Exercise Cowcatcher II

Final Report

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Department of Agriculture, Fisheries and Forestry

AnimalHealth AUSTRALIA

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CONTENTS

GLOSSARY

ACT	Australian Capital Territory
AFFA	Agriculture, Forestry and Fisheries Australia
AHA	Animal Health Australia
AHC	Animal Health Committee
AQIS	Australian Quarantine and Inspection Service
BTEC	Brucellosis and Tuberculosis Eradication Campaign
DAFF	Australian Government Department of Agriculture, Forestry and Fisheries
EAD	Emergency Animal Disease
8As	System property code to identify that a device whose location is not known
8Xs	System property code to identify that a device has resided on an unknown property
ERMU	Emergency Response Management Unit
EST	Eastern Standard Time
EU	European Union
FMD	Foot and Mouth Disease
LT	Lifetime Traceable
MLA	Meat and Livestock Australia
NLIS	National Livestock Identification System
NLIS-C	National Livestock Identification System for cattle
NLIS-S&G	National Livestock Identification System for sheep and goats
NVD	National Vendor Declaration
PIAPH	Product Integrity Animal & Plant Health Division
PIC	Property Identification Code
PIHC	Primary Industries Health Committee
PIMC	Primary Industries Ministerial Committee
PIRSA	Primary Industries & Resources South Australia
P2P	Property to property
SOPs	Standard operating procedures

EXECUTIVE SUMMARY

Between 1 May and 3 May 2007, a national exercise was held to audit the National Livestock Identification System for Cattle (NLIS-C) against the Primary Industries Ministerial Committee (PIMC) endorsed National Traceability Performance Standards. This exercise was named "*Cowcatcher II*".

Cowcatcher II aimed to evaluate the tracing systems of cattle and identify areas where these systems could be improved. Exercise Cowcatcher II involved agriculture agencies in all jurisdictions (except the ACT) tracing individual animals independently chosen from farms, feedlots, saleyards, abattoirs, pre-export quarantine facilities and the NLIS-C database records back to property of birth and the identification of cohorts and their location. A total of 300 tags were selected and divided amongst the jurisdictions based on the number of transactions occurring in each state/territory as a proportion of the total.

Participants reported the results of the cattle traces to exercise control, and also provided qualitative information on how they did the tracing, the impediments, how to improve tracing, etc. through a post-audit questionnaire and a debrief conducted by teleconference on 25 May.

A preliminary review of the outcomes of Exercise Cowcatcher II would suggest that it met the described objectives of evaluating the tracing systems of livestock in all jurisdictions (except the ACT) whilst identifying areas where the NLIS-C program can be improved. It must be remembered that the expectation of the exercise was not to have 100% compliance in meeting the National Traceability Performance Standards but to set a benchmark for the improvement of the traceability of cattle in Australia.

The major conclusions and recommendations from the audit are listed in the next section "Recommendations".

RECOMMENDATIONS

All participants had the opportunity to provide feedback on a number of occasions. The jurisdictions had the opportunity to provide written feedback to exercise control and verbal feedback was also provided during a debrief telephone hook-up on the 25 May 2007. In addition, exercise control met with AHC and MLA representatives to review the data and provide recommendations from the viewpoint. The following recommendations are made in no order of importance:

1. There needs to be a system put in place that ensures property-to-property (P2P) transfers are recorded on the database as a priority. A review of the types of commercial drivers that can be implemented to ensure that P2P transfers are maintained needs to be undertaken.
2. There is a need to ensure that all NLIS species programs correlate the NLIS identifier and the carcase number to a point where the disposition of the carcase is decided. By ensuring this, traceability for food safety issues is maintained.
3. That Standard 2.2 of the National Traceability Performance Standards is reworded to include the wording "*moved off*" rather than "*lived on*" so it reads:

