



Monitoring and reporting during livestock export voyages by sea review 2019

Submission by a group of Australian Government Accredited Veterinarians

The following group of Australian Government Accredited Veterinarian (AAVs) have prepared this submission for the Interim Inspector-General of Live Animal Exports (IGLAE) review to examine the effectiveness and efficiency of the Australian Government Department of Agriculture's (the department) requirements, and management of monitoring and reporting during livestock export voyages by sea.

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The review documents to help with this submission can be found at :
<https://www.iglae.gov.au/current-reviews>

It should be noted that AAVs are not necessarily represented by the Australian Veterinary Association's (AVA) policy position on live export and most AAVs have not been consulted for the AVA submission. The AVA represents its members from the wider veterinary community, not all veterinarians working in the live export industry are AVA members. This submission has been formulated with the aim to represent the opinions of veterinarians who are currently employed in the livestock export industry and have a thorough working knowledge of the industry.

Introduction

As Australian Government Accredited Veterinarians (AAVs) we welcome the opportunity to provide information to the Interim Inspector General for Stage 1 of the three year work plan: Monitoring and reporting during livestock export voyages by sea.

AAVs should be engaged as a key stakeholder by the Australian Government Department of Agriculture (the department) on all issues that concern animal health and welfare outcomes in the live export industry. We appreciate you have already met with some AAVs in person and hopefully this has provided some valuable information. This submission has been prepared with limited time and resources, it aims to outline an approach to fix the current monitoring and reporting system and is supported with references or examples of AAVs experiences in the live export industry where appropriate.

For veterinarians and Stockpersons, monitoring and reporting is a large part of their roles. It not only fulfils the regulatory requirements, but also forms a large part of their communications with exporters, vessel owners, and livestock importers regarding the health and welfare of animals during a voyage.

Evidence based decision making relies on having appropriate quantitative and/or qualitative information to understand the current state. This information can then be considered and used to inform the decision making process (see [Link 1](#) for a relevant Australian Government discussion). This forms the core of epidemiology: the collection of data and information, and conducting analyses to inform decision making to improve health outcomes. As such, the area of epidemiology has structured approaches to surveillance systems (please refer to Thrusfield 2006, *Veterinary Epidemiology*, Chapter 10: 'Surveillance' or Sergeant and Perkins 2015, *Epidemiology for Field Veterinarians*, Chapter 12 for concise summaries of this topic). What is termed in this submission as a "monitoring and reporting system" could be used interchangeably with the term "surveillance system".

The monitoring and reporting system run by the department should have a clearly defined structure and purpose. The structure and purpose should be transparent and the results used to inform decision making. Currently this is not the case.

The department requires skilled people to accompany each voyage to look after the health and welfare of the animals and to provide reporting functions. These skilled people are AAVs and LiveCorp accredited stockpersons (Stockpeople). Currently AAVs are present on around 30% of voyages. This means that Stockpeople account for around 70% of the monitoring and reporting conducted.

- To attain AAV status one must complete a veterinary science course; be registered to practice in Australia; have completed the APAAV accreditation course; completed the AAV course and pay a registration fee. These costs are generally covered privately by the individual veterinarian.
- To become an accredited stockperson one must do a four day industry course and complete two voyages. Many of the course attendees receive a discounted rate if they are enrolled by an exporting company.

There is a large educational gap between AAVs and Stockpersons, AAVs are scientists and trained in scientifically taking observations. This difference has an effect on the data and information that is collected, and what can be reported. It is unclear if the difference in skill level is recognised by the department and whether the department interprets what is reported accordingly. For example, in Australia it is an act of veterinary science, regulated by the State/Territory governments, to diagnose animal diseases. This is due to the skills required and the implications of incorrect diagnosis. AAVs have the skills and training to diagnose disease however, Stockpersons are not able to do this, and can only report on clinical signs or syndromes. An accredited stockperson recently reported a particular virus that causes pneumonia in cattle. Several different pathogens can cause pneumonia in cattle, and a specific diagnosis can only be made by submitting laboratory samples for analysis. The department imposed conditions on the exporter due to this Stockperson's report even though they are not able to diagnose diseases. This example outlines the need for department personnel to understand both the disease process, the limitations of reporting capabilities in the field, and what Stockpeople are able to report.

