal is held at the registered premises. The Steering Committee then formulated the following options:

* Option 1—include departmental discretion to change stocking densities at registered premises
* Option 2—no departmental discretion

For the stocking density in registered premises for cattle, buffalo or camels, the ASEL Review Steering Committee proposed two options:

* Option 1—Status Quo
* Option 2—increase space to 9 m2 from 10 days rather than 30 days
  + for cattle, buffalo or camels held for **10 days or more**, a minimum of 9 m2, based on an individual liveweight of 500 kg (this allowance can be varied by 0.09 m2 for each 5 kg change in individual liveweight)
  + for cattle, buffalo or camels held for **less than 10 days**, a minimum of 4 m2, based on an individual liveweight of 500 kg (this allowance can be varied by 0.04 m2 for each 5 kg change in individual liveweight)

For the stocking density in registered premises for sheep or goats, the ASEL Review Steering Committee proposed two options:

* Option 1—Status Quo
* Option 2—apply the increased stocking density the whole time
  + for sheep and goats held in sheds, based on an individual liveweight of 54 kg:
    - penned in groups of less than 8 animals, a minimum of 0.9 m2
    - penned in groups of 9–15 animals, a minimum of 0.8 m2
    - penned in groups of 16–30 animals, a minimum of 0.6 m2
    - penned in groups of thirty-one (31) or more animals, a minimum of 0.5 m2

#### Stage 1—2018 review

Throughout submissions to Stage 1 of the review, it was raised that the proper preparation and rest of animals prior to export has a direct impact on the welfare of the animals throughout the voyage. However, none of the submissions specifically mentioned stocking densities at registered premises as an issue.

Registered premises stocking density

*Note: Please provide rationale and evidence to support your position.*

1. Are stocking densities at registered premises an issue?
2. What do you think about the options presented in the 2012-13 review? Should any of those options now be implemented?
3. What are the cost implications of changing stocking densities in registered premises?

## On board resources and management

### Management of bedding, and ammonia levels

#### Current Requirements

The current (reformatted) ASEL states:

* 3A.3.3 Bedding: For export by sea, bedding must be provided in accordance with the following specifications:
  +  Cattle and buffalo on voyages of ten (10) days or more must be provided with sawdust, rice hulls or similar material to be used exclusively for bedding at a rate of at least seven (7) tonnes or 25 m3 for every 1000 m2 of cattle pen space.
    - NOTE: This does not apply to cattle and buffalo loaded from Brisbane or a port north of latitude 26° south and exported to Southeast Asia or Japan.
  +  Deer and camelids on all voyages must be provided with straw, shavings or sawdust to be used at a rate of at least seven (7) tonnes or 25 m3 for every 1000 m2 of deer pen space before animals are loaded.
* 3B.4(b): When bedding is used, it must be maintained to ensure the health and welfare of the livestock and meet requirements as set out in paragraph 3A.3.3 of this Standard.

#### ASEL 2012-13

##### Bedding

No agreement was reached by the ASEL Review Steering Committee on increasing bedding and bedding management requirements. The Steering Committee proposed a number of options for bedding:

* Option 1—7 tonnes per every 1000 m2 of pen space for cattle, buffalo, deer and camelids on long haul and extended long haul voyages, excluding cattle and buffalo loaded from Brisbane or a port north of latitude 26° south and exported to Southeast Asia or Japan.
* Option 2—Remove exemption and applies to all voyages regardless of length (7 tonnes or 25 m3 per every 1000 m2 of pen space for cattle, buffalo, deer and camelids)
* Option 3—increased rate and additional requirements for management of bedding
  + Provision of bedding
    - Cattle and buffalo on all voyages must be provided with sawdust, rice hulls or similar material to be used exclusively for bedding at a rate of at least 4t per 1000m2 per application (approximately 2.4cm depth spread consistently), including before the animals are loaded.
    - Deer and camelids on all voyages must be provided with straw, shavings, sawdust, or similar material to be used exclusively for bedding at a rate of at least 4t per 1000m2 per application (approximately 2.4cm depth spread consistently), including before animals are loaded.
    - Bedding must be provided to cattle, buffalo, deer or camelids at all times, except during the immediate wash down and drainage process.
  + Management of bedding in relation to bedding provided to cattle, buffalo, deer and camelids:
    - Management of the bedding, including deck wash downs and frequency of replacement of bedding materials, must be sufficient to ensure good welfare outcomes for the livestock. In particular, bedding management must minimise abrasions, lameness, pugging, faecal coating and ammonia production
    - Sufficient bedding material must be provided on surfaces used for loading and discharging livestock from the vessel in a manner that minimises slipping and the risk of injury to the livestock.
    - The consistency and depth of bedding material must be continually monitored.

Submissions to the 2012-13 review suggested that ASEL should ensure enough sawdust is provided/ loaded onto the vessel to allow for bedding replacement every 3–4 days of voyage duration, to coincide with deck washing programs, as well as enough to have the ship ready at loading and to provide enough sawdust for discharge points, ramps and traffic areas. Further, that a lack of appropriate bedding leads directly to contamination of water and feed troughs with urine and faeces and poor animal health and welfare outcomes. For cattle with straw or other bedding systems, the bedding should be maintained to provide cattle with a dry and comfortable place in which to lie. However, sheep faeces generally lead to a moist yet firm faecal pad for the animals to rest on. This substrate provides a soft resting surface and poses no physical injury risk.

##### Ammonia

The current ASEL v2.3 does not specify standards for ammonia levels however, does include the requirement for livestock services on the vessel to ensure that the health and welfare of the livestock are maintained. A new standard was drafted by the 2012-13 ASEL Review Steering Committee which included the requirements for livestock services on the vessel to ensure that the health and welfare of the livestock are maintained.

It was recommended that ammonia levels must not exceed 25 ppm as the point in which measures to reduce must take place. The contentious issue was whether ammonia levels need to be reported on a daily basis on their daily voyage report due to the cost of the recording units.

#### McCarthy review

##### Recommendation 14

In his discussion, McCarthy stated that for the most part, ‘the sheep pad makes for excellent bedding. There is no need for additional sawdust or any other bedding additive under normal circumstances.’ McCarthy also recognised the:

‘good work within the cattle export trade whereby the cattle pad is being extended (in terms of time)… [by] either put[ing] down abundant sawdust at the commencement of the voyage, or add[ing] sawdust on a strategic basis to areas that need it as the voyage progresses. This same strategy may have a place in the sheep trade where some pad areas are known to deteriorate. Sawdust could be spread in these areas, either at the voyage outset, or strategically as the voyage progresses. It is not suggested that sawdust be used on a routine basis for the entire cargo.’

McCarthy made many recommendations in regard to ventilation that have been jointly implemented by the Department and AMSA. McCarthy considers ventilation has three tasks:

* One is to remove the heat and water vapour produced by the animal.
* Another is to lift moisture from the sheep manure pad.
* The final task is to remove any possible build-up of noxious gases (such as ammonia).

#### Stage 1—2018 review

Several submissions to Stage 1 of the 2018 Review commented on provision of bedding and management of ammonia levels.

