



# NAIT REVIEW: FINAL REPORT ON THE RECOMMENDATIONS

29 MARCH 2018

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*This document contains information relating to discussions and recommendations arising from the NAIT review and is the final report of the NAIT review Committee(s) as submission to Government.*

*The authors of this document acknowledge contribution of the NAIT review Committees.*

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## 1 EXECUTIVE SUMMARY

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- 1.1. New Zealand's export markets for livestock and livestock products are sensitive to product integrity standards including aspects of disease status, disease control, product sourcing and the ability to demonstrate wholesome and safe products that are free from chemical treatments, contaminants and residues.
- 1.2. Customers are increasingly seeking more information about the products they are sourcing and the standards and production processes that apply from farm to retail. Countries such as Brazil, Canada, the European Union, Japan, South Korea and Australia have led the development of modern traceability frameworks in the livestock and food product sectors. Certainly, exotic and endemic diseases, coupled with risks of contamination and residue, have driven the need to ensure effective traceability systems underpin food safety standards in an increasing number of nations.
- 1.3. The livestock industries benefit from New Zealand's favourable, clean and green animal health status compared to that experienced by some other countries. Loss of market access is an inevitable effect of poor disease and chemical contamination control. Having an effective traceability system mitigates these risks by providing a control and a support for livestock health status and food safety specifications.
- 1.4. Traceability systems are a key component of the broader biosecurity framework for the management of disease and food safety risks to food products resulting from the animal and plant supply chain. Livestock traceability systems, such as NAIT, provide not only trace-back ability, but critical information to inform decision making for the wider biosecurity activities that occur when or if a disease or food safety risk is identified.
- 1.5. In an emergency disease response, rapid tracing of livestock movements and livestock at known locations is critical. The faster animals can be traced, accounted for at specific locations and related cohort animals and/or premises identified, the greater the chances of controlling a disease outbreak and minimising the costly effects of the disease on industry and the supply chain. In the recovery phase, typically occurring post the initial disease response effort, decisions relating to testing, treatment and vaccination rely on ongoing traceability system surveillance activities, including animal and premises surveillance and monitoring, assignment of risk statuses to premises and animal(s), recording of testing results by premises and animal(s), monitoring treatment, slaughter or vaccination issuance and monitoring of movement control.
- 1.6. NAIT provides this system for New Zealand and is designed to record birth, movement and death events of livestock through identification devices and records of the persons in charge of animals and the premises in which the livestock is held. The data collected facilitates the ability for better disease and food safety management and control and to decrease the impacts of adverse biosecurity and food safety risks or events. Impacts of these types of events can include human health risks, economic impacts, and risks to market access, customer assurance and maintaining disease free status.
- 1.7. The World Organisation for Animal Health (OIE) sets the high level guidelines for the design and implementation of traceability and identification systems and all OIE member countries, including New Zealand, have agreed to these guidelines, which form a minimum set of standards for member countries to comply with and operate by.
- 1.8. In New Zealand and the other countries that have implemented individual livestock identification, these systems all comprise the following key components:
  - Identification of a physical location for the animal;
  - An animal identifier—a tag device, and;
  - A method of data collection, registration, correlation and storage — a web-based database.
- 1.9. The National Livestock Identification and Tracing (NAIT) programme was established on 1 July 2012 and included a three year transition period for bringing cattle and deer into NAIT and implementing the system which ended on 30 June 2015 and 29 February 2016 respectively. NAIT Limited is a subsidiary of OSPRI and is the appointed management agency under the NAIT Act for the implementation of the program.
- 1.10. These transition phases enabled NAIT Limited, industry and government to implement and test the system in context of business practice, to identify improvements, and to engage on end-user issues and take consideration of the developing regulatory framework for traceability and biosecurity.