   "Within 48 hours of the relevant CVO[2] being notified[3], it must be possible to establish a listing of all cattle that have ~~lived on~~ moved off the same property as the specified animal at any stage during those animals' lives."
4. All states should have access to, and the ability to effectively use, an NLIS mirrored database. This should be integrated into jurisdictional tracing standard operating procedures (SOPs). This will need to be driven by DAFF or AHA to ensure an outcome is reached.
5. That the states/territories work with the abattoirs and live export facilities to remove the aggregation of devices associated with their respective accounts. Due to the phase in of NLIS-C from voluntary to mandatory recording of information to the database there is a build up of devices associated with abattoirs and live export facilities.
6. It is suggested that all jurisdictions assist in the development of a national set of reports for the tracing of livestock.
7. All relevant AUSVETPLANs should be reviewed to include the use of NLIS in the control and eradication of the nominated disease/s. It may be more pertinent to have a reference document on identification and tracing that AUSVETPLANs refer to. This document would include SOPs for the tracing of animals during disease events, national reporting formats, standardised terminology, etc.
8. All jurisdictions need to maintain up-to-date property identification code (PIC) registers as these registers form the basis of the NLIS-C database.
9. Jurisdictions should continue their commitment to the provision of training of staff in the use and interpretation of information from the relevant databases used for tracing.
10. There is a need to define MLA's roles and responsibilities in the provision of information and resources for tracing animals during a disease outbreak.
11. There is a need to review the use of epidemiological tools (i.e. liveTRACE™) that have the opportunity to enhance Australia's capabilities in the event of an EAD.

12. MLA should develop an emergency management plan for use during cases of disease events (e.g. timing of mirror database synchronisation). This plan should link to jurisdictional SOPs.
13. Industry and jurisdictions should continue to educate producers and other members of the beef production chain on the benefits of NLIS-C.
14. The exercise has highlighted the need for ongoing efforts to be put towards compliance enforcement of all database users. This is a jurisdictional responsibility and needs to be done on a day to day, week to week, monthly basis depending on the sector/user being monitored.
15. Jurisdictions need to identify what information needs to be extracted from the database and the time frames and format they require the information in. A committee/central body needs to determine the exact information that should be provided to the relevant authorities during a disease outbreak.
16. Staff training focusing on the use of the numerous databases is essential. This will need to be split into two areas; the intrastate databases (i.e. PIC registers, land database) and the national database/s (i.e. NLIS-C database – mirrored or actual).
17. A debrief session for all participants after 24 hrs should be incorporated into the next exercise. This would provide an opportunity to clarify issues as events unfold.
18. All jurisdictions identified the fact that communications with the NLIS-C database and its staff was nothing short of "great".
19. Currently, there is no formal requirement for the jurisdictions to use a local mirror database that is integrated into their own internal systems. The jurisdictions need to clarify their requirements so that MLA can allocate sufficient capacity and hardware to ensure that the data volumes can be extracted. There is no current budget for this service provision. This could be a significant cost to the NLIS-C.
20. MLA is presently not part of the communication strategy in the case of an EAD event. This needs to be rectified so that there are defined channels of communication between the jurisdictions and the NLIS team when managing the disease outbreak.
21. It must be noted that the NLIS-C database is a list of tags allocated to a defined location (a PIC) and the transfer of these tags between various locations. It is not an inventory of the Australian cattle population. There is no way of knowing whether the tag is in the ear of an animal or in storage on the property or how many live animals are resident at a defined location.

INTRODUCTION

The concept of a national identification system was first applied to cattle through the Brucellosis and Tuberculosis Eradication Campaign (BTEC).

At the third Primary Industries Ministerial Committee (PIMC) meeting of 10 April 2003, Ministers agreed to:

> "*The development and implementation of national livestock identification and tracing systems that will facilitate rapid and accurate trace back and trace forward of livestock across all jurisdictions for the primary purpose of underpinning consumer and market confidence in the safety and integrity of Australian livestock and livestock products.*"

At the SAFEMEAT meeting of 25 July 2003, it was decided to:

> "*Accelerate implementation of the national framework for livestock identification and tracing (including the National Livestock Identification Scheme [NLIS] for cattle) to ensure rapid and accurate trace back/trace forward of individual animals and cohorts. Consideration should also be given to conducting a discreet trace back/trace forward simulation exercise.*"

At the fifth PIMC meeting of 19 May 2004, Ministers:

> "*Endorsed the National Traceability Performance Standards [see Appendix 1], which are designed to demonstrate a traceability capability for livestock, and approved their application to cattle and sheep and other FMD susceptible livestock.*"

Between 16 August and 19 August 2004, Exercise Cowcatcher was held where 40 animals were traced by the state and territory jurisdictions as if in a disease outbreak situation. Reporting was measured against Standard 2.1 of the National Traceability Performance Standards.