A number of submissions commented that the bedding requirements within the standards are insufficient to mitigate risks, ensure acceptable welfare outcomes and to minimise injuries such as abrasions and soft tissue damage. These submissions noted that the amount of bedding needs to be increased and bedding management requirements included within the standards. A literature review (W.LIV.0290) on bedding management and air quality on livestock vessels was also provided to the Committee.

Submissions also noted that it was unclear why the standards do not require bedding for cattle and buffalo on voyages less than 10 days, or those originating from northern regions travelling to South East Asia or Japan.

It was also noted that whilst bedding is a key component in managing the on board environment to minimise abrasions, lameness, manure, pad degradation, potentially harmful emissions (such as ammonia) and slipping, but any increase or extension in the current bedding volumes would not be required.

Bedding and ammonia level questions

*Note: Please provide rationale and evidence to support your position.*

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

### Water, fodder and chaff requirements on vessels

#### Current Requirements

The current (reformatted) ASEL states:

ASEL v3.0 Paragraph 3A.3.2 (c) states that …. ‘Fodder for cattle exported from an Australian port south of latitude 26° south must include at least 1 per cent of the required feed as chaff and/or hay.’

#### ASEL 2012-13

It was agreed that all livestock on the vessel must have access to adequate water of a quality to maintain good health and suitable feed to satisfy their energy requirements. However, it was suggested that:

Livestock are more difficult to unload when there is feed in the troughs causing the process to be slower. There may also be curfew requirements in place in importing countries for the in-market road transport legs.

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):

Water provision should be ad lib throughout the entire voyage. […] Curfewing of animal’s access to water to meet trade restrictions should not be permissible especially in summer weather in the middle East Ports. […] Animal wellbeing and health is often jeopardised during curfew and any subsequent land transport that follows.

##### Fodder and additional chaff

Submissions received from a number of AAVs in 2012-13 noted that the pellets on board are designed for ship delivery systems and not sheep nutrition or digestibility. It was further suggested that the grain starches within the pellets are irregular and often lactic acidosis occurs, predisposing animals to salmonellosis or colibacillosis. Previous successful use of hay and cubes from bails and bags was mentioned, however the practical difficulties of such a feed on board was noted. It was also noted that there is no pellet specification for cattle and buffalo, and the camel specification and the sheep and goat pellet specifications are identical.

#### McCarthy review

##### Recommendation 20

McCarthy recommended that ‘All vessels carrying sheep to the Middle East during the northern hemisphere summer should have automated livestock watering systems.’ He further commented that ‘The provision of feed and water come under the oversight of AMSA. This is dealt with under the provision of livestock services.’

The Department implemented the requirement for automated livestock watering systems on voyages of sheep to the Middle East through the *Australian Meat and Live-stock Industry (Export of Sheep by Sea to Middle East) Order 2018.*

#### Stage 1—2018 review

Several submissions to the Issues Paper released under Stage 1 of the current review made the following comments, specifically in relation to fodder and chaff requirements on vessels.

##### Fodder and additional chaff

Multiple submissions raised fodder and additional chaff as key areas for revision. These submissions mentioned that additional fodder should be loaded on various kinds of voyages, either long haul, voyages with dairy heifers or all voyages regardless of load port. Loading additional chaff for therapeutic use in hospital pens was also suggested.

It was noted that pellet specifications in ASEL should be updated to reflect current industry knowledge. It was also recommended that for vessels on their maiden voyage and for extra long-haul voyages, additional fodder is loaded as contingency for delays and breakdowns. The method of calculation for feed required on the voyage was also discussed with the following suggestions:

* Feed available for a voyage is calculated using feed on board at the time of departure, after deducting fodder consumed in port.
* Feed requirements for a voyage include provision for fodder consumed on board until the last animal is discharged, with three day’s additional fodder as contingency for delays and breakdowns.

It was also noted that no specification has been made in ASEL regarding the feed volume requirements for goats.

Livecorp advised that industry research is currently underway looking at shipboard fodder requirements, including pellet specifications and feed volumes. The project will also conduct a review of pellet manufacture and handling systems to identify ways to minimise pellets ‘fines’ (which can cause management and welfare issues on board).

Water, fodder and chaff requirements on vessels questions

*Note: Please provide rationale and evidence to support your position.*

1. Should paragraph 3A.3.2 (c) be amended as follows:
   1. ‘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.’
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?
3. Should automated water systems be mandatory on all voyages? What would be the cost associated with this change and who should pay?
4. Should there be extra fodder provisions for voyages longer than 10 days?

## On board personnel, animal management and care

### On board personnel and the monitoring and management of animals

#### Current Requirements

Section 3B.5 of the current (reformatted) ASEL states:

* (a) An accredited stock-person must accompany each consignment of livestock and must remain with the consignment until the vessel has completed discharging at the final port of discharge.
* (b) An accredited veterinarian must accompany each consignment of livestock where required by the relevant Australian Government agency and must remain with the consignment until the vessel has completed discharging at the final port of discharge.
  + (i) Accredited veterinarians must accompany consignments by sea that are:
    - A. travelling to or through the Middle East
    - B. undertaken upon new or recently renovated vessels, or
    - C. the first consignment for an exporter.
  + (ii) The accredited veterinarian and accredited stock-person may be the same person if that person holds both current accreditations.
* (c) Accredited stockpersons and accredited veterinarians must work with the vessel's Master and crew to ensure and maintain the health and welfare of the livestock on board.
* (d) All personnel handling and caring for livestock or who are otherwise responsible for animals during the voyage must be able to demonstrate an adequate level of experience and skill to allow them to undertake their duties.
* (e) Pregnant livestock must be accompanied by an accredited stockperson with experience with pregnant livestock.

Whilst it is not specified in ASEL, in practice the Department requires an Australian Government Accredited Veterinarian (AAV) on all voyages to or through the Middle East, for new markets (i.e. export to a new country), new market trial voyages, maiden voyages, and for any other voyage at the Department’s discretion.

#### ASEL 2012-13

The ASEL Review Steering Committee sought to expand on the requirement that sufficient personnel must be available both at loading and during the voyage to ensure that livestock husbandry and welfare needs are addressed by adding the following requirement:

* At least one accredited/approved stockperson is to be allocated per 2,500 to 3,000 head of cattle or 40,000 to 60,000 head of sheep.

The ASEL Review Steering Committee did not land on a solid requirement for the presence of AAVs on sea voyages, but proposed the following options:

* Option 1—Status Quo
  + If required by the Department, an accredited veterinarian must be appointed to accompany a consignment.
* Option 2—Increased AAVs
  + An accredited veterinarian must be appointed to accompany all long haul voyages, extended long haul voyages and voyages with pregnant livestock. If required by the Department, an accredited veterinarian must be appointed to accompany a short haul voyage.
* Option 3—Mandatory AAVs
  + An accredited veterinarian must be appointed to accompany all consignments.

#### McCarthy review

McCarthy’s recommendation 16 suggested that a taskforce, perhaps the ASEL Review Technical Advisory Committee, determine the roles and responsibilities of AAVs, IOs and accredited stock-persons.