- 1.11. At the completion of the transition period, NAIT Limited and its industry shareholders, alongside government, considered that it was timely to review NAIT and identify potential improvements. The Minister for Primary Industries has signalled a strong interest in the outcome of the review.
- 1.12. The NAIT review commenced early 2016. The purpose of the NAIT review, as stated in the Terms of Reference (can be found in appendix section), was to evaluate the implementation and performance of the programme since 2012 against its intended objectives and to make recommendations on any enhancements, changes and improvements that will ensure the intended benefits can be realised. The review sought to examine NAIT's performance, uptake and outcomes, new and emerging drivers for traceability, operational and legislative issues, needs and priorities, and options to improve uptake, compliance and awareness.
- 1.13. The NAIT review was undertaken by a technical user committee that was overseen by a steering committee chaired by Sir Henry van Heyden. The steering committee was comprised of high level representatives of NAIT shareholder/investor agencies (Beef and Lamb, Dairy NZ, Deer Industry NZ), Government and key primary industry and supply chain stakeholders including Dairy Companies NZ and the Meat Industry Association.
- 1.14. The technical user committee also had representation from across the supply chain, from farming sector to stock and station agents, dairy companies and meat industry and processor representatives alongside NAIT shareholders, NAIT Limited and MPI.
- 1.15. The topics covered in the review were wide ranging, including but not restricted to, animal location and movement recording, definition and assignment of NAIT number, tag readability and retention, tag replacement, tag visual coding and RFID sequencing, new and emerging tag technologies, roles and responsibilities of user groups under the NAIT legislation and standards, NAIT system enhancements, user experiences, applicability of current exemptions, compliance, education and gaps and needs in terms of the existing regulatory provisions.
- 1.16. The intended outcome of the NAIT review process was the provision of a report of recommendations to government. This document provides this report to Government and industry on the recommendations arising from the NAIT review and seeks to outline the proposed changes to the NAIT programme from a legislative, regulative, technical and operational perspective.
- 1.17. The NAIT review recommendations are grouped into five theme areas.
  - The first theme area centres on individually identifiable locations, which includes recommendations on how NAIT location information is registered and maintained and the arrangements in place to ensure that locations are captured, recorded and verified for effective trace-back of livestock.
  - The second theme area focuses on 'individually identifiable animals' where recommendations relate to tag readability, visual coding, retention and replacement are considered in context of current practice expectations, legislative requirements and new and emerging technologies.
  - The third theme area addresses the roles and responsibilities associated with the various user roles in the programme and their required undertakings for effective NAIT function in accordance with the legislation and underpinning standards.
  - The fourth theme area is about ensuring the integrity of information recorded in NAIT, which will focus on compliance and ensuring that participants in the scheme fulfil their legal obligations.
  - The fifth theme area looks at how NAIT is used for traceability purposes and how improvements can be made that will enable NAIT users, in particular farmers in remote locations, to more easily access the system and record information.
- 1.18. Giving effect to the recommendations of the review will involve a mix of legislative, regulatory and operational changes following the confirmation of the recommendations through standard regulatory consultation processes.
- 1.19. The recommendations that will require changes to the principal NAIT Act and regulations are summarised in the table on the following page and throughout the document. These principally relate to the assignment of NAIT number to premises, registration of animals and other species held, consideration of a receiver only movement declaration, issuance, coding, application and assignment of NAIT tags, licensing for accredited entities and information providers, definition of PICA, and the application of impractical to tag exemptions.

- 1.20. These types of recommendations will be required to be publically consulted on in accordance with the usual government regulatory consultation process and regulatory impact assessment arrangements. The timing of this consultation is currently under consideration by Government and anticipated to occur in the coming months following Government review of this report.
- 1.21. Changes that would be enacted through the issuance of revised Standards and Notices under the auspices of the NAIT Act would include the series of recommendations relating to device standards, standards for information providers and accredited entities, standards relating to identification systems and requirements of third party providers. There will be a consultation for each revised standard as is currently required under the NAIT Act.
- 1.22. Finally, changes recommended from this review that may be enabled operationally under the current governance of NAIT Limited will relate to the utilisation of LINZ for assignment of parcels and location identifiers, standard procedures for monitoring performance under the device, information provider and accredited entity standards (existing and future), the addition of animal attributes to support disease management, the development of mobile application for NAIT, the formation of an agreement for compliance between NAIT Limited and MPI, the development of a centralised system for reporting tag losses, and the development of a simplified process for registration of animals in the NAIT system. NAIT Limited will be seeking to include these operational matters in its annual operating plans for 2018/2019 and beyond.
- 1.23. The key objective for the review is to see an improved NAIT system which delivers against the international standards for livestock traceability, becomes a recognised component of livestock supply chain product integrity, and that is well placed to realise the benefits identified in support of the development of the system in 2012.

#### Summary of NAIT review recommendations and implications for regulatory, policy or operational change:

##### Recommendations that will *require changes to Principal NAIT Act and/or NAIT regulation* include:

- NAIT numbers are assigned to, and remain with, a specific NAIT location.
- The PICA is obligated to declare presence and estimated numbers of other livestock species farmed in the NAIT location every year.
- The obligation on sending PICA to record sending movement will be met by a completed Animal Status Declaration form or equivalent and approved consignment declaration linked to the NAIT system, once the Government is comfortable that the required regulatory changes to underpin this and system changes are implemented. Until such time, the sender PICA and receiver PICA will continue to record two-legged movements in the NAIT system as per current regulations.
- A prohibition on PICAs physically sending NAIT animals to premises without a current NAIT number is introduced.
- NAIT tags can only be used on livestock for the NAIT location they are issued for; it becomes an offence to apply the tags issued for a particular NAIT location on animals that reside on a different NAIT location.
- Tag suppliers and information providers to be required to provide information to farmers on tag replacement procedures and requirements.
- NAIT Limited to develop a national and standardised coding for the application of visual identification on RFID tags.
- The standards for information providers to be revised to include definition of role, responsibility, reporting obligations, NAIT recording obligations, monitoring and audit functions of NAIT Limited and licensing arrangements.
- NAIT Limited to review licences of the accredited organisations to ensure performance expectations and reporting requirements are met.
- PICA to be defined as an individual person in charge of animals at a farming enterprise. Processors, sale-yards and accredited entities to be defined under the NAIT Act as enterprises, subject to specified standards for accreditation and not assigned in the NAIT system as PICAs.