At the 10th PIHC meeting of 2 November 2005, it was agreed that Animal Health Australia (AHA) would be requested to:

> "*… manage periodic independent audits against the National Traceability Performance Standards. It was suggested that the cattle audit be done during late 2006 and the sheep audit be part of the planned review of the sheep and goat NLIS.*"

As such, AHA worked with all stakeholders in undertaking a tracing exercise called Exercise Cowcatcher II where 300 cattle were identified, allocated to participatory jurisdictions and traced to meet all relevant standards of the National Traceability Performance Standards. This report provides a review of the planning and execution of the exercise and an overview of the results.

EXERCISE OBJECTIVE

The aim of the project is to develop, conduct and evaluate confidential exercises that will analyse the tracing capabilities of Australia's National Livestock Identification System (NLIS) for Foot and Mouth Disease (FMD) susceptible livestock.

The objectives of the project are:

- to evaluate tracing systems of livestock in all jurisdictions (except ACT)
- identify areas where the NLIS-C program can be improved

EXERCISE CONDUCT

Scope

The scope of the project included:

- identification/traceability systems for cattle,
- agricultural agencies in all jurisdictions (except the ACT)
- the National Livestock Traceability Performance Standards developed by AHA and approved by PIMC (see Appendix 1)
- a primary focus on the ability to locate individual animals with a secondary focus on timeliness

The exercise involved the identification and tracing of 300 designated livestock through the various production pathways from abattoirs, saleyards and properties back to property of birth and the identification of cohorts and their locations.

Constraints

The jurisdictions participating in the exercise used existing jurisdictional staff to undertake the tracing of the nominated livestock.

Assumptions

The following assumptions were made:

- all jurisdictions, except the ACT, will be involved in the exercise
- that all costs incurred by the individual organisations involved with the exercise will be met by the organisation
- the Australian Quarantine and Inspection Service (AQIS) will assist in the provision of identification devices for the exercise
- the exercise was jointly run by the DAFF and AHA. The Emergency Response Management Unit (ERMU) and Product Integrity Animal & Plant Health Division (PIAPH) represented DAFF.

Date/time/venue

The exercise commenced at 9:00am EST on Tuesday 1 May 2007 and finished at 12:00 noon EST on Thursday 3 May 2007. Exercise participants were at their normal places of work with exercise control located in Canberra. All participants had until the end of the following week to provide the evidence that verification had taken place.

Participants

All state and territory primary industry agencies (except the ACT) participated in the exercise. Control staff were from AHA and DAFF. The audit took place in an operational environment and involved real cattle in real locations. Participants were expected to report on progress at 24 hours and 48 hours after the initial tracing request.

The primary industry agencies undertook their respective roles seriously. Each jurisdiction participated with differing levels of resources being applied to the task. Some jurisdictions set up control centres with 10 to 15 officers whilst other jurisdictions used the services of three officers.

Confidentiality

Information on the audit was public knowledge with a media release from the Australian Government Minister for Agriculture, Fisheries and Forestry, being picked up by the major agricultural papers and radio outlets prior to the event. Industry and government parties were also briefed at the SAFEMEAT Executive May meeting. Media talking points were prepared by DAFF and AHA and shared with the state/territory primary industry agencies, SAFEMEAT and relevant industry sectors and held in case of unanticipated media coverage.

Audit tracing request

Cattle were nominated by AHA representing the full range of points in the production chain (e.g. producers, feedlots, saleyards, domestic and export abattoirs, and live export facilities), industry types (e.g. EU, live export and knackeries) and distribution throughout the country (e.g. cross-border transfers). Exercise Control requested the nominated state/territory primary industry officers to trace a variable number of nominated, individual cattle and report back within the desired timeframe.

Tag information

It was agreed that a "statistically significant number of cattle" (AHC Chair 2006) be traced against standards 1.1, 1.2, 2.1, 2.2 and 2.3 of the National Traceability Performance Standards.

For this exercise, 300 tags were allocated to states based on the average monthly number of transactions undertaken in the jurisdiction for the previous 12 months.

Verification

Verification was required for all tags that did not have "LT" status (lifetime traceable status) on the NLIS-C database and those tags that required tracing against standards 2.2 and 2.3 of the National Traceability Performance Standards. Verification required the substantiation of movement data through the use of National Vendor Declarations (NVDs), saleyard post sale summaries, telephone conversations, and other relevant documentation.