The Department has carriage of the Independent Observers and the consideration of their role is outside the remit of this review. The responsibilities for AAVs are also broadly contained in legislation including the *Export Control (Animals) Order 2004*. The Department’s response to the McCarthy Review noted that this ASEL review should only consider the roles and responsibilities for AAVs and accredited stockpersons and not the framework by which they are engaged.

##### Part 6.1.6 Provision of Australian stock-persons

McCarthy noted that:

The number of stockmen […is…] a peripheral issue […]. Focussing on the important things that eliminate (or reduce the likelihood to a miniscule level) the chance of the crisis developing in the first place is far less reactive.

##### Part 6.1.14 Competency of the crew

McCarthy did not recommend that any formal competency evaluation of crew competency be required at this point in time.

#### Stage 1—2018 review

A number of submissions to the Issues Paper released in Stage 1 of the current review included comments about on board veterinarians for the monitoring and management of animals. No submissions mentioned stockpersons beyond noting that the required training for a stockperson they felt was insufficient in the absence of a veterinarian on board.

Whilst it was noted that the role performed by accredited veterinarians is critical to the integrity of the live export trade, the role and responsibilities of the veterinarians on voyages was not described in submissions beyond ensuring:

* animals are appropriately monitored,
* treatment of shipboard diseases and injuries,
* humane euthanasia and, where necessary, necropsy with appropriate sample selection.

Submissions received agreed that the extent of veterinary care and supervision available should be proportionate to the risk of the journey and the number of animals carried. Some suggested that this means there should be an Australian registered veterinarian on all voyages, especially given the difficulties in accurately estimating voyage lengths.

Lastly, it was suggested that pregnant livestock must be accompanied by an accredited veterinarian, rather than a stockperson with experience with pregnant livestock.

On board personnel and the monitoring and management of animals questions

*Note: Please provide rationale and evidence to support your position.*

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.
2. Should the current requirements in the standards be amended and, if so, what elements should be changed?
3. What is your view of the three options for AAVs accompanying voyages proposed during the 2012-13 review, and why?
4. Does the requirement for Independent Observers now in place modify or change the need for AAVs to accompany some or all voyages?
5. What do you believe the roles and responsibilities of the following personnel should be, and why?
   1. AAVs
   2. Stockpersons
6. If AAVs are to be placed on more or all voyages, what is the additional cost and who should pay?
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?

### Requirements for vulnerable/special classes of animals

#### Current Requirements

There are no specific requirements for feral goats as opposed to non-feral goats, and no specific requirements around entire males in the standards. Other identified vulnerable classes of animals (fat *Bos taurus* cattle, young lambs and goat kids, pregnant animals, deer, camels and alpacas) are addressed in other sections within this Issues Paper.

#### ASEL 2012-13

In 2012-13 it was raised that the recommendations of research project LIVE.121 about the selection, segregation and inspection of entire males across all species should be incorporated in to the standards.

#### Stage 1—2018 review

It was also raised again in Stage 1 of the 2018 review that the following categories of livestock are particularly vulnerable and additional requirements within the standards are needed:

* fat *Bos taurus* cattle; (see section 5.1 of this Issues paper)
* young lambs and goat kids; (see section 9.4 of this Issues paper)
* feral goats;
* entire males, especially goats and dairy bulls;
* all deer, camels, and alpacas; and (see section 9.1 of this Issues paper)
* all pregnant animals. (See section 5.4 of this Issues paper)

Vulnerable/special classes of animals questions

*Note: Please provide rationale and evidence to support your position.*

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?
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?

## Minor amendments

The following questions apply to all of the proposed Committee’s interim recommendations. You should consider these questions in your submission for each issue.

1. Are the interim recommendations appropriate? Are they viable?
2. If a recommendation is not appropriate, why is it not appropriate?
3. How instead should the standards be amended? Is there a better solution? If so, why is it better?
4. Is there anything else to consider?
5. What is the impact of the recommendation?

### Exclusion of deer and camelids

Livestock, as defined in the *Australian Meat and Live-stock Industry Act 1997* and the *Export Control (Animals) Order 2004*, includes cattle, sheep, deer, buffalo and camelids (that is, camels, llamas, alpacas and vicunas), and includes the young of an animal of any of those kinds.

As such, ASEL includes requirements for deer and camelids to be exported. The export of deer and camelids is of a low frequency. These are overwhelmingly exported by air, as shown in the following table.

Table 2 Total number of species exported per year since 2014

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | 2014 | 2015 | 2016 | 2017 |
| Alpacas | Air | 712 | 1 113 | 243 | 1 801 |
| Sea | 0 | 0 | 0 | 0 |
| Total | 712 | 1 113 | 243 | 1 801 |
| Buffalo | Air | 3 | 25 | 0 | 0 |
| Sea | 5 065 | 5 097 | 5 792 | 9 710 |
| Total | 3 | 5 122 | 5 792 | 9 710 |
| Camels | Air | 40 | 123 | 61 | 67 |
| Sea | 18 | 0 | 0 | 0 |
| Total | 58 | 123 | 61 | 67 |
| Cattle | Air | 9 477 | 11 309 | 6 107 | 9 261 |
| Sea | 1 281 911 | 1 301 361 | 1 136 352 | 857 795 |
| Total | 1 291 388 | 1 312 670 | 1 142 459 | 867 056 |
| Deer | Air | 0 | 90 | 80 | 0 |
| Sea | 0 | 0 | 0 | 0 |
| Total | 0 | 90 | 80 | 0 |
| Goats | Air | 86 569 | 86 676 | 54 201 | 12 245 |
| Sea | 154 | 1000 | 0 | 0 |
| Total | 86 723 | 8 7676 | 5 4201 | 12 245 |
| Sheep | Air | 39 318 | 57 189 | 62 706 | 42 144 |
| Sea | 2 235 872 | 2 014 516 | 1 775 321 | 1 845 272 |
| Total | 2 275 190 | 2 071 705 | 1 838 027 | 1 887 416 |
| Total | Air | 136 119 | 156 525 | 123 398 | 65 518 |
| Sea | 3 523 020 | 3 321 974 | 2 917 465 | 2 712 777 |
| Grand Total | 3 659 139 | 3 478 499 | 3 040 863 | 2 778 295 |

#### Stage 1—2018 Review

Through Stage 1 of this review, a range of stakeholders said the standards for deer and camelids are insufficient, not based on relevant scientific evidence and require revision to ensure additional safeguards for their welfare (RSPCA, Sentient, Agriculture Victoria, Australian Livestock Exporters’ Council, and Deer Industry Association of Australia). Further, that there should be special consideration given to continuing to allow these ‘high risk’ animals to be exported under general standards, and that consignment specific management plans should be prepared for any export containing deer or camelids (ALEC) or prohibited (RSPCA). Specific comments were as follows:

###### RSPCA submission extract

The standards for export, including that of deer and camelids, are insufficient and require revision.

###### Sentient submission extract

[There should be] special consideration for continuing to allow “high risk” animals to be exported, including deer and camelids.

###### Agriculture Victoria submission extract

The standards for on board stocking densities, including that of camels, are insufficient and require revision’.