- The requirement on the sending PICA to report ITT 48 hours prior to consigning the livestock is to be removed from regulations.
- Meat processors are required to pass the costs of the ITT levy to the supplier.
- Infringement regime to be reviewed to ensure it is fit for NAIT compliance purposes.
- Definition of the term Crown Agency to be confirmed for data access applications under the NAIT Act.
- Regulations provide for cost recovery to the NAIT organisation for those costs incurred in processing data applications, extracting data and applying quality assurance to data requests granted in accordance with the provisions of the NAIT Act.
- Enable direct access to NAIT core data by government departments or Crown agent (e.g. Police) to support stock theft and wandering stock enquiries.
- Remove any statutory barriers that are being treated as preventing the NAIT information system from carrying out its statutory function of providing data to enable a potential purchaser of a NAIT animal to trace the history of the animal over its life.

**Recommendations that would require *amendments to the Standards* include:**

- Tag manufacturers/suppliers may only sell tags to PICA/PICA delegates for their specific NAIT location.
- NAIT Limited to facilitate tag distribution to maintain better control of tag attributes for improved tracing.
- NAIT Limited to require tag suppliers to report any reports of tag loss/retention issues to NAIT Limited under the device standards.
- NAIT Limited develops a centralised system for the reporting and monitoring of tag losses and monitors feedback for ongoing assessment under the device standards.
- The device accreditation standard is to be revised and include updated tag replacement policy.
- Tag suppliers and information providers to be required to provide information to farmers on tag replacement procedures and requirements.
- NAIT Limited to develop a national and standardised coding for the application of visual identification on RFID tags.
- The accreditation standard is to be reviewed and revised to include specifications on the role, responsibility and requirements relating to information providers, accredited entities, identification systems and mobile or farm management application vendors.
- NAIT Limited to amend the identification system standard and require the operator of those identification systems that are involved in supply and distribution of the NAIT tags to be accredited under the standard.
- Information providers will be subject to new requirements on behalf of PICAs including providing current information in formats required by the NAIT database, keeping the PICA informed of issues or changes to their NAIT accounts.
- Framework for allowing two way information exchange between NAIT system and the information provider such that the information in NAIT is enhanced while its integrity is protected.
- The obligations on the sending PICA to record the ITT will be met by completing the ITT section on the Animal Status Declaration form or equivalent consignment declaration, once the amendments to regulation and the ASD/eASD database integration with NAIT is implemented. Until such time, the ITT requirements will remain as currently defined in legislation.

**Recommendations that are *operational* for either NAIT Limited or MPI include:**

- NAIT Limited to use LINZ as the source of farm boundary and ownership information for NAIT.
- NAIT Limited to develop a streamlined and simplified process for animal registration.
- NAIT best practice guidance includes the promotion of re-scanning procedures and what to do when tags are lost/unable to be scanned.
- NAIT Limited to require tag suppliers to provide essential information on tag application and make these available in website and NAIT Limited and tag manufacturers will provide these through their engagement and

communication activities including stands at agricultural events.

- NAIT Limited to develop a standard operating procedure for reporting tag retention issues and communicate these with PICAs and information providers.
- NAIT Limited develops a centralised system for the reporting and monitoring of tag losses and monitors feedback for ongoing assessment under the device standards.
- NAIT Limited to develop mobile applications and lightweight web application for improved access by end users
- NAIT Limited to facilitate the addition of attributes in response to farmer and/or industry requests to support disease management, food safety, market assurance and productivity needs (e.g. TB testing status, contaminants, BVD status, parentage, etc.)
- Calves, including bobby calves required to be tagged if they leave the farm of birth prior to 6 months of age and are not consigned direct to slaughter.
- NAIT Limited and MPI develop a dedicated agreement to implement defined monitoring, reporting and subsequently compliance activities.
- The roles and responsibilities of NAIT Limited and MPI in regards compliance activities of various natures are defined and communicated to industry.

## 2 PURPOSE

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The purpose of this document is to provide Government and industry a report on the recommendations arising from the NAIT review. This document also seeks to outline the proposed changes to the NAIT programme from a legislative, regulative, technical and operational perspective and to provide background on the discussions, rationale and evaluation that occurred within the NAIT review process.

### 2.1 PURPOSE OF NAIT REVIEW

- 2.1.1. NAIT Limited is a subsidiary of NAIT Limited and is the appointed management agency under the NAIT Act for the implementation of the program. The NAIT programme was established on 1 July 2012 and included a three year transition period for bringing cattle into NAIT and implementing the system which ended on 30 June 2015. A similar transition period for deer was also commenced at the outset of the scheme and ended on 29 February 2016. These transition phases enabled NAIT Limited, industry and government to implement and test the system in context of business practice, to identify improvements, and to engage on end-user issues and take consideration of the developing regulatory framework for traceability and biosecurity.
- 2.1.2. At the completion of the transition period, NAIT Limited and its industry shareholders, alongside government, considered that it was timely to review NAIT, identify potential improvements and to take account of the learnings and feedback from NAIT users since the system was implemented in 2012. The Minister for Primary Industries has signalled a strong interest in the outcome of the review.
- 2.1.3. The review sought to examine:
- NAIT's performance, uptake and outcomes to date compared to its objectives;
  - New and emerging drivers for traceability, biosecurity, product integrity and market access;
  - Operational, legislative and policy aspects, issues, needs and priorities;
  - Options to improve uptake, implementation, compliance and awareness.