Evaluation

To verify the success or otherwise of the livestock tracing:

- the criterion for success were standards 1.1, 1.2, 2.1 2.2 and 2.3 of the National Traceability Performance Standards (the focus was primarily on the ability to locate individual animals, secondarily on timeliness);
- documentary evidence of tracing for each animal was supplied to Exercise Control;
- participants provided qualitative information on how they did the tracing, the impediments, how to improve tracing, etc. through a post-audit questionnaire;
- a debrief was conducted by teleconference on 23 May 2007.

Related projects

Projects related to this include:

- Operation Cowcatcher which was held in August 2004 by DAFF (ERMU)
- NLIS-Cattle, Sheep & Goats compliance monitoring which started in June 2006 under the auspices of the NLIS Monitoring Committee
- Audit of the NLIS-C undertaken during October/November 2006 by PricewaterhouseCoopers at the request of the Australian Government Minister for Agriculture, Fisheries and Forestry,

METHODOLOGY

Tag allocation

For this exercise, 300 tags were allocated to states based on the average monthly number of transactions undertaken in the jurisdiction for the previous 12 months. Table 1 provides the jurisdictional split for the tag allocations

The 300 tags were split according to Table 1:

Table 1:
Allocation of 300 Tags for Tracing against Standard 1.1, 1.2 & 2.1 of the Performance Traceability Standards

Jurisdiction	Number of Transactions	Percentage of Allocation	Number of ID's to Trace
Queensland	525,375	35%	105
New South Wales	489,723	33%	99
Victoria	277,979	19%	57
Tasmania	17,967	1%	3
South Australia	72,331	5%	15
Western Australia	82,680	6%	18
Northern Territory	4,466	1%	3
TOTAL	**1,470,521**	**100%**	**300**

Due to the possibility of large numbers of cohorts to be traced to meet standards 2.2 & 2.3 of the National Livestock Traceability Performance Standards, only 30 tags nationally were identified and distributed on the same basis as the 300 tags. These tags are a subset of the 300 identified. These can be seen in Table 2:

Table 2:
Allocation of 30 Tags for Tracing against Standard 2.2 and 2.3 of the Performance Traceability Standards

Jurisdiction	Number of Transactions	Percentage of Allocation	Number of ID's to Trace
Queensland	525,375	35%	10
New South Wales	489,723	33%	8
Victoria	277,979	19%	6
Tasmania	17,967	1%	1
South Australia	72,331	5%	2
Western Australia	82,680	6%	2
Northern Territory	4,466	1%	1
TOTAL	**1,470,521**	**100%**	**30**

Tag selection

Tags were selected for the exercise by AHA and were randomly chosen from various aggregation sites (properties, saleyards, feedlots, abattoirs and live export facilities) in the cattle production chain. Tags were collected using two methods, these being:

A. direct contact with the aggregation point and requesting the number of an animal resident on site during the week prior to the exercise

B. interrogation of the NLIS database for cattle located on the aggregation point during the week prior to the exercise

All tags for a designated jurisdiction were selected from facilities within the boundaries of that jurisdiction (e.g. all tags allocated to Primary Industries Research South Australia {PIRSA} were collected within South Australian facilities).

All tags were selected during the week prior to the exercise (the week beginning the 23 April 2007).

Distribution

In all cases, the information provided to jurisdictions was either the NLIS visual identifier (e.g. YAAY0004XBB12000) or the electronic number as read by an NLIS reader (e.g. 123 000012345678). In addition, the date the animal was certified as being at the aggregation point was provided. The information was presented in the following manner:

<table>
<tr><td>1. Description:</td><td rowspan="2">Animal identifier (alphanumeric):</td></tr>
<tr><td>Identifier type:</td></tr>
<tr><td>Location:</td><td>Date</td></tr>
</table>

All jurisdictions received a list of tags to trace between 8.50 am and 9.05 am on 1 May 2007. This information was provided via email to each jurisdictional project co-ordinator.

Exercise control

Exercise control (Duncan Rowland and Ed Klim) was located in the Emergency Management Room of DAFF in Canberra. Exercise control entailed receiving reports from state and territory government personnel, and solving problems in the conduct of the exercise as required.