The current monitoring and reporting systems are not well structured, they have developed through years of continual change by the department in its requirements. Reporting requirements exist in multiple pieces of legislation, the Australian Standards for the Export of Livestock (ASEL), Export Advisory Notices (EAN), and in conditions on individual export licences.

The following sections of this submission outline an approach to designing a surveillance or monitoring system. It is important that people who are appropriately trained and experienced in animal health surveillance use a systematic approach to developing a well structured, functional, and informative system to accurately guide decision making.

Purpose of the monitoring and reporting system

It is important that the purpose of a monitoring and reporting system is clearly identified and described. There is no clear description of the purpose of the current system. It is apparent and reasonable that the department requires a system that:

- ensures compliance with Australian legislation
- identifies in-voyage risks to animal welfare to inform decisions to prevent or control poor welfare outcomes during a voyage through provision of appropriate advice or interventions
- to identify medium to long term industry trends in risks to animal welfare and systematically make improvements to the regulatory system to reduce these risks
- to identify long term industry trends for public information about the livestock export trade or provision of information to other government departments such as the Australian Bureau of Statistics or Treasury for economic analysis

To have an effective system that delivers on the above purposes there must be sufficient appropriately trained staff to run the system. Surveillance systems require regular evaluations to ensure that they continue to be effective for their purpose. See links for further generally accepted approaches to evaluation of surveillance systems:

- <https://www.sciencedirect.com/science/article/pii/S0167587718301028>)
- <http://www.phrp.com.au/issues/april-2016-volume-26-issue-2/strengthening-public-health-systems-assessing-the-attributes-of-the-nsw-influenza-surveillance-system/>

Although there may be many purposes of a monitoring system, and each purpose may require specific data or information, one reporting system can be used for the collection of data and information. To have different reporting systems for each purpose would be extremely cumbersome and inefficient.

Example 1: Many AAVs report experiences where there is a lack of understanding by the department on the purpose of the system. Many AAVs report a concerning lack of follow-up on Daily and End-of-voyage reports, even when a notifiable incident occurs during the voyage. The department currently seems to not be equipped, nor have the expertise, to administer an effective monitoring and reporting system.

Example 2: Industry is investing in projects around data capture that will collect valuable information that extends beyond the regulatory tool required by the department.

Example 3: Independent Observers (IO) - The current monitoring and reporting system for accredited stockpersons and AAVs has been in place under ASEL version 2.3 since 2012. Monitoring and reporting during voyages has been undertaken as required and enforced by the department during this period. The direction to place IOs on livestock export sea voyages was given in April 2018, this was done in response to the department declaring to senate estimates that they lacked adequate understanding about the conditions on-board livestock export vessels (this can be found at [Link 2](#)). The IO system was established to provide the department with additional assurance of the effectiveness of exporter arrangements in managing animal welfare. It is reasonable to question why the department felt they did not know, or have assurance, of what was occurring on livestock voyages by sea given the reporting and monitoring systems had

been in place for years and investigations have been undertaken into previous notifiable incidents?

Quantitative data standards

A data standards document needs to be produced by the department. The use of common terminology and common data element definitions enables the integration of databases, and promotes a more efficient and effective use of data by users of commonly defined data from disparate sources. An example of this can be found at [Link 3](#).

Industry, through the LiveCorp and the LEP Livex Collect project, is working to address data standards and to standardise the collection of data within the livestock export industry. Research is being conducted on welfare indicators and risk assessment tools to identify robust indicators and to refine risk assessment models for use by industry. Once finalised, these models should be considered by the department.

