**Mortality Investigation Report 77 Buffalo exported by sea to Indonesia in December 2018**

**Summary**

On 16 December 2018, South East Asian Livestock Services Pty Ltd (SEALS) exported 1,596 feeder cattle and 230 feeder buffalo to Indonesia. The journey was completed in 12 days and discharged in Indonesia between 28 and 29 December 2018.

A mortality rate of 1.30 per cent (three head) was reported for the buffalo. The percentage of mortality for buffalo exceeds the reportable mortality level of 1 per cent on voyages of more than 10 days as prescribed by the *Australian Standards for the Export of Livestock* (ASEL). Only the buffalo are the subject of this report.

All three of the buffalo mortalities reported during the voyage were noted as being downers (unable to rise). All mortalities were euthanised by the stockperson.

**Information reviewed**

The department reviewed the mortalities by assessing the following information:

1. report from the exporter
2. daily reports, the end of voyage report and additional information from the accredited stockperson who accompanied the consignment on board the vessel
3. load plans and ship space calculations from the exporter
4. documents from the Australian Government Accredited Veterinarian (AAV) who prepared the consignment
5. report from the Master of the vessel
6. documents and information from the regional department veterinary officer (DVO)
7. records from the registered premises (RP)
8. department records from previous and subsequent voyages.

**Background**

Exports of buffalo to Indonesia commenced in December 2005. Between the commencement of exports and this mortality event there has been 76 consignments, carrying 19,984 buffalo.

There have been six reportable mortality events for buffalo prior to this incident exported by sea (Report #42 (October 2011), #57 (October 2014), #67 (November 2016), #70 (September 2017), #71 (December 2017) and #75 (August 2018). None of these events occurred on the same vessel as this report.

Prior to this voyage, SEALS had exported six buffalo consignments with a total of 2,357 animals. Over the six consignments prior to this voyage, there have been a total of 4 buffalo mortalities with an average mortality rate of 0.17%. SEALS have had no other reportable mortalities recorded for buffalo exported by sea to Indonesia.

The department does not routinely require an AAV to be on board for exports to Indonesia. On voyages where there is no AAV on board, a LiveCorp accredited stock person is responsible for reporting to the department and works with the Master of the vessel and the crew to maintain the health and welfare of the livestock on board. The department did not require an AAV on board this voyage.

**Investigation Findings**

**The Livestock**

The consignment consisted of 230 feeder buffalo averaging 390.77kg. The buffalo were sourced in small mobs from four properties of origin (POO) located in the Northern Territory.

**Preparation in the registered premises**

One RP was used for this consignment. It is located in Katherine in the Northern Territory and is routinely used to prepare livestock including buffalo for export. 231 buffalo arrived at the RP between 30 August and 28 November and were held until 16 December 2018.

The required time for buffalo to be held in an RP for long haul voyages (voyages 10 days and over) with a single port of discharge is two clear days. A clear day does not include the days on which the livestock arrived at and departed from the premises.  The buffalo in the consignment met the ASEL requirements of minimum length of time that livestock must remain in an RP.

During this period, the weather was mostly fine with a maximum temperature of 40.0°C (Bureau of Meteorology, 2018). The 231 buffalo were examined by an AAV at the RP on 14 December 2018 and all were assessed as fit and healthy for export. On 16 December 2018, RP staff rejected one buffalo when loading onto trucks out of the RP as it appeared unwell and lethargic. The remaining 230 buffalo were trucked to Darwin for loading.

**The vessel**

The vessel involved in this incident is a purpose built livestock carrier used for livestock export to a range of markets including Brunei Darussalam, China, Indonesia, Japan, Malaysia, Philippines, Russia, Sabah, Sarawak, Turkey and Vietnam. There has previously been one reportable mortality event on this vessel (Report #76) involving cattle exported to the Philippines in October 2018.

**Loading onto the vessel**

Based on the information received from SEALS and the Departmental Veterinary Officer (DVO), the department determined that loading was conducted in accordance with ASEL standards. The exporter and the DVO reported that there were no issues relating to weather or delays. There were no load injuries for buffalo recorded during loading of the vessel.