Exercise control was operational between 8.00am and 5.00pm of days one and two and between 8.00am and 12.00 noon on the final day. In order to cater for the western jurisdictions, contact details were provided for ‘after hour’ necessities.

At the 24 hr and 48 hr marks, reports were forwarded to exercise control providing the data collected against each of the tags needing to be traced.

Tracing

All jurisdictions participated in the exercise as if it were a disease outbreak. Each jurisdiction ensured an appropriate number of staff were utilised in the exercise. Staffing was usually proportionate to the workload placed on the jurisdiction (staffing varied between 3 and 15 officers).

Each jurisdiction was requested to trace the animals associated to the tags as if in a disease situation. A scenario was not utilised for this exercise so effectively there were 300 target animals requiring tracing at anyone time.

The jurisdictions used the 'normal' tracing protocols as would be used for a disease event. These protocols are usually included in the Animal Health Standard Operating Procedures (SOPs) for each jurisdiction. There is not a standardised national approach to tracing nominated cattle. Additionally, each jurisdiction was requested to provide their tracing results in the format that their jurisdiction would normally report in. It was noted that some jurisdictions were concerned with this approach as they did not have a standard reporting format.

Exercise Review

A small group of personnel met on 17 May 2007 in Canberra to review the data provided by the participants. Attendees represented AHA, AHC, DAFF and MLA. After reviewing the data provided, the attendees discussed:

- the exercise planning phase
- the operational aspects of the exercise
- the presentation of the results
- the implications of what was learnt during the exercise from the representative organisations perspective

Participant Debrief

DAFF (Peter Koob) facilitated a debrief of all participants via telephone hook-up on 25 May 2007. The debrief ensured that all exercise participants had the opportunity to provide an insight into how their jurisdiction participated in the exercise, any difficulties experienced and any lessons learnt from the exercise. In addition, each jurisdiction was asked to provide commentary on the planning and operation of the exercise and improvements that can be made for future exercises. The following questions were asked of the participants:

In relation to the tracing task

What happened in your jurisdiction/organisation?

What did you plan to do and what was the difference?

What can be improved and how?

In relation to the management of the exercise

What was done in the lead-up to the exercise?

What aspects of the conduct of the exercise worked well and what can be done better?

OVERVIEW OF RESULTS

Due to the complexity of the exercise, the raw data will not be presented in this report. The provision of the raw data will not provide any additional perspective to that stated in the report. The data also contains information pertaining to individual businesses and, for privacy reasons, cannot be publicly released. De-identified aggregate data will be provided where necessary.

Standard 1.1

n = 300 tags

290 tags traced and verified within 24 hrs	96.7% success
300 tags traced and verified within 48 hrs	100.0% success

300 tags were traced to 552 properties of residence over the previous 30 days

Standard 1.2

n = 300 tags

location of cohorts for 270 tags traced within 24 hrs	90.0% success
location of cohorts for 300 tags traced within 48 hrs	100.0% success

300 tags were traced to over 30,000 properties of residence over the previous 30 days

Standard 2.1

n = 300 tags

296 tags traced and verified within 48 hrs	98.7% success
300 tags traced only	100.0% success

Standard 2.2

n = 30 tags

29 tags traced and verified within 48 hrs	96.6% success
30 tags traced only	100.0% success

Standard 2.3

n = 30 tags

28 tags traced and verified within 48 hrs	96.6% success
30 tags traced only	100.0% success

MLA Experience

In preparation of the exercise, MLA set up additional "mirrored databases" to ensure that there was ample capacity to take what could be an extremely high interrogation load. These "mirrors" were additional to the production database that is used for everyday use by the public. Therefore the use of the databases was measured as to the type of database used – mirrored or production.

Production Database

The production database received a total of 3,820 queries by the jurisdictions. 88 percent of these were processed in under one minute while ten percent were processed in under five minutes.

Mirror Databases

The mirror databases were only used by MLA staff after receival of a request from the states/territories to interrogate the database. 165 tags were traced by MLA staff in a total processing time of 12 hours. The mirror databases were used predominantly for the forward tracing of tags. Each device traced out to between one and 6,500 properties, with an estimated 100,000 plus properties for the 165 tags.