Example 1: The Export Control (Animals) Order 2004, ASEL, and EANs outline requirements for Daily and End-of-voyage reporting for Stockpersons and AAVs. Stockpersons are provided these instructions from exporters through their voyage instructions. AAVs are required to understand their reporting requirements through registration requirements and are provided a departmental reporting template through the Approved Export Program (AEP) instructions provided by exporters. The departmental templates are incomplete and are provided in pdf format, it is difficult to extract data from pdfs and hence they are only used as a guide for what should be included in a Daily report or End-of-voyage report. As a result there is currently no standardised reporting or comparable data collected as reports vary between ships, export companies, and individuals. The majority of voyages do not have an AAV on-board, therefore, reports are completed by Stockpersons. Reporting requirements are very nonspecific and there is no training or direction provided by the department regarding the level of detail required or how the data is reviewed or processed. Information on how to fill out the reports tends to be passed on from other Stockpersons or AAVs rather than by any formal guidance. There has been little to no feedback about whether reports are adequate, useful or understandable. Insignificant inconsistencies in numerical values (such as numbers of animals per deck, births and abortions not filled out etc) are the only things that seem to be detected or commented on by department staff reviewing reports.

Example 2: The current ASEL reporting requirement for panting scores between normal, panting or gasping as an average for all livestock on the vessel does not give an accurate or informative description of what is happening for different types of livestock in different areas of the ship when faced with a heat challenge. There have been discrepancies between records of panting scores between AAVs and IOs. It is important that panting score systems are standardised across industry, that training material is put forward for accurately scoring animals, and that background information is recorded regarding the time and location, and the type/class of animals scored. The implementation of panting scores without a clear standard is an example of the arbitrary nature of responses by the department.

Quantitative data collection on-board

There is a need for clearly defined, science based and data driven animal welfare and environmental monitoring systems, and where possible, objective and/or automated data collection to minimise data bias. It would be beneficial to have agreed, standardised electronic templates for AAV and Stockperson reports throughout the supply chain, especially for the capture of Daily and End-of-voyage reporting. The ability to collect quantitative data requires effective data standards and well defined collection criteria.

Example 1: The lack of standardised data collection and reporting mechanism means that it has not been possible to collate data efficiently, Additionally, much of the information required in the reports is not particularly relevant or informative, what data has been collated is not very useful.

Example 2: The current ASEL reporting requirements for fodder fed out as an average intake per head averaged across all lines and decks, does not accurately depict if there has been adequate feed intake for all animals. Distribution of the daily feeding between lines of livestock, trough space per head, and feeding out roughage as well as fodder are important factors that contribute to the amount of competition at feed time. The new ASEL reporting requirements include information about feed intakes onboard and also includes reporting on competitive feeding behaviour; this will be a better method of gauging adequate access to feed.

Example 3: The current reporting format relies on the provision of information under general categories (e.g. “comments on discharge operations”). This style of reporting has left it to the discretion of the person writing the report to determine the level of information they choose to include. The amount of detail given (or omitted from reports) can be influenced by exporting companies and co-workers. Making report formats more categorical, objective and structured reduces the risk of this reporting bias.

Qualitative information from skilled people on-board

Qualitative data is non-numerical observations and information. It is important to have good qualitative information to be able to interpret what the results of the quantitative data analysis mean in context to the voyage.

The department requires exporters to have Stockpersons on all voyages and AAVs on certain voyages. These people have specific training and qualifications, and are required to provide situational information so that the department can understand what is occurring during the voyage. Understanding the situation on-board the vessel through information provided by Stockpeople or professional opinion provided by the AAV is crucial for the department to mitigate immediate risks to animal welfare or identify medium or long term trends in animal health and welfare. Qualitative information needs to be interpreted by departmental personnel with relevant knowledge and experience within the livestock export industry.

Example 1: Descriptive information regarding the gross pathology found during post mortem examinations should allow a trained professional to understand the disease process. AAVs have been concerned when providing this information to unskilled personnel assessing their reports.

Examples of disproportionate regulatory reactions have created a culture of providing minimal information as animal welfare outcomes are not improved by the resulting regulatory reaction.

Example 2: Quantitative data shows there is less water being consumed by certain pens of sheep. Qualitative information identifies the composition of these pens have a higher percentage of Awassi types sheep. Awassi sheep are more heat tolerant than other breeds on-board and consume less water, the qualitative information adds context to the quantitative data.