### 2.2 INTENDED OUTCOME OF THE NAIT REVIEW

- 2.2.1. The key objective for the review is to see an improved NAIT system which delivers against the international standards for livestock traceability, becomes a recognised component of livestock supply chain product integrity, and that is well placed to realise the benefits identified in support of the development of the system in 2012.
- 2.2.2. The intended outcome of the NAIT review process was the provision of a report of recommendations to government for consideration in terms of policy position and regulatory amendments that may be required. It is noted that giving effect to the recommendations of the review will involve a mix of legislative, regulatory and operational changes following the confirmation of the recommendations through standard regulatory consultation processes.
- 2.2.3. This report is the final report presenting the recommendations and rationale on behalf of the NAIT review process to industry and the government. The report sets out the proposed changes, potential improvements, background, and rationale.

## 3 BACKGROUND

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### 3.1 THE BACKGROUND INTO THE NAIT PROGRAMME AND ITS DEVELOPMENT

#### 3.1.1 History of the NAIT programme

- 3.1.1.1. Identification and traceability of livestock and livestock products can assist in providing assurance that products can demonstrate adherence to food safety standards, are able to be traced to their source/origin, biosecurity response can be effectively facilitated and claims relating to the health status of the animal(s) can be validated.



- 3.1.1.2. It was foreseen in 2004 that it was important for New Zealand to have a world-recognised animal identification and tracing system. This need was driven by growing demands from consumers to better manage disease risks and human health and to provide evidence that New Zealand-sourced product is free from disease, is safe to eat and meets other product integrity deliverables.
- 3.1.1.3. In 2004, a working group involving representatives of livestock industries and the Ministry of Agriculture and Forestry (including the New Zealand Food Safety Authority) began working together to consider enhancements to New Zealand's existing animal identification and tracing framework.
- 3.1.1.4. In July 2005, the working group released an industry consultation document Proposal for an Enhanced National Animal Identification and Traceability System (with an initial focus on Cattle and Deer) which set out the broad outline of a possible new system. The initial focus on cattle and deer relates to these species already having a mandatory identification system for disease control (bovine tuberculosis, TB) purposes. Written submissions received have reflected broad support for the principles set out in the document. General assent to proceed was given, provided there more detail on the design of the system was provided and ongoing dialogue occurred as the practical details were finalised.
- 3.1.1.5. In March 2006, the National Animal Identification and Tracing (NAIT) project was formally established. The NAIT Governance Group included senior management representatives of the NAIT partner organisations with an independent chairman and an agreed project brief and terms of reference. A Memorandum of Understanding setting out the respective roles of the organisations involved and the methods of managing the project, including decision-making during the design phase of NAIT, was signed by all parties on 20 April 2007.
- 3.1.1.6. In August 2007, an assessment of the combined needs of the parties noted the Crown's need for a complete dataset of rural properties, not just cattle and deer locations, for biosecurity purposes. It was proposed that the Crown would consider development of a rural property register that could be used by NAIT, but would reflect the Crown's need to know where all at-risk host species (including plants) were located. This led MAF to initiate a separate project involving the development of a voluntary system called 'Farms Online'.
- 3.1.1.7. In December 2007, the first NAIT business case was published. In this business case, it had been recognized that the individual animal identifiers are not recorded on ASD forms and although it deemed sufficient for managing TB at present rates of infection, tracing requires time-consuming manual reconciliation of ASD paper forms and is prone to error.
- 3.1.1.8. A needs analysis was informed by industry groups that are stakeholders of an animal identification and tracing initiative. Under the needs analysis, dairy producers and companies indicated that health treatments, withholding periods, food pathogens and supplementary feeds shall be a part of movement declaration in NAIT system which would encapsulate ASD forms and removes to need for the farmers to complete both NAIT movement declaration electronically and animal status declaration manually.
- 3.1.1.9. Meat industry fully supported this argument and indicated that "an identification system needs to have the capability to completely replace ASDs". Beef and deer producers also indicated that "the industry wants to ensure that no additional document is required to support animal movements under the new system, and that the new system should hold sufficient data to generate an ASD equivalent automatically". Since then, this has evolved further with the development of the electronic ASD project and the NAIT Limited business case to further address these earlier recommendations by integrating ASDs (paper and electronic) with NAIT to provide for traceability, animal status and movement recording of both individual animal and consignment movements across multiple animal sectors to support future biosecurity and food safety response capability.
- 3.1.1.10. In May 2008, Cabinet approved, in principle, to part-fund NAIT (The Crown's share of design, development and operation) and fully fund Farms Online. The NAIT initiative was formally launched by the Minister of Biosecurity at the National Fieldays event in June 2008, with a discussion document released for public consultation. The two projects began preparing linked Stage 2 business cases in July 2008, with Cabinet guidance on the requirements for shared elements of these cases. Associated work included:
  - Analysis of business requirements and high-level solution design;
  - Planning and costing of the build phase;