Exercise Review

A number of recommendations/issues were listed by this group as requiring attention, these being:

- Property-to-property (P2P) transfers of NLIS device numbers are required to be maintained in order to ensure traceability. These movements are by the most susceptible transfer to be overlooked. There needs to be a system put in place that ensures P2P transfers are undertaken as a priority. What sort of commercial drivers can be implemented to ensure that P2P transfers are maintained?
- There is a need to ensure that all NLIS species programs correlate the NLIS identifier to the carcase to a point where the disposition of the carcase is decided. By ensuring this, traceability for food safety issues is maintained.
- That Standard 2.2 of the National Traceability Performance Standards is reworded to include the wording "*moved off*" rather than "*lived on*".
- All states should have access to, and the ability to effectively use, an NLIS mirrored database. This should be integrated into jurisdictional tracing standard operating procedures (SOPs). Some states relied on MLA to provide reports into the mirror systems to allow them to use the mirrors to complete the exercise. It is the responsibility of the jurisdictions to develop their own reports and not rely on MLA to provide this information.
- All relevant AUSVETPLANs should be reviewed to include the use of NLIS in the control and eradication of the nominated disease/s.
- There is a strong need for the development of SOPs for the tracing of animals during disease events. These SOPs need to be consistent across all jurisdictions providing a nationally consistent approach.

- All jurisdictions need to maintain up-to-date property identification code (PIC) registers as these registers form the basis of the NLIS-C database.
- There is a need to ensure that there is a commitment to the provision of training of staff in the use and interpretation of information from the relevant databases used for tracing.
- There is a need to define MLA's roles and responsibilities in the provision of information and resources for tracing animals during a disease outbreak.
- The reporting of tracing results needs to be reported in a standardised national format. This is particularly important when providing cross-border movement data to Disease Headquarters.
- From an exercise management perspective, liveTRACE™ software proved to be an effective tracing tool. liveTRACE™ was developed by the Victorian Department of Primary Industries and has proven to be a powerful analytical tool that shows promise for epidemiological investigations. The use of these types of tools would greatly enhance Australia's capabilities in the event of an EAD. An example of the reports can be seen in Appendix 2.
- MLA needs to develop an emergency management plan for use during cases of disease events (e.g. timing of mirror database synchronisation). This plan needs to link to jurisdictional SOPs.
- Industry and jurisdictions need to continue to educate producers and other members of the beef production chain on the benefits of NLIS-C.
- It is apparent from the results of the exercise that jurisdictions need to continue monitoring, compliance and enforcement of NLIS-C use and supporting legislation.

Participant Debrief

A number of common issues were listed by the participants as requiring attention. These were grouped into the two areas:

Evaluation of the Tracing Task

In summary, the jurisdictions identified a number of common issues experienced during the exercise. All of the issues, as expected, relate to operational issues/difficulties experienced during the event. The issues are:

- The need for IT support – as the exercise was largely an exercise of tracing livestock utilising the NLIS database as a tool, jurisdictions were reliant on IT support. Some states did experience the near disastrous IT failures/collapses that will only occur during times of urgency and did not have the technical backup to proceed.
- The lack of staff was seen to be limiting the tracing response in some jurisdictions.
- Some jurisdictions set up the equivalent of a local disease control centre (LDCC) in order to provide additional experience to staff. Those jurisdictions that did not implement this structure believed that they would in future as it provides important training to the staff involved.

- All jurisdictions identified the need for standardising the methodologies and reporting of those animals that are traced across jurisdictional boundaries. The jurisdictions reported in their usual standard format thus providing seven different reporting templates all with various levels of complexity whilst not providing the same data. With the use of the NLIS-C database, states are now able to identify movements irrespective of where in Australia it occurred (i.e. an animal requiring primary tracing in NSW may have been born in SA and due to the animals LT status, NSW can identify all movements that have taken place in SA). In the old paper tracing system, this could not have occurred.
- Following on from the point above, it is therefore essential to maintain a consistency in terminology and definitions. Jurisdictions use different words for the labelling of animal types, performance of traces, describing their actions. This adds to the complication of an event when discussions are held at a national level.
- The exercise has highlighted the need for ongoing efforts to be put towards compliance enforcement of all database users. This is a jurisdictional responsibility and needs to be done on a day to day, week to week, monthly basis depending on the sector/user being monitored.
- It can be said that those jurisdictions that do not have a mirrored database are unclear of what information needs to be extracted from the database and the time frames they require the information in.
- This is more critical to those states dependant on MLA as they have not implemented a mirror based system.