Example 3: Experienced live export AAVs make animal welfare observations and provide information to the department. IOs with little experience, training, or qualifications make observations and provide information to the department. The department receives 2 lots of information about the same issue. How does the department interpret this information based on 2 different skill levels? Is it logical to suggest that reporting by either the IO or the AAV/Stockperson becomes redundant if there is an effective system in place?

Example 4: It is important that those reading the reports understand that the environment may vary in specific areas of the ship depending on ship factors such as heat radiation, ventilation consistency, sea spray, drainage and livestock factors particularly relating to heat tolerance and stocking density. Conversely, there may be very little difference in environment and welfare outcomes between different decks if environmental conditions don't vary considerably and have similar livestock. Our reporting should have the scope to describe what is happening in different areas of the ship, for different types of livestock, but not be too onerous or require multiple reports from areas that have similar conditions. There will need to be some considered guidance around the selection of pens for reporting under the new ASEL requirements, it is strongly suggested that IOs and AAVs communicate with the department about the selection of adequate sample pens. The Welfare Indicators project is assessing the capability of recording variations in welfare outcomes between different areas of the vessel and between types of livestock.

System for reporting on-board quantitative data and qualitative information to the department

Once data and information is collected on the vessel there needs to be a system to report this to the department. Provision of data and information in individually created and structured pdf's is problematic. Data in multiple pdf's is difficult to collate, it is therefore difficult to conduct analyses over multiple days during a voyage, or to identify medium to long term trends. The department or industry should develop a standardised reporting format across Stockpersons, AAVs, and IOs for the required quantitative data and qualitative information to deliver on the purposes of the monitoring and reporting system.

Quantitative data analysis by the department

The department should to develop a detailed quantitative data analysis plan that is robust and reviewed by epidemiologist and statisticians. The criteria for analysis must be clearly mapped to

the objectives of the monitoring and reporting system, and the outputs of the analysis need to be relevant and meaningful to the purposes of the system.

Example 1: When assessing and reporting voyage data, the incidence of disease or mortality should be assessed in terms of voyage days per head rather than as flat percentages for each voyage.

Example 2: The central measure of tendency used to describe mortalities over multiple shipments should be the median, the mean should not be used as shipboard mortality data is not normally distributed.

Informed departmental decision making - How qualitative on-board information and analysed quantitative data is used by the department

The department should have specifically skilled staff that are able to interpret the results from analysis of quantitative data, and combine this with qualitative information to make informed decisions on:

- the Stockpersons and/or AAVs compliance with Australian legislation
- if there are any in-voyage risks to animal welfare, and options to prevent or control these welfare risks during the remaining days of the voyage
- if there are medium to long term trends identifying risks to animal welfare and if these risks can be mitigated through changes to the regulatory system
- changes in long term industry trends have occurred that are of interest to the public

At a minimum the department's veterinary personnel involved in any part of the livestock export regulation should have completed and be familiar with APAV and AAV training. More extensive training, consistent training opportunities, and shipboard experience are required for regional/field staff and those interpreting the monitoring and reporting system. It might be noted that the department has had a high turnover of staff in recent years, this has made both functions and stable relationships difficult to establish. The department might be encouraged to make some effort to address this.

Example 1: More training and clear guidelines are required for reporting and interpreting reports about the diagnostic capabilities or limitations on board. If a disease diagnosis is reported based on clinical signs, without laboratory confirmation, or incorrectly by Stockpersons, these reports need to be considered as differential diagnoses rather than definitive diagnoses. For example, it is not possible to definitively determine the causative agent for BRD in cattle or enteritis in sheep on-board an export vessel. If the department is going to implement prevention protocols for subsequent voyages based on these diagnoses, they must be aware that the diagnosis or causative agent has not been confirmed.

Example 2: The IO reporting requirements, and some heavy livestock management plans, involve the collection of photographic and video footage of on-board conditions throughout the voyage.

For this information to be a useful tool for retrospective analysis, it is recommended that a consistent recording technique (pen selection method, frequency and time of recording) is developed. Categorized, objective information regarding the environmental and animal conditions captured in the footage could be linked and stored along with image files to allow future analysis of the visual data captured.

Feedback to AAVs, Accredited Stockpersons and Exporters from the Department

Results of the monitoring and reporting system need to be communicated to Stockpersons, AAVs, and exporters on a voyage-by-voyage basis. Periodic reports from the monitoring and reporting system outlining the results for each purpose of the system should be communicated with all stakeholders.

The department needs an organisational structure and pathway that allows for AAVs and Stockpersons providing monitoring and reporting requirements to discuss problems, raise compliance issues, and conflict resolution when required. A departmental case manager or key contact for AAVs and Stockpersons would be beneficial. This provides an opportunity for a direct professional relationship and communication between AAVs and the department. The department staff team responsible for reviewing Daily and End-of-voyage reports should include a registered veterinarian with shipboard experience.

Example 1: AAVs have numerous examples of using existing reporting to communicate with the department and provide further information about Daily or End-of-voyage reports or issues identified with a consignment. Following recent voyages, AAVs have been contacted for comment by the department, this is a welcome development in response to the Moss review recommendations.

Conclusion

The monitoring and reporting systems must be objective, standardised and managed to meet the purposes of the system. The systems should have the flexibility to be updated and be cost effective to administer.

The Australian government must develop a structured approach to collection and reporting of evidence-based, objective morbidity and mortality measures along with qualitative information to ensure regulatory compliance and be able to facilitate relevant epidemiological analysis with the aim to identify and mitigate risks and to improve animal welfare outcomes.

Links

Link 1 - <https://www.abs.gov.au/ausstats/abs@.nsf/lookup/1500.0chapter32010>

Link 2 - https://www.aph.gov.au/Parliamentary_Business/Hansard/Hansard_Display?bid=committees/estimate/379a774f-da23-45c2-8021-4d0c29a583cf/&sid=0003

Link 3 - <https://www.ga.gov.au/data-pubs/datastandards>

Appendix 1 - Scope of the Review

The scope of the review does not clearly outline specific questions. Specific questions are more clearly identified on the three year workflow. The later has been used as a basis for this response and submission from AAVs listed.

IGLAE Review plan - Monitoring and reporting during livestock export voyages

Review the efficacy of on-board monitoring and reporting of animal welfare, compliance and responsive actions during livestock export voyages.

This review will examine the suite of monitoring and reporting requirements on-board vessels including:

- monitoring and reporting on animal welfare and responsive actions to any identified issues
- monitoring and reporting of compliance
- alignment of monitoring and reporting with identified risks
- reporting requirements and standards
- consistency, timeliness and transparency of monitoring and reporting outcomes
- role of stockmen, AAVs and IOs in monitoring and reporting.

IGLAE Review Scope - Monitoring and Reporting of livestock voyage

The scope of this review covers the department's requirements and activities for monitoring and reporting during voyages and may consider:

- monitoring and reporting requirements from the time loading of a vessel is complete when the last animal has been unloaded from the vessel at the overseas destination(s)
- the extent to which monitoring and reporting provides assurance of compliance with the legislation, standards, policies and procedures for the export of livestock
- the extent to which monitoring and reporting requirements support or contribute to the mitigation and management of risks to animal welfare during voyages
- the department's processes for engagement and consultation with industry, other Australian Government agencies and stakeholders such as vessel operators, in managing animal welfare issues during voyages
- the roles and responsibilities of persons directly responsible for managing and reporting of animal welfare issues during a voyage, including:
 - Independent observers
 - Australian Government Accredited Veterinarians (AAVs)
 - Accredited stockpersons
 - Vessel Masters.

- examine the efficacy, timeliness and transparency in the department's management and use of reports, including the extent to which they contribute to strategic risk-based regulatory practice and informing improvements in the management of animal welfare during voyages
- the department's management and use of reports to increase community and industry confidence in the effectiveness of its regulation in achieving the objectives of the legislation
- the cost effectiveness to government and industry of monitoring and reporting requirements.

Out of scope

This review will not examine:

- the investigation process of reportable incidents
- the role of approved arrangements involved in loading and pre-export preparation of livestock
- livestock exported by air
- vessel preparation or onboard waste disposal
- Exporter Supply Chain Assurance System (ESCAS) reporting requirements.