**Mortality Investigation Report 67 Buffalo exported by sea to Malaysia in November 2016**

**Summary**

On 5 November 2016, North Australia Cattle Company Pty Ltd (NACC) exported a consignment of cattle and buffalo by sea from Darwin to Indonesia and Malaysia. The shipment was completed in ten days.

The consignment consisted of 372 buffalo (237 feeder and 135 slaughter) and 2,407 cattle (1,105 slaughter and 1,302 productive heifers). There were seven buffalo and five cattle mortalities with corresponding mortality rates of 1.88 and 0.2 per cent respectively. The mortality rate for buffalo exceeds the reportable mortality level of 1 per cent for voyages of ten days or greater as prescribed by the *Australian Standards for the Export of Livestock* (ASEL). The buffalo consignment is the subject of this report.

All buffalo mortalities occurred in slaughter animals averaging 440 kg bodyweight. During the voyage there were four buffalo mortalities. Three died in their pens of unknown causes and one was downer (recumbent and unable to rise) requiring euthanasia. During discharge, one buffalo died following injuries and a further two downers were euthanised. With the exception of the one animal injured during discharge the cause of the buffalo mortalities was not identified. The exporter suggested age, body condition and limited domestication were possible contributing factors. The exporter has amended their Standard Operating Procedures to specifically address these factors.

**Information Reviewed**

The department investigated the mortalities by reviewing the following information:

* report from the exporter
* end of voyage report, daily voyage reports and additional information from the accredited stockperson who accompanied the consignment on board the vessel
* load plans
* documents from the Australian Government Accredited Veterinarian (AAV) who prepared the consignment
* report from the Master of the vessel
* documents from the regional department veterinary officer (DVO)
* records from the registered premises
* department records from previous and subsequent voyages.

**Background**

Between 2006 and this voyage there have been two other reportable mortalities involving buffalo exported by sea (reports 42 and 57).

Prior to this voyage, NACC had exported three buffalo consignments comprising 855 animals. No mortalities were recorded on these consignments.

The vessel involved in this incident is used for livestock export to a range of markets, including Malaysia. There have been no reportable mortality events on this vessel prior to this voyage.

**Investigation Findings**

**The Livestock**

The consignment consisted of 237 feeder and 135 slaughter buffalo with an average weight of 308 and 440 kg respectively.

**Preparation in the registered premises**

The buffalo were sourced from two properties in the Northern Territory. A total of 248 animals from one property of origin (POO A) were yarded for two weeks before moving to the registered premises (RP) where they stayed for eight days. A further 125 buffalo from another POO (POO B) were yarded for three days and then spent seven days at the RP.  The exporter reported there were no health concerns with any animals at the RP. However, there was one buffalo mortality at the registered premises and the cause was not determined.

The weather in Darwin in November 2016 was warm with average daily temperatures of 33˚C and 60 per cent humidity with 208.2 mm of rain ([BOM](http://www.bom.gov.au/climate/dwo/201611/html/IDCJDW8014.201611.shtml%22%20%5Ct%20%22_blank)). At the RP, all buffalo were kept undercover to minimise heat stress and were monitored daily.

On 4 November 2016, the buffalo were inspected by a department veterinary officer (DVO) and Australian Government Accredited Veterinarian (AAV). A number of older slaughter buffalo had low body condition scores, however, all animals were assessed as suitable for export. The exporter stated that it is not uncommon for both cattle and buffalo to be in lighter condition in November in the Northern Territory as it corresponds with the end of the dry season.

**Loading onto the vessel**

Loading was completed on 5 November 2016 and took a total of eight hours. The buffalo were given 30 per cent additional space above ASEL requirements as they had tipped horns. Two tonnes of sawdust was loaded which was over the ASEL requirement.

**Mortalities and treatments**

The department does not routinely require a shipboard AAV to accompany voyages to South East Asia. An Australian Livestock Export Corporation Ltd (LiveCorp) accredited stock person accompanied the consignment and was responsible for the health and welfare of livestock on board and reporting to the department.

Daily voyage reports from the stock person detail mortalities and treatments (see Table 1).

| Table 1: Summary of daily voyage reports |
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| **Day** | **Daily Mortalities** | **Cumulative Mortality** | **Cumulative Mortality %** | **Comment** |
| 0 - 2 | 0 | 0 | 0.00% | The buffalo were travelling well and consuming adequate feed and water.  |
| 3 | 1 | 1 | 0.26% | One slaughter buffalo that had gone down in the race during loading died due to unknown causes.  |
| 4 | 0 | 0 | 0.26% | One slaughter buffalo was treated as a downer.  |
| 5 | 1 | 2 | 0.53% | One slaughter buffalo treated as downer on day 4 was euthanised.  |
| 6 - 7 | 0 | 0 | 0.53% |   |
| 8 | 2 | 4 | 1.07% | Two buffalo died due to unknown causes. In the preceding days, the buffalo had been spread out and sawdust and chaff was used as bedding where needed. The stockman informed NACC of the issues on board. It was agreed the treatments being administered and actions were appropriate.  |
| 9 - 10 | 0 | 4 | 1.07% |   |
| 11 | 3 | 7 | 1.88% | Buffalo were difficult to discharge. Some buffalo had been placed in pens with two solid walls, which made it hard to remove them from these pens as they stood in the back corner, refusing to move. The discharge took approximately 23 hours to complete. During discharge, there were three slaughter buffalo mortalities; one animal died due to traumatic injuries and two downers were euthanised as they were unable to unload.  |

All buffalo mortalities were on deck 4 of the vessel (this is where all 372 buffalo were housed during the voyage).

All mortalities came from POO A but appeared well when they arrived at the RP. Post mortems were not undertaken and it was not possible to identify a cause of the mortalities.

The end of voyage report states that some of the pens on deck four had solid walls on two sides, which proved unsuitable. The poor pen design meant that buffalo stood in the back corner refusing to move, which resulted in a prolonged discharge. During discharge there were three mortalities, one animal died due to traumatic injuries and two downers were euthanised.

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

The Australian Maritime Safety Authority (AMSA) did not conduct an investigation as the voyage mortality level of all livestock species (that is combined cattle and buffalo numbers) according to the definitions in Section 2 of *Marine Order 43* was less than the reportable level of 1 percent.

**Exporter Actions**

In response to this mortality event, NACC have amended their Standard Operating Procedures for exporting buffalo by sea to include the following.

All buffalo must be:

1. under 4 years of age with a maximum individual weight of 450 kg
2. well covered with a minimum body score of 3 out of 5
3. domesticated, including a minimum of 10 days in yards and on hay
4. provided with  extra space and additional bedding on board above that required by ASEL
5. shipped in appropriate pens with no solid walls and multiple entry and exit points.

**Conclusions**

The department’s review of all information including that provided by the exporter indicates that the buffalo were prepared and managed in accordance with ASEL standards. A definitive cause of mortalities was not determined.

The department accepted the actions implemented by the exporter and did not take any further action against the exporter.​