- A stakeholder communications programme encompassing public consultation, field day attendance, solution prototyping and a survey in May 2009 to gauge farmer awareness and attitude toward the NAIT project<sup>1</sup>.
- 3.1.1.11. A stage 2 NAIT business case in 2009 has identified the issues relating to traceability system of New Zealand and the possible solutions to deliver desired outcomes in this area. Problems with the existing identification systems in New Zealand (such as, Management Information for Dairy Administration (MINDA) of Livestock Improvement Corporation (LIC) and Disease Management System (DMS) of Animal Health Board (AHB)) were identified as:
- Data on properties is incomplete;
  - Data on livestock is incomplete;
  - These existing identification schemes operate under different rules imposing additional tagging cost;
  - System costs are not efficient because common data cannot be shared;
  - Most of these schemes rely on paper-based records<sup>2</sup>.
- 3.1.1.12. In accordance with the identified problems, industry and government deemed that there was a growing pressure to improve the traceability system in New Zealand, arising from the need to improve:
- **Consumer confidence** – There is continued and growing interest from importing countries, multi-national corporations and consumers in the sourcing of food products. There are risks that New Zealand will fall behind competitors if we do not improve the systems currently in place.
  - **Disease management** – The risk of new exotic disease incursions is increasing as the volume and source of trade and tourism increases. Overseas countries are also demanding greater proof of freedom from disease, using evidence from surveillance programmes. Biosecurity stakeholders also have needs to better manage established diseases affecting productivity and market access.
  - **Food traceability** – The need to provide increasingly sophisticated evidence of trace back to source, or demonstrate that New Zealand was not the source of a food safety or animal disease risk identified in food composed of ingredients sourced from a number of different countries<sup>3</sup>.
- 3.1.1.13. In December 2009, the Stage 2 NAIT business case has been published and National Animal Identification and Tracing Bill passed the first reading in December 2010. The bill passed third reading in February 2012 and the NAIT programme went live on 1 July 2012 for cattle and 1 March 2016 for deer.

### 3.1.2 Background into NAIT implementation

- 3.1.2.1. It has been noted under NAIT implementation and discussion document published by Ministry of Agriculture and Forestry (now known as Ministry for Primary Industries) that the information ( “NAIT” data) that would be collected and held on NAIT would be:
- **Initial implementation** – data collected and held in NAIT in the first phase of implementing the NAIT system.
  - **Future capability** – the provision to include additional data required in the future would be built into the capability of the NAIT system.
- 3.1.2.2. The aspects of NAIT function intended for inclusion in the initial (first phase) implementation of NAIT are as follows:
- **Locations:** GPS point data (Main gate), GPS point data road entrance, location of farm dairy), GPS data point (yards), Physical location (including road name and rapid number), Dairy number and client/processor contact details, Trading or station name, Property size, Animal species on property, Non farmed land (e.g. DOC), Enterprise type (farming, processing, vet etc.), Territorial authority (and possibly region ID), Link to associated locations and runoffs, etc.