**Conditions during the voyage**

An experienced on board stockperson was engaged for this shipment and was responsible for managing livestock health and welfare as well as reporting to the department. The department reviewed the daily and end of voyage reports provided by the stockperson as well as the AMSA report provided by the master of the vessel. The stockperson reported that sea conditions were calm for the duration of the voyage. The temperature ranged from 27 to 31°C and humidity fluctuated between 74 and 86 per cent. The AMSA report confirmed the information provided by the stockperson.

The decks were washed three times during the voyage (all five decks were washed on day four, six and 12).

On day eight of the voyage, a leak in the propeller shaft was noticed by mechanical staff on the vessel. The vessel dropped anchor on 24 December 2018 in an unsuccessful attempt to fix the shaft. On 25 December 2018, the vessel upped anchor and travelled to Singapore to repair the leak. The propeller shaft was repaired and the vessel departed Singapore on 26 December 2018. The on board stockperson reported that there was no impact on the health or welfare of the livestock during the diversion to Singapore, as additional fodder (33% above ASEL requirements) had been loaded on board the vessel.

On the completion of the voyage, the vessel returned to Singapore and was placed on dry dock to undertake mechanical repairs.

**Mortalities and treatments**

There was a total of three buffalo mortalities in the consignment of 230, leading to a final mortality rate of 1.30 per cent. The first mortality was recorded on day five of the voyage. The final two buffalo mortalities occurred on day seven of the voyage.

The three mortalities occurred in buffalo sourced from two POOs. Based on the fact the mortalities occurred in buffalo sourced from different POO, SEALS concluded the POO or line of buffalo did not appear to be contributing factors to the mortalities.

Post-mortem inspections were carried out on all three buffalo mortalities. The stockperson determined the cause of first mortality was unable to be determined, but may have been contributed to by a kilogram of gravel found in the stomach of the animal. Investigations by the exporter found the gravel in the stomach of the animal may have occurred prior to entering the RP as the RP had concrete flooring.

The stockperson determined that the two other mortalities were the result of lung disease. SEALS provided photographs and detailed notes taken by the stockperson during the post mortem examination. Based on the reports, photographs and detailed notes provided by the stockperson and SEALS, the department determined that the suspected causes of the mortalities raised by the stockperson were plausible.

During the voyage, five downer buffalo were treated with anti-inflammatories and antibiotics. SEALS and their veterinarian in Australia provided verbal advice to the stockperson during the voyage, recommending to treat animals showing any symptoms of problem lungs with Draxxin. A further 35 head were treated with Draxxin as a precautionary measure.

**Exporter’s Actions**

To address the risk of future buffalo mortality events, SEALS undertook a review of pre-export and voyage management arrangements specifically for buffalo. The review identified that SEALS believed current ASEL requirements were sufficient to ensure adequate pre-export and voyage management for buffalo. SEALS also noted they would seek veterinary advice if any health concerns arose in the RP and time in the RP would continue to be above ASEL requirements where possible.

Since the reportable mortality, SEALS has not exported any further consignments with buffalo.

**Australian Maritime and Safety Authority Evaluation of the Vessel**

In October 2018, AMSA conducted an investigation into the vessel in relation to Mortality Report #76. AMSA concluded that all livestock services were operating satisfactorily during the voyage. There was no evidence noted to indicate the high mortalities were due to the vessel's non-compliance with [Marine Order 43 (MO43)](https://www.amsa.gov.au/vessels/standards-regulations/marine-orders/%22%20%5Ct%20%22_blank). Following this incident, AMSA did not investigate the mortality event due to the low number of mortalities and the recent investigation from report #76.

**Conclusions**

The department’s review of the information provided indicates that all buffalo were prepared and managed in accordance with ASEL standards. After review and analysis of the reports from the on board stockperson and exporter which detailed the symptoms of the buffalo on board, the department determined that the suspected causes of the mortalities raised by the stockperson were plausible. The department accepted the actions implemented by the exporter and did not take any regulatory action.