Evaluation of the Exercise and its Planning/Execution

The jurisdictions identified a number of common issues experienced during the exercise. Below is a summary of the agreed issues:

- Staff training focusing on the use of the numerous databases is essential. This will need to be split into two areas; the intrastate databases (i.e. PIC registers, land database) and the national database (i.e. NLIS-C database – mirrored or actual).
- Document control in the lead up to the exercise was poor. Correction of this will help prevent confusion of the participants.
- The incorporation of a debrief for all participants after 24 hrs would be beneficial. This would provide an opportunity to clarify issues as events unfold.
- All jurisdictions identified the fact that communications with the NLIS-C database and its staff was nothing short of “great”.
- It needs to be noted that this type of exercise is different to an EAD event in that an EAD event would have a small number of target animals with different levels of cohorts involved (i.e. primary, secondary level). This exercise had the equivalent to 300 target animals.

MLA and the NLIS-C Database

It must be noted that MLA's primary responsibility is to ensure that all states/territories can access the required data from the NLIS database to meet their needs whether it be for tracing an animal to the national traceability performance standards or in the case of an EAD. A number of issues were identified by MLA in relation to their role in exercises and EAD events:

- There are presently no specifications of what information the NLIS-C database needs to provide to users during a disease outbreak. This impacts on operational processes as there is no clear mandate on what information needs to be provided, in what format and in what timeframe. A committee/central body needs to determine what exact information that should be provided to the relevant authorities during a disease outbreak.
- Currently, there is no formal requirement for the jurisdictions to use a local mirror database that is integrated into their own internal systems. The jurisdictions need to clarify their requirements so that MLA can allocate sufficient capacity and hardware to ensure that the data volumes can be extracted. There is no current budget for this service provision. This could be a significant cost to the NLIS-C.
- MLA is presently not part of the communication strategy in the case of an EAD event. This needs to be rectified so that there are defined channels of communication between the jurisdictions and the NLIS team when managing the disease outbreak.
- If MLA is to provide information to the jurisdictions in the event of an EAD, then the format and data details need to be clarified.
- It must be noted that the NLIS-C database is a list of tags allocated to a defined location (a PIC) and the transfer of these tags between various locations. It is not an inventory of the Australian cattle population. There is no way of knowing whether the tag is in the ear of an animal or in storage on the property or how many live animals are resident at a defined location.

CONCLUSION

A preliminary review of the outcomes of Exercise Cowcatcher II would suggest that it met the described objectives of evaluating the tracing systems of livestock in all jurisdictions (except the ACT) whilst identifying areas where the NLIS-C program could be improved. It must be remembered that the expectation of the exercise was not to have 100% compliance in meeting the National Traceability Performance Standards but to set a benchmark for the improvement of the traceability of cattle in Australia.

When comparing the results of Cowcatcher (2004 and 40 animals) to Cowcatcher II (2007 and 300 animals) there has been a definite improvement in the ability to trace animals to their property of birth. Cowcatcher was able to trace 75 percent of animals back to their property of birth (10 animals unable to be traced) while Cowcatcher II was able to trace 98.7 percent of the animals back to property of birth (four animals unable to be traced).

The exercise, even though it appears to concentrate on the NLIS-C database as the sole tool for tracing, also provided a valuable insight into the other tools that are also used for the tracing of cattle:

- State/territory property registers
- National Vendor Declarations and other paper based trails
- Anemis/BioSIRT electronic reporting structures
- A labour force with specialist knowledge of industries and the regions they operate within

These tools are essential for the ongoing support and provision of information to the NLIS-C database. If any one of these tools declines effectiveness, the ability to trace cattle will also be reduced.

APPENDIX 1: NATIONAL TRACEABILITY PERFORMANCE STANDARDS

Applicable to all FMD Susceptible Livestock Species[1]	
1.1	Within 24 hours of the relevant CVO[2] being notified[3], it must be possible to determine the location(s)[4] where *a specified animal* was resident during the previous 30 days.
1.2	Within 24 hours it must also be possible to determine the location(s)[4] where *all susceptible animals that resided concurrently and/or subsequently on any of the properties on which a specified animal* has resided in the last 30 days.
Applicable to Cattle Only[5]	
2.1	Within 48 hours of the relevant CVO[2] being notified[3], it must be possible to establish the location(s) [4] where a *specified animal* has been resident during its life.
2.2	Within 48 hours of the relevant CVO[2] being notified[3], it must be possible to establish a listing of *all cattle that have lived on the same property as the specified animal* at any stage during those animals' lives.
2.3	Within 48 hours of the relevant CVO[2] being notified[3], it must also be possible to determine the *current location[4] of all cattle that resided on the same property as the specified animal* at any time during those animals' lives.
Applicable to All FMD Susceptible Livestock Species Except Cattle (Lifetime traceability excluding the preceding 30 days – addressed by 1.1 and 1.2, above)	
3.1	Within 14 days of the relevant CVO[2] being notified[3], it must be possible to determine all locations[4] where *a specified animal* has been resident during its life.
3.2	Within 21 days of the relevant CVO[2] being notified[3], it must also be possible to determine the location[4] of *all susceptible animals that resided concurrently with a specified animal* at any time during the specified animal's life.

1 For the purposes of the Standards, 'FMD Susceptible Species' means cattle, sheep, goats, and domesticated buffalo, deer, pigs, camels and camelids.

2 'The relevant CVO' means the State or Territory Chief Veterinary Officer, or their delegate, in the jurisdiction where the specified animal is located or has been traced to.

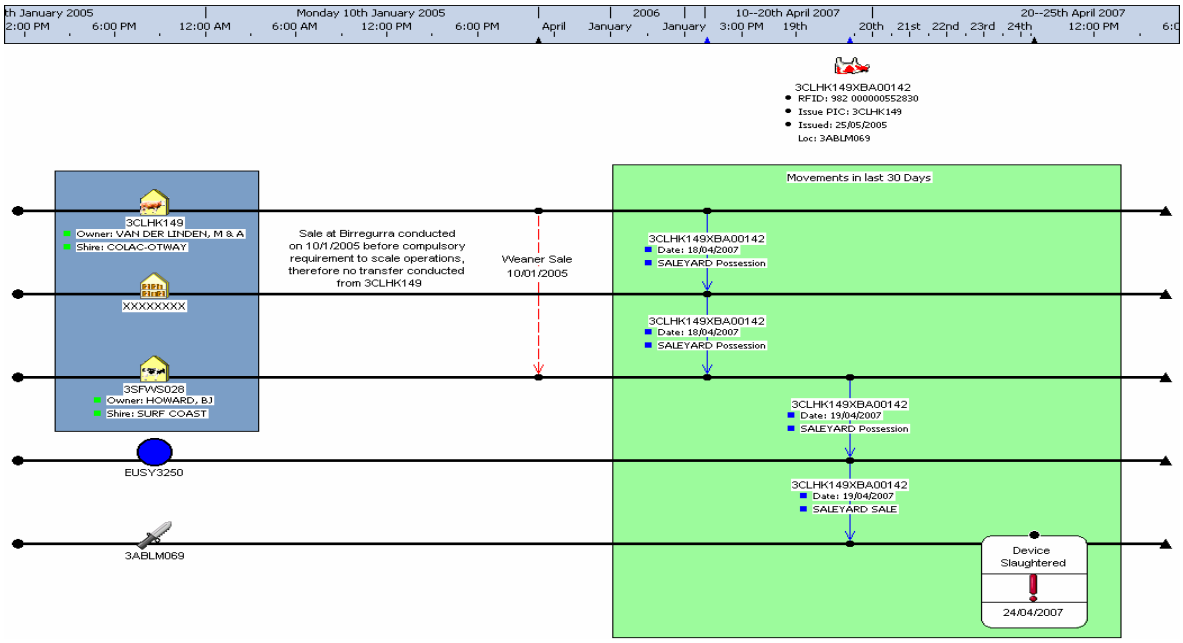
3 For the purposes of these Standards, the term 'notified' means the relevant CVO is aware of an incident that required tracing.

4 'Location' means any definable parcel of land including (but not limited to): any parcel of land with a Property Identification Code, travelling stock routes, saleyards, abattoirs, feedlots, live export collection depots, show grounds, Crown land and transport staging depots.

5 Given the risks posed by BSE, it was considered appropriate to establish separate Standards for cattle.

APPENDIX 2: LIVETRACE™ REPORTS

Lifetime History



30 Day Cohorts