<sup>1</sup> NAIT Stage 2 Business Case, December 2009

<sup>2</sup> NAIT Stage 2 Business Case, December 2009

<sup>3</sup> NAIT Implementation and Discussion Document, June 2008

- **Animals:** Animal identifier numbers (i.e. NAIT approved RFID, NAIT approved visual tag number, and replacements of these numbers), Date of birth (to nearest month), Species, Production Type (e.g. velvet, beef, dairy, fine wool etc.), Country of origin/imported animal, Link to location, Animal fate and date (alive, natural death, lost, direct to slaughter (diseased), slaughtered on farm, direct to slaughter (meat)), Carcase disease status.
- **People connected with a location:** Name(s) of owner(s)(including corporate owner or government dept.), Owner – contact address, Owner – contact phone (including after hours, cell phone), Owner – contact email and fax, Organisation(s) and/or person permitted to view data, View data – start date of permission, View data – person or organisation contact address, View data – person or organisation contact phone (including after hours, cell phone), Organisation(s) and/or person permitted to update data, Type of data organisation/person is permitted to up-date (e.g. animal, movement, location, location polygon data etc.), Update data – person or organisation start date of permission, Update data – person or organisation contact address, Update data – person or organisation contact phone (including after hours, cell phone).
- **People connected with animals:** Animal identifier number, Name and designation of person responsible for the animal, Contact address of person responsible, Contact phone of person responsible (including after hours, cell phone), Contact email and fax of person responsible, Name and designation of owner of the animal, Contact address of animal owner, Contact phone of animal owner (including after hours, cell phone), Animal movements and transportation, Date that movement commenced, Time that movement commenced (Process mapping and system design will define if these are required), Date that movement was completed, Time that movement was completed (Process mapping and system design will define if these are required), From location (plus home location if not identical), To location, Person/ organisation recording the movement, Truck/trailer number, Transport firm/person name, Transport firm/person contact phone and address, Animal(s) moved (identifiers), Mob quantity (for non-identified animals i.e. animals without individual animal ID e.g. calves direct to slaughter), Mob species, Verification movement complete (or two legged movement record where appropriate).
- **Selected diseases and pathogens** (Subject to Biosecurity New Zealand, Industry and scheme operators producing business case for inclusion on a specific disease by disease basis): Selected diseases and pathogens included in NAIT managed by control programmes, List of diseases, Disease vectors, Disease and pathogen test results since birth for each animal (or group) in NAIT, Disease and pathogen status of each animal (or group) in NAIT, Vaccination status of animal (if vaccination is mandatory or disclosure of administration is mandatory), Disease/pathogen status for animal (calculated – with values of Test positive, Confirmed positive, At low risk, At medium risk, At high risk, Negative, Unknown), Disease/pathogen status for location (calculated – with values of Test positive, Confirmed positive, At low risk, At medium risk, At high risk, Negative, Unknown), Scheme designated status for animal.
- **Electronic vendor application – ASD** (Compulsory check boxes – user must choose either Yes or No for each item): Ruminant protein has been fed to the animals listed in ASD, HGP treatment has been administered to the animals listed in ASD, Are any of the animals listed in this ASD under MAF, movement control for residues or any purpose other than Tb?, Are any of the animals listed in this ASD subject to a current surveillance notice for residues?, Is the herd under Tb movement control?, Are any of the animals listed in this ASD being moved from a property within a Declared Movement Control Area?

3.1.2.3. Additional future capabilities for the NAIT system and application were then identified as follows:

- **Locations:** Location boundary polygon, CRS land parcel polygon (including legal description and parcel ID), Valuation polygon (including valuation ID), Crops grown on property, Vectors at the location (e.g. Tb possums), Disease status of vectors.
- **Animals:** Carcase condition score i.e. below welfare code minimum, Carcase kill data, Gender.
- **Health treatments/veterinary medicines:** List of health treatments included in NAIT\*\*, Withholding period for treatment, Treatments received by each animal (or group) in the NAIT system\*\*, Date (or dates) of treatment

administration\*\*, Data required to manage ASD and Risk Management Programmes, subject to industry business case approval by NAIT.

[\*\*MAF mandated requirements for statutory declarations derived from treatment records]

- **Supplementary feed:** List of feed types included in the NAIT system, Manufacturer and/or supplier, Date and amount of product brought onto the location.

## 3.2 PURPOSE OF THE NAIT PROGRAMME

- 3.2.1. NAIT is New Zealand's national individual animal identification system which has been in place approximately 5 years.
- 3.2.2. NAIT is an industry and government-led initiative and was developed to provide individual livestock traceability for managing food safety incidents (including residues and contamination), supporting livestock disease management and disease response and to deliver assurances in the marketplace that livestock and livestock products are meeting food safety and product integrity standards and are verified to be traceable to their source of origin.
- 3.2.3. NAIT Limited is a partnership between industry and the Crown, recognising the public, private and industry good of animal identification and tracing<sup>4</sup>.
- 3.2.4. The drivers for the NAIT system were identified as<sup>5</sup>:
- Biosecurity and disease management drivers:
    - Limited efficiency and effectiveness of surveillance and response activities.
    - High entry cost and lack of data for industry in disease management.
    - Inability to establish credible "compartmentalization" and "regionalization" (as per OIE guidelines) in a disease incursion or disease risk.
    - Difficulty in selectively applying management options, e.g. movement control, to specific areas of the country.
    - Inability to efficiently control/manage a long-incubation period disease (e.g. BSE).
    - High cost of movement studies and low reliability/absence of up-to-date data on the livestock population for contingency planning.
  - Market access drivers:
    - Key customer expectations.
    - Decreasing ability to protect our current market position against our competitors who have lifetime traceability.
    - Internal expectations of key international trading partners are very increasing and we expect these to be passed on to New Zealand.
- 3.2.5. NAIT was developed as the national identification system that enables the rapid and accurate tracing of individual animals from the point of birth to slaughter. The system was designed to provide New Zealand livestock owners, processors and government with timely and quality information on the current location, movement history and other key attributes of livestock.
- 3.2.6. The system was designed to do this by linking animals to properties during their life and storing this information electronically in the on-line database. NAIT commenced with cattle and deer, species which already had mandatory identification requirements. However, NAIT movements are complemented by the ASD which is the consignment movement declaration is also utilised for traceability purposes and to supplement product integrity demonstration by validating animal attributes.
- 3.2.7. The purpose of the NAIT system is described under the NAIT Act<sup>6</sup> as follows:

*The purpose of this Act is to establish an animal identification and tracing system that—*

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<sup>4</sup> NAIT Regulatory Impact Statement, 2009