###### Australian Livestock Exporters’ Council submission extract

All references to deer and camelids in the reformatted ASEL be deleted and that a new section be included to disallow the export of deer and camelids by sea or air unless a Consignment Management Plan has been approved by DAWR.

Alpaca and camel specific requirements should only be included in ASEL after scientific review has clearly established best practise for the export of these species.

Include the Consignment Management Plan standards within Appendix M.

###### Deer Industry Association of Australia submission extract

* 2A.2(v)C: a mortality rate change from 2 per cent to 3 per cent based on deer stress levels being higher than that of cattle or sheep.
* 1A.3.7(c): suggested revision of the use of “unhealed velveting wounds” as the wounds stop bleeding and dry out within a day but take several weeks to fully heal.
* 1A.3.7(d): a change from “not have broken antlers” to “not have broken velvet”.
* 1A.3.7(f)(i): change from “have hard antlers longer than 5cm removed leaving only buttons” to “must have all hard antlers removed leaving only buttons. Velvet must be less than 10cm in length”.
* 1A.3.7(f)(ii): recommended to leave this as is.
* 1A.3.7(f)(iv): revision of “if over 12 months, are not in rut” to reflect that male deer that will enter rut during the estimated timeframe of the voyage should also be rejected. Therefore, male deer over 12 months of age must arrive at final destination before 20th February.
* 1A.3.7(g)(i): change from “not be in velvet or hard antler” to “must have all hard antlers removed leaving only buttons. Velvet must be less than 10cm in length”.
* 1A.3.7(g)(i): revision to reflect the point made in the revision of section 1A.3.7(f)(iv).
* 2A.2(a)(v)C: change feed ratio from 2 per cent body weight to 3 per cent.
* 3A.4.(b): change gap at bottom of pen from 250-300mm to 200mm to prevent fallow deer escaping.
* Appendix A Table #5: suggested that body condition scores of 2-5 are adequate for export as long as voyage feed rations of 3 per cent body weight are met.
* Appendix G Table #13: suggested 3 per cent for feed per head per day as maintenance rations.
* Appendix G Table #13: suggested 10L minimum water per head per day, but no set rule has been established.
* Appendix G Table #14: additional water suggested as the same as above.
* Appendix G Table #16: found this difficult to understand/translate. Advised that pellets are good rations as long as they contain sufficient energy levels.
* Appendix H Table #24: suggested minimum pen area per head for 25kg liveweight to be 0.375m2 and for 50kg liveweight to be 0.75m2.

ASEL Review Technical Advisory Committee interim recommendation:

1. Removal of the requirements relevant to exporting deer and camelids by sea, to be replaced by the provision of consignment specific management plans. These plans will initially cover the requirements contained within ASEL but will be required to be customised to address specialised animal health and welfare requirements for these high-risk consignments.
   1. Specific comments made by Deer Industry Association of Australia will be considered for updating the minimum requirements for deer consignments.

### Updating definitions and body condition scoring

#### ASEL 2012-13

Given the new national system developed through Meat and Livestock Australia (MLA) for beef cattle body condition scores, the Steering Committee agreed that AAWSEL should convert the current system on 1-7 body condition score to be consistent with the new 0-5 body condition score.

At the time, RSPCA noted that body score conditions for deer are listed as ‘a guide’ and body condition scores for buffalo were absent.

The ASEL Review Steering Committee considered that ASEL is too open to interpretation and there is a need to remove the legal uncertainty of certain standards. The Steering Committee agreed to develop a new definition list in the updated version of AAWSEL, to be further considered throughout the drafting process

At the time, the Department suggested *Bos taurus* be defined to include both *Bos taurus* cattle and crosses that are 50 per cent or more *Bos taurus*.

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

The definitions in the reformatted ASEL need to be reviewed to ensure a comprehensive list that is relevant, accurate and concise.

If possible, definitions in ASEL should be the same as definitions used in the Australian Animal Welfare Standards and Guidelines.

Subjective terms such as ‘emaciated’ and ‘over-fat’ should be removed from the ASEL text and definitions and replaced with body condition scores, using the condition scoring systems recommended by Meat & Livestock Australia and Dairy Australia, and widely used in the beef cattle, sheep and dairy industries.

There are also critical definitions missing, such as definitions for ‘pastoral’ and ‘station’ sheep.

###### Stop Live Exports submission extract

Either creating definitions or quantifying terms such as “regularly”, “suitable” and “sufficient”.

###### Agriculture Victoria submission extract

Updating Body Condition Scoring tables for cattle and sheep to reflect present industry standards on a national level.

Body Condition Scoring (BCS) cattle. Table 1 requires updating. Beef cattle use a BCS system 0-5. The MLA published guideline - A national guide to describing and managing beef cattle in low body condition scoring system could be used or referenced. Dairy cattle use a BCS 1-8. The BCS Handbook for dairy cattle published by Dairy Australia could be referenced.

Condition scoring sheep – could either reference an MLA published document with diagrams depicting each score, or insert diagrams.

###### Cattle Council of Australia submission extract

Cattle Council recognises there would be merit in having harmony between ASEL and the Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock, particularly in body condition.

###### Department of Agriculture and Water Resources submission extract

Further clarification of some ASEL definitions would provide greater certainty and consistency in the application of the standards. Examples of definitions which could be clarified include the natural position of an animal for air shipments, requirements for horns and body condition scores.

*Australian Buffalo Industry Council* suggested the following:

Buffalo must not be sourced for export if they are in an emaciated or overfat body condition. That is buffalo must be from condition scores 2 to 6 (inclusive) on a scale of 1 to 9 in the buffalo body condition scoring table at Appendix C of *The Australian Water Buffalo*, published by the Northern Territory Department of Primary Industry and Resources.

ASEL Review Technical Advisory Committee interim recommendation:

1. Definitions for ‘pastoral’ and ‘station’ sheep to be included as agreed in 2012-13 and in Appendix A of this issues paper.
2. Updated and industry standard body scores to be included as agreed in 2012-13, as proposed by the Australian Buffalo Industry Council, and as detailed in Appendix B of this issues paper.
3. 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.

### On board veterinary medicines and equipment

The reformatted ASEL broadly states:

* Vessels must:
  + carry appropriate veterinary medicines and equipment sufficient for the species and number of livestock carried, as specified in Appendix F
  + store veterinary medicines in accordance with veterinary directions and manufacturer’s recommendations, and
  + carry appropriate restraint equipment as specified (referring to Appendix F)
* Additional drugs and equipment may be necessary if there are other classes of the species in the consignment. For example, obstetrical supplies for pregnant animals.
* Tables (Appendix F Table #10, #11 and #12) covering minimum restraint and veterinary equipment requires for slaughter/feeder cattle, buffalo, sheep and goats.

#### Stage 1—2018 Review

It was identified through Stage 1 of the review, that the descriptions of the veterinary are outdated, too prescriptive and not aligned to optimum animal health and welfare outcomes on board.

###### Australian Veterinary Association submission extract

There must be appropriate and sufficient equipment to deal with illness/trauma/euthanasia/carcass disposal.

###### Australian Livestock Exporters’ Council submission extract

Appendix F Table #10 should apply to all classes of cattle and buffalo exported by sea.

A review comprising a small group of experienced shipboard veterinarians and stockpersons should revise the suitable veterinary kit for cattle and buffalo on short-haul and long-haul voyages.

###### Department of Agriculture and Water Resources submission extract

Reviewing descriptions of the veterinary medicines and equipment required on board.

###### Livecorp submission extract

On board veterinary drug use: Industry has tendered to commence research to review and provide recommendations in relation to the on board use of veterinary drugs. This project will use a consultative group of AAVs to guide the process and will consider several different areas including:

* Review common shipboard diseases, diagnosis & treatments and the associated skills/competencies required to manage those diseases;
* Assess the capacity of stock people to treat and manage the diseases commonly faced during export;
* Develop best practice drug use resources;
* Review the ASEL veterinary kit requirements; and
* Explore mechanisms to improve treatment recording methods.

ASEL Review Technical Advisory Committee interim recommendation:

1. 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.
2. Appendix F—Mandatory veterinary medicines and equipment—is updated:
   1. Upon completion of research by Livecorp into Shipboard drug use
   2. In consultation with experienced shipboard AAVs
   3. With consideration to the causes of poor welfare outcomes and mortalities upon review of consignments
3. Divided into minimum requirements for the voyage and minimum doses per quantity and class of animals.

### Minimum liveweights for export

The current (reformatted) ASEL states:

* 1A.3.4(d)(i): For export by sea, all sheep must have: a liveweight of more than 28 kg.
* 1A.3.5(e)(i): For export by sea, all goats must have: a liveweight of more than 22 kg.

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

1A.3.4(d)(i): amend to 32kg, as light lambs (<32kg) have a higher export mortality risk.

1A.3.5(e)(i): amend to 24kg, to enhance animal welfare outcomes similar to the lighter lamb reasoning as above.

###### RSPCA submission extract

The standards for export, including that of young lambs and goat kids, are insufficient and require revision.

###### Sentient submission extract

Special consideration for continuing to allow “high risk” animals to be exported, including very young animals.

ASEL Review Technical Advisory Committee interim recommendation:

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

### Secondary inspection of goats prior to export

The current (reformatted) ASEL states:

* 1A1.1.1(b): If goats are to be exported by sea on a short haul voyage, they must be inspected at the registered premises by an authorised officer on at least two (2) occasions during preparation to confirm the goats have been held in the registered premises for five (5) days and fed appropriately as per Appendix D.

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

This requirement should apply to all sea voyages, not just short-haul’.

Inspection should be by an authorised officer or AAV. This will reduce compliance costs, especially if an AAV is on site for other work.

One additional inspection during export preparation should be sufficient, excluding inspection on entry to the registered premises and final inspection prior to loading.

The inspection should not be restricted to time held in the registered premises and feeding, but include a broader consideration of export preparation, such as adaption to feeding in troughs, prevalence of scouring and management of dominance behaviour in bucks.

ASEL Review Technical Advisory Committee interim recommendation:

1. Paragraph 1A.1.1 (b) should be amended to:
   1. ‘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.’
   2. apply to all sea voyages of goats.

### Horn requirements

The current (reformatted) ASEL states:

* all livestock with horns must not be sourced or prepared for export if they have any of the following:
  + (i) untipped sharp horns (horns must be blunt)
  + (ii) horns that are turned in so as to cause damage to the head or the eyes
  + (iii) horns that would endanger other animals during transport, or
  + (iv) horns that would restrict access to feed or water during transport
* 1A.3.2(b) if horned, cattle must have horns no longer than 12 cm.
* 1A.3.3(b) if horned, buffalo must have horns no longer than the spread of the ears
* 1A.3.4(b) if horned, sheep must have horns no longer than one full curl.
* 1A.3.5(b) Goats if horned must have:
  + (iv) horns no longer than 15 cm long, or
  + (v) if the ends of the horns are no further than 20 cm apart, horns no longer than 22 cm

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

1A.3.2(b): change to ‘horned cattle must have the nonvascular horn tip removed to a diameter of three centimeters’, to align ASEL with the Australian Animal Welfare Standards and Guidelines. Dehorning mature cattle is not good animal welfare practice. When well developed horns are cut to less than 12 cm in length the vascular portion of the horn is invariably exposed, with intensive bleeding.

Paragraph 1A.3.3 (b) states that buffalo must have horns no longer than the spread of the ears. It is not clear what outcome this requirement seeks to achieve. Access to feed and water troughs should not be a problem for buffalo with wider horns, as troughs suitable for horned buffalo can be provided if required. 1A.3.3(b): advised to delete this requirement.

1A.3.5(b): amended to “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 nonvascular horn cut.”

Appendix M advised to remove the requirement for a long horn management plan.

###### Cattle Council of Australia submission extract

Cattle Council recognises there would be merit in having harmony between ASEL and the Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock, particularly in dehorning.

ASEL Review Technical Advisory Committee interim recommendation:

1. Consistent with the Land Transport Standards ‘Horned bulls should have the nonvascular tip removed to a diameter of three cm.’
   1. 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.
2. No change to paragraph 1A.3.3(b).
3. 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.’
4. No removal of long horn management plans.

### Sourcing of sheep through Darwin, Weipa or Wyndham

The current (reformatted) ASEL states:

* 1A.3.4(d)(v): (sheep exported by sea) not be sourced for export from or through the ports of Darwin, Weipa or Wyndham from 1 November to 31 May in the following year (inclusive).

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

This requirement was placed in ASEL v2.3 to manage the risk of clinical bluetongue, by precluding sheep exports from northern Australia during the wet season. ALEC recommends removing this requirement, as the reasoning behind it is flawed, in that, this clause does not appropriately manage the risk of bluetongue virus, as the bluetongue risk zone extends much further south than these three ports and covers other ports that are not precluded from exporting sheep.

###### PM Ryan submission extract

* 1A.3.4(d)(v): including Broome into the port of exclusion.

ASEL Review Technical Advisory Committee interim recommendation:

1. Change the requirement of paragraph 1A.3.4 (d)(v) to be geographic – all ports north of 20 degrees South

### Water engorgement management

The current (reformatted) ASEL states:

* 2B.1 (c): If animals of any species become dehydrated, precautions need to be taken to ensure they do not gorge themselves when given access to water.’

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

* In practice, water deprivation and subsequent engorgement is not an issue for livestock being prepared for export. Nor is it clear what an exporter must do to comply. This paragraph should be deleted from ASEL.

ASEL Review Technical Advisory Committee interim recommendation:

1. 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

### Proposed duplication areas with the Land Transport Standards

The current (reformatted) ASEL states:

* 2B.6 (a): requires that during export preparation, livestock are loaded and unloaded with sufficient competent stock handlers to prevent injury, minimise stress and ensure that livestock husbandry and welfare needs are addressed.
* 2B.6 (b): specifies that on unloading, sheep and goats have access to food and adequate good-quality water and have enough space for exercise and rest.
* Appendix B sets out maximum water deprivation times and minimum rest times for land transport of livestock in Australia.

#### Stage 1—2018 review

###### Australian Livestock Exporters’ Council submission extract

These requirements, 2B.6(a) and (b), are good animal welfare practice. However, they are unnecessary duplication, as supervision of loading and unloading, availability of feed and water during land transportation and rest after unloading are all covered in the Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock.

Appendix B should be deleted.

###### Cattle Council of Australia submission extract

Cattle Council recognises there would be merit in having harmony between ASEL and the Australian Animal Welfare Standards and Guidelines – Land Transport of Livestock, particularly in areas of relevance, including: dehorning, body condition and curfew (water and feed).

###### Stop Live Exports submission extract

* Both 2B.1a and 3B.2a (ii) state that livestock must be offered water and feed as soon as possible within 12 hours, and Appendix B show water deprivation times that exceed a day! This may be acceptable for food, but water should be offered much sooner than 12 hours in any instance, and water deprivation in Appendix B times should be drastically reduced.

ASEL Review Technical Advisory Committee interim recommendation:

1. 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.
2. 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.

### Extension of long-haul voyage requirements

The current (reformatted) ASEL states:

* 3A.3.2 (b): requires voyages through the Suez Canal to have at least seven days reserve of additional fodder.

#### Stage 1—2018 review

The Australian Livestock Exporters’ Council stated that this requirement should apply to all extended long-haul voyages.

ASEL Review Technical Advisory Committee interim recommendation:

1. Paragraph 3A.3.2 (h) should be amended as follows:
   1. ‘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.’

## Definitions

**Accredited stockperson**: Stockpersons who are accredited by Livecorp for the shipboard husbandry of livestock.

**Accredited veterinarian (AAV)**: A veterinarian who is accredited under section 4A.07 of the *Export Control (Animals) Order 2004* to carry out duties in relation to the export of livestock. Otherwise known as an Australian Government Accredited Veterinarian (AAV).

**Allometric**: Allometry is the study of the relationship of animal body size to shape and behaviour. Animals occupy space in three dimensions, but because the height of the available space is not usually a constraint, only the two dimensional area measurements are usually considered. Thus, allometric equations of the form area = kW2/3, where k = a constant and W= liveweight, can be used to estimate the space an animal occupies as a consequence of its mass.

The amount of space provided to animals governs important elements of their behaviour, such as their ability to stand-up and lie-down; hence, is critical for their health and welfare. Once an acceptable value of k (a constant) has been chosen for a given type of animal and journey, the equation then gives recommended space allowances for any weight of that type of animal.

**AMSA**: AMSA means the Australian Maritime Safety Authority established by the *Australian Maritime Safety Authority Act 1990*.

**Animal/s**: A reference to animal or animals is interchangeable with ‘live-stock’ as defined in the *Export Control (Animals) Order 2004*.

**Camelids**: Includes camels, llamas, alpacas and vicuñas.

**Committee**: The Technical Advisory Committee established by the Department to undertake the review of the Australian Standards for the Export of Livestock in 2018.

**Curfew**: Also known as ‘empty out’ time, is the deliberate and variable period of water and /or ‘green’ fresh feed deprivation before another procedure, such as weighing or transport. Any water curfew must be included in the total water-deprivation time with respect to transport journeys.

**Department**: The Australian Government Department of Agriculture and Water Resources.

**Extended long haul voyage**: A loaded voyage greater than thirty (30) days in length.

**Fodder**: Any feed intended for consumption by livestock, including hay, pellets, or grain.

**Land Transport Standards**: The Australian Animal Welfare Standards and Guidelines for the Land Transport of Livestock.

**Livestock**: As defined under ‘live-stock’ in the *Export Control (Animals) Order 2004*, livestock (live-stock) means cattle, sheep, goats, deer, buffalo and camelids (that is, camels, llamas, alpacas and vicunas) and includes the young of an animal of any of those kinds.

**Long haul voyage**: Any loaded export journey greater than 10 days (inclusive) and not exceeding 30 days in length.

**Marine Order 43**: *Marine Order 43 (Cargo and cargo handling - livestock) 2018* made under subsection 342(1) of the *Navigation Act 2012*

**McCarthy Review**: The Independent Review of Conditions for the Export of Sheep to the Middle East during the Northern Hemisphere Summer completed by Dr Michael McCarthy in 2018.

**Mortality**: Mortality means, in respect of any species, the percentage determined by dividing the number of deaths of that species occurring while on the ship (including during loading and unloading) by the total number of that species loaded and multiplying the resultant figure by 100. Mortalities which occur after arrival in the port but before the animal can be discharged must be included in the daily and end of voyage reports.

**Registered Premises**: A place registered for the preparation of livestock for export by sea in accordance with the *Export Control (Animals) Order 2004.*

**Registered veterinarian**: A qualified veterinarian who is currently registered with a State or Territory Veterinary practitioners’ registration board or equivalent, as defined in the *Export Control (Animals) Order 2004*.

**Short haul voyage**: Voyages no greater than ten (10) days (exclusive) in voyage length, i.e. the voyage is 1-9 days in length.

**Voyage**: A voyage covers the period from the time the first animal is loaded onto the vessel, until the time the last animal is unloaded at the final port of disembarkation.

**Water deprivation time**: The time that animals can be deprived of access to adequate water of a quality to maintain good health and welfare. Water deprivation time is the total continuous period of water deprivation, starting when all animals last had access to water. Each of the below must be included when calculating the total water deprivation time with respect to transport journeys:

* time off water during mustering and when yarded after mustering
* curfew
* all time on the transport vehicle, whether moving or stationary, and
* any time without water after unloading, such as at a saleyard, spelling centre or registered or approved premises.

## Supporting documents

2018 ASEL review: Stage 1 submissions

Independent Review of Conditions for the Export of Sheep to the Middle East during the Northern Hemisphere Summer (McCarthy Review)

Department of Agriculture and Water Resources: Regulator’s response to the independent review of conditions for the export of sheep to the Middle East during the northern hemisphere summer

2013 Review of the Australian Standards for the Export of Livestock and Livestock Export Standards Advisory Group final report

2013 Draft Australian Animal Welfare Standards for the Export of Livestock

Productivity Commission Inquiry Report No.79 –Regulation of Australian Agriculture, 15 November 2016 (p.199, 202- 205 and 247)

[Animal welfare, economics and policy, McInerney, J., 2004 (Abstract, p.3)](http://webarchive.nationalarchives.gov.uk/20110318142209/http:/www.defra.gov.uk/evidence/economics/foodfarm/reports/documents/animalwelfare.pdf)

A short review of space allocation on live export ships and body temperature regulation in sheep, Australian Veterinary Association, May 2018

Cow Body Condition Handbook, Dairy Australia, 2013

The Water Buffalo, NT Department of Primary Industries, 2017

[W.LIV.3032 Development and assessment of livestock welfare indicators. Prepared for MLA/Livecorp by Murdoch University.](http://www.livecorp.com.au/LC/files/41/4183eb87-54b5-4e4e-b564-eb08b3a235ed.pdf)

[W.LIV.0254 Management of bedding during the livestock export process. Prepared for MLA/Livecorp by Rural Management Partners.](http://www.livecorp.com.au/LC/files/2f/2f84dc5d-2e06-4814-8eef-5c01c135473c.pdf)

[W.LIV.0290 Bedding management and air quality upon livestock vessels. Prepared for MLA/Livecorp by Global Livestock Solutions and the University of Southern Queensland.](http://www.livecorp.com.au/LC/files/4e/4ebf1750-693c-4182-bc47-71fe027294e3.pdf)

[W.LIV.0142 Strategies to reduce inantition in sheep. Prepared for MLA/Livecorp by Murdoch University.](http://www.livecorp.com.au/LC/files/15/15bbe1ed-7336-4792-9c85-ecf4dbd05914.pdf)

[*Marine Order 43 (Cargo and cargo handling - livestock) 2018*](https://www.legislation.gov.au/Details/F2018L00875)

## Appendix A – Pastoral and Station sheep as agreed in AAWSEL

The following definitions were incorporated into the draft AAWSEL and are proposed for adoption into the reformatted ASEL:

Pastoral sheep—Sheep that have been sourced from the pastoral zone.

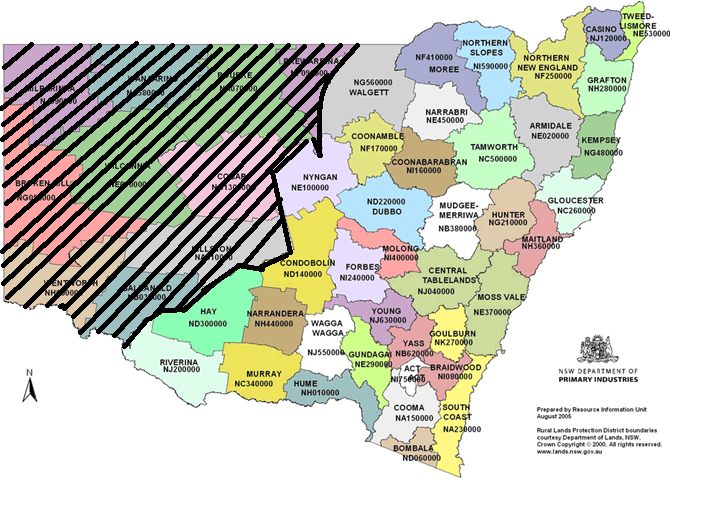
Pastoral zone —In South Australia and New South Wales the Property Identification Code (PIC) numbers are used to determine if properties are located in the pastoral zone. See Appendix A.1 and A.2. The pastoral zone of Western Australia is outlined in Appendix A.3.

All of Queensland is considered to be within the pastoral zone for the purposes of the standards.

##### Appendix A.1 New South Wales Livestock Health and Pest Authority Internal Division Boundaries

Note.This appendix relates to the above definition of pastoral zone

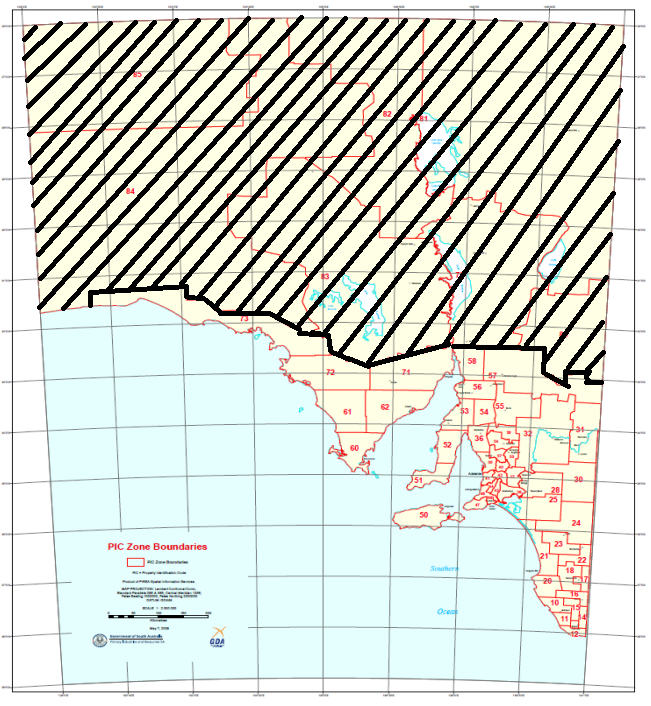
For NSW the 3rd and 4th character of the PIC indicates where the property is located. PICs with the following 3rd and 4th characters are pastoral: 03, 05, 07, 09, 13, 31, 39, 58, 61 and 60. The second character of the PIC is a validation character and should be ignored.



##### Appendix A.2 South Australia PIC Zone Boundaries

**Note.** This appendix relates to the above definition of pastoral zone.

For South Australia the 3rd and 4th digit tells you where the property is located. PICs with the following 3rd and 4th characters are pastoral:  70, 80, 81, 82, 83, 84 and 85.



##### Appendix A.3 Western Australia pastoral zone shires

Note. This appendix relates to the above definition of pastoral zone.



The shires of Western Australia within the pastoral zone are: Ashburton, Mt Magnet, Boulder, Murchison, Broome, Roebourne, Carnarvon, Sandstone, Coolgardie, Shark Bay, Cue, Upper Gascoyne, Dundas, West Kimberly, East Pilbara, Wiluna, Exmouth, Wyndham/ East Kimberly, Hallscreek, Yalgoo, Kalgoorlie, Yilgarn, Laverton, Leonora, Meekatharra and Menzies.

## Appendix B—Body condition scoring updates

Body condition scoring agreed in AAWSEL to be adopted in the reformatted ASEL:

##### Appendix B.1 Body condition scores for sheep

| Score | Backbone | Short ribs | Eye muscle |  |
| --- | --- | --- | --- | --- |
| 1 | Prominent and sharp | Ends are sharp and easy to press between, over and around | Thin, the surface tending to feel hollow |  |
| 2 | Prominent but smooth | Smooth, well‑rounded ends — can feel between, over and around each smoothly | Reasonable depth with the surface tending to feel flat |  |
| 3 | Can be felt, but smooth and rounded | Ends are smooth and well covered — firm pressure is necessary to feel under and between short ribs | Full and rounded |  |
| 4 | Detectable with pressure on the thumb | Individual short ribs can only be felt with firm pressure | Full with a covering layer of fat |  |
| 5 | Can be felt with firm pressure | Cannot be felt even with firm pressure | Muscle cannot be felt due to a thick layer of fat |  |

##### Appendix B.2 Body condition scores for goats

To determine the condition score, you feel the grid reference (GR) site of the goat. This point is located 110 millimetres from the backline along the second-last long rib. The condition score relates to the tissue depth (in millimetres) at the GR site. Table A1.1.2 below provides guidance on what to feel for when condition scoring. As the table indicates, the live condition scores assigned in Australia are from one to five. Refer to the diagram below to locate the positions on the goat indicated by A, B, C and D in the first row of table A1.1.2.



| BodyScore | GR site tissue depth | Long ribs  A | Short ribs  B | Backbone  C | Eye muscle  D |
| --- | --- | --- | --- | --- | --- |
| 1 | 1-3mm | Individual ribs can be felt very easily; cannot feel any tissues over the ribs. | Short ribs are prominent; it is easy to feel between them. The muscle mass extends two-thirds or less of the way along them. | Bones are raised and sharp; it is easy to feel between them. The muscle mass extends two-thirds or less of the way along them. | Feels noticeably dished. |
| 2 | 4-6mm | Individual ribs can be felt very easily but slight amount of tissue is present. | Ends of short ribs feel square; it is easy to feel between them. The muscle mass extends to the end of the short ribs. | Bones are slightly raised and can be easily felt, with noticeable dishing between them. | Feels straight or slightly dished. |
| 3 | 7-9mm | Individual ribs can be felt easily but some tissue is present. | End of short ribs are rounded; it is still possible to feel between them. | Bones are raised and the ends are rounded; it is still possible to feel between them. | Feels slightly rounded. |
| 4 | 10-12mm | Individual ribs can still be felt but tissue is prominent. | Ends of short ribs are rounded; it may be possible to press between them with pressure. | Bones are slightly raised; it is possible to feel them but not between them. | Feels well rounded. |
| 5 | Over 12mm | Individual ribs can be felt or just felt; tissue is very prominent and may be fluid. | None or only one or two bone ends nearest the rib cage may be felt. It is not possible to press between them. | Some bone ends may still be felt or backbone may be recessed in fat and difficult to feel. It is not possible to feel between bone ends. | Feels very well rounded. |

Source: Meat and Livestock Australia (2006) Going into goats: profitable producers’ best practice guide

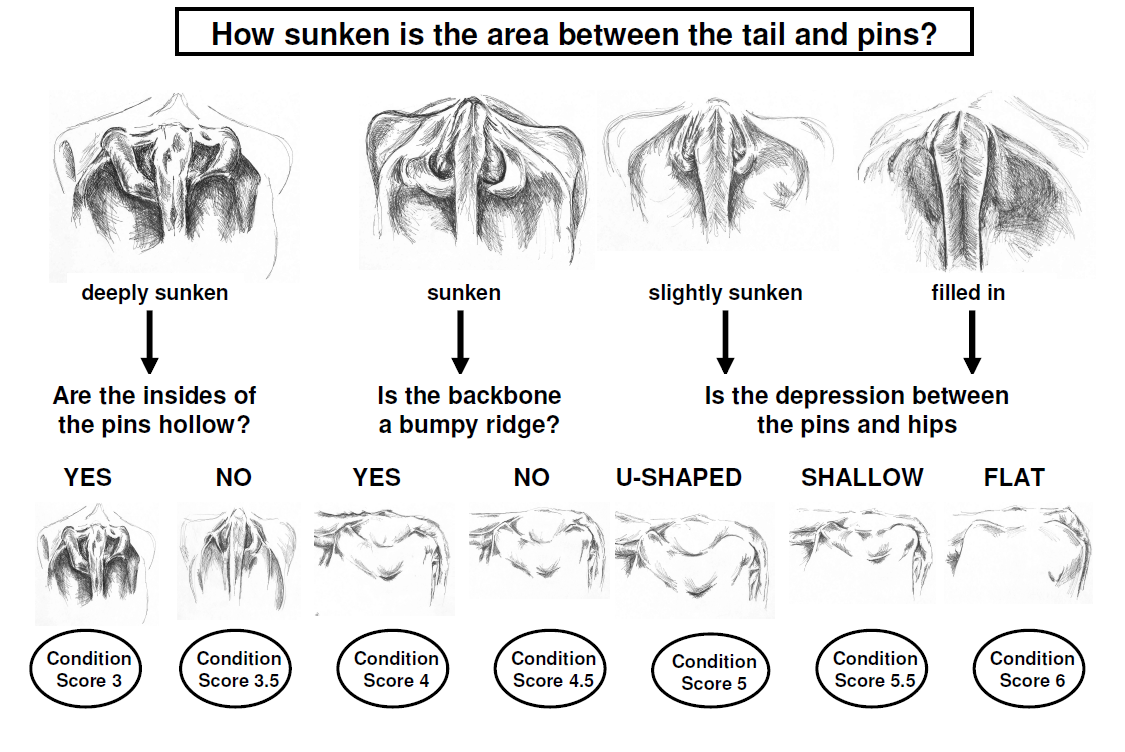
##### Appendix B.3 Body condition scores for beef cattle

The picture below assists with body condition scoring for beef cattle.

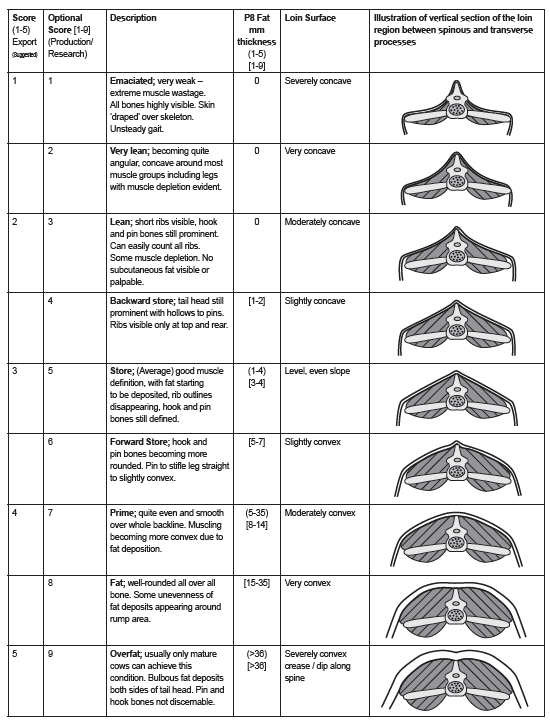


|  |  |  |  |
| --- | --- | --- | --- |
| Score | Traditional muscle score equivalent | Traditional fat score equivalent | Description |
| 0 | E | 0 | Severely emaciated |
| 1 | D | 0 | The individual bones are sharp to the touch, with no fat at the head of the tail. Hip bones and ribs are prominent. |
| 2 | B-E | 1 | The individual bones can be felt easily, but feel rounded rather than sharp. There is some tissue cover around the tail head. Individual ribs are no longer visually obvious. |
| 3 | A-E | 2 | The short ribs can be felt only with firm thumb pressure. Areas either side of the tail head have fat cover which can be felt easily. |
| 4 | A-E | 3 | The ribs cannot be felt and fat cover around the tail head is easily seen as slight mounds, soft to touch. Folds of fat are beginning to develop over the ribs and thighs. |
| 5 | A-E | 4-6 | The bone structure of the animal is no longer noticeable and the tail head is almost completely buried in fatty tissue. |

##### Appendix B.4 Body condition scores for dairy cattle



##### Appendix B.5 Body condition scores for buffalo



Source: The Australian Water Buffalo Manual, Northern Territory Department of Primary Industry and Resources, Appendix C