<sup>5</sup> NAIT Stage 2 Business Case, 2009

<sup>6</sup> NAIT Act, Section 3

- (a) *provides for the rapid and accurate tracing of individual, or groups of, NAIT animals from birth to death or live export; and*
- (b) *provides information on the current location and movement history of individual, or groups of, NAIT animals; and*
- (c) *improves biosecurity management; and*
- (d) *manages risks to human health arising from residues in food, food-borne diseases, and diseases that are transmissible between animals and humans; and*
- (e) *supports improved animal productivity, market assurances, and trading requirements.*

### 3.3 INCENTIVES AND DRIVERS FOR THE NAIT SYSTEM<sup>7</sup>

- 3.3.1. The 2009 business case for NAIT stated that the key drivers were improving the efficiency and timeliness of establishing animal health status, underpinning New Zealand's reputation internationally and market access, and enabling higher prices to producers in key markets. These drivers are similar to those countries that have adopted both consignment level traceability and individual animal identification systems.
- 3.3.2. An economic evaluation (Dr. Heilbron and Associates, 2015) to determine recent changes or influences to the drivers and incentives for traceability was conducted in 2015 by NAIT Limited. Engagement with supply chain representatives in the evaluation process confirmed that the initial drivers for the NAIT system remained applicable, and that the key drivers for traceability remain to be biosecurity, market access, market assurance (meeting customer specifications and standards), public health, animal welfare and food safety.
- 3.3.3. While these terms are broad and subject to varying interpretations, the evaluation attempted to provide further clarification and elaboration in the context of the commercial, trade-related and public good interests of the supply chain and government. It was confirmed in the final report that the drivers for traceability from an economic perspective were those identified in the NAIT 2009 Business Case.
- 3.3.4. The key drivers previously identified for developing the NAIT system were therefore 3-fold. The first overarching driver was the need to improve the efficiency and timeliness of establishing animal health status. In the event of an exotic disease incursion, costs would be higher without traceability data or trace-back capability, and any disease outbreak if the system could provide these outcomes, would be managed more efficiently, thereby reducing the economic and other costs incurred. Fast response ability is important for government and other agencies as well as farmers and the wider industry. This aspect is becoming recognised with the development of Government-Industry Agreements concerning cost sharing arrangements in the event of a disease response. In the near future, there will be a need to recognise the immediate role of NAIT in response activities and its ongoing role in terms of recovery and disease management, in these GIA arrangements and industry cost contributions.
- 3.3.5. The second key driver for NAIT related to supporting New Zealand's prosperity, which currently depends on its international reputation and access to markets that is underpinned by animal health status assurances for which traceability contributes. Finally, the third driver was the enabling of higher prices to farmers in particular markets that pay more for traceability (such as the EU, North America and North Asia) however this remains to be developing for discrete supply chains and differentiated products, and the ability for effective pass-back these premiums to the farmer also remains under development.
- 3.3.6. The quantification of these drivers led to the ability to identify specific benefits from traceability, notably the ability for biosecurity and response efficiency e.g. faster tracing, ability to handle large scale incursions and better response planning and execution, alongside surveillance abilities and data collection to support disease management.
- 3.3.7. Further benefits include the maintenance of New Zealand's biosecurity reputation in the marketplace, e.g. avoiding losses in market access or share of premium markets, especially where markets already require individual animal or consignment traceability internally, such as the European Union. There remains further capacity to capitalise on

<sup>7</sup> The Economics of Livestock Traceability in New Zealand, Report on Stage 1 research, Dr. Selwyn Heilbron Pty Ltd 2015

this, in terms of shifting the focus from NAIT only being a domestic function, to the system being considered as a key attribute of the New Zealand food supply chain framework and to promote the traceability system as a facet of New Zealand's product assurances for export markets.

- 3.3.8. The other benefits resulting from the drivers identified include market responses to traceable product requirements as well as ensuring continued market access e.g. reducing costs of downgrades, better management of endemic diseases and efficient risk management for other food safety aspects such as residues or contamination. Finally, there are notable on-farm benefits of traceability relating to increased efficiency, data management and decision making.
- 3.3.9. Essentially, the growing need for traceability can be best described by two types of drivers: those relating to public good and those relating to commercial benefit. Public good drivers are usually considered first in terms of government and industry investment, such as reducing food safety contamination/adulteration, lowering the incidence and impact of food borne illnesses and strengthening the ability to respond to emergencies. Commercial benefits tend to flow from improving the efficiency and effectiveness of the supply chain, dealing with animal status and endemic disease surveillance and control that is productivity limiting, gaining access to new markets and consumers and strengthening brand equity or product differentiation (verifying provenance or product integrity claims and standards).
- 3.3.10. Thus, many countries are responding to these and similar drivers that are creating pressure to increase the traceability of, and information about, the food we eat. Concerns over food safety have been fanned by events like the BSE crisis, E.Coli and meat contamination, alongside other influences such as genetically modified products. Consumers want to know, not just about the content and safety of their food, but how it is produced and what the environmental and social impacts are. This has resulted in credence values being underpinned by traceability systems alongside product differentiation. The rapid increase in penetration by large retailers and international supermarkets is bringing requirements for more sophisticated supply chains, which in turn facilitate traceability and information provision about product integrity standards.
- 3.3.11. There remains the potential for New Zealand to focus its support of traceability as a key element of the food standards and product integrity framework and to promote the ability to provide traceability to international customers rather than merely contemplating the system as a domestic requirement. This promotion and recognition of traceability will ensure greater market share as standards for traceability continue to emerge from importing countries and trading partners and will enable greater product differentiation into the future and for potential market pull through mechanisms to further emerge in support of the system and its ongoing implementation. For these assurances to be effective, NAIT will need greater recognition in terms of the supporting food safety, biosecurity and product integrity standards, legislation, licencing, domestic and export quality assurance, verification and overall supply chain infrastructure than is currently applied.
- 3.3.12. In summary, the table below outlines public and private incentives and drivers for traceability in New Zealand.

DRIVER OF TRACEABILITY	BENEFIT OF TRACEABILITY	PRIVATE OR PUBLIC BENEFIT
<b>Recovery in sales to domestic and international markets for livestock products after disease outbreak</b>	Reduction in value of lost sales	Private
	Reduction in adverse flow-on employment and associated impacts	Public
<b>Livestock product differentiation and supply chain streamlining</b>	Increased profitability from meeting demands for product differentiation and lower supply chain costs	Private
	Tax revenues from incremental profits	Public
<b>Identification and removal of unsafe food (e.g. BSE, chemical residues)</b>	Reduction in lost sales, liability	Private
	Reduction in adverse flow on impacts e.g. Medical costs, productivity losses	Public



Identification and treatment of human health threats from animal disease (e.g. Tb)	Reduction in lost sales, liability	Private
	Reduction in adverse flow on impacts e.g. Medical costs, productivity losses	Public
Enhanced health, welfare of animals (e.g. FMD)	Higher profitability of well animals	Private
	Meet public demand for animal welfare in excess of private supply	Public
New Zealand's international brand image	Increased profitability of sales	Private
	Flow-on benefits to related products	Public

### 3.4 INTERNATIONAL COMPARISON OF TRACEABILITY SYSTEMS

#### 3.4.1. Introduction

- 3.4.1.1. Development of livestock identification and traceability systems is generally informed by the needs of the particular country, their inherent risks with regard disease, food safety, residues and contamination, their customers and trading partner requirements and their animal health management, surveillance and biosecurity response needs. While some countries require recording of animal attributes, withholding periods, treatments of pesticides and veterinary medicines, HGP, and disease information under livestock traceability systems, some countries record these information on a separate supplier declarations and associate the information on paper forms with the livestock identification data in different ways.
- 3.4.1.2. For New Zealand, the economic contribution of cattle, particularly for milk and beef production, is very important to the overall economy. An international comparison (ADT Projekt GmbH, Germany, Schmitt et al, 2016) of NAIT against other traceability systems internationally, indicated that other countries, like New Zealand, are progressing to record the existence and location of every animal during its lifetime as a primary basis for their traceability systems.
- 3.4.1.3. A summary of the context and assessment of the most relevant animal identification and traceability (AIT) systems is provided below, alongside a summary of observations in context of this assessment for the future development of the New Zealand animal identification and tracing system (NAIT).

#### 3.4.2. Australia

- 3.4.2.1. Meat and Livestock Australia (MLA) operates the NLIS for beef, sheep, and goats. Australian Pork operates the NLIS for pigs. The NLIS started in Victoria in 1999 and was mandated for use nationally in 2002, the NLIS (Pigs) was implemented in 2008. Cattle must be identified with an accredited RFID device, either a white ear tag or a rumen bolus/ear tag combination. Each device is registered to a PIC (see below) and each animal must be tagged before it leaves the property. The receiver of animals is responsible for recording animal movements in NLIS, the sender of animals can also record movements in NLIS but the two-legged movement is not required.
- 3.4.2.2. Australia is arguably leading the world in livestock traceability. Similarly to New Zealand, the trigger was TB alongside Brucellosis eradication starting in the 1070s with property registration. Contamination issues further demonstrated the need for traceability with the chemical chlorafluzuron (CFZ). Australia's traceability system at the time meant it took considerable time and effort to determine the cattle ingested the chemical from being fed cotton trash and the properties where cattle could have been exposed to chlorfluazuron. The cause was traced back to a relatively small number of farms, but the incident severely interrupted the export of beef and impacted Australia's reputation as a dependable exporter of safe, high quality meat.
- 3.4.2.3. The Australians augmented their National Livestock Information System (NLIS), their equivalent of New Zealand's NAIT system, by introducing and linking the National Vendor Declaration (NVD), their equivalent of New Zealand's ASD, as a response to the quarantining of Australian beef due to excessive levels of insecticide (chlorfluazuron). The Residue Management Group (now Safemeat) introduced the NVD, requiring vendors to complete a declaration accompanying the sale of livestock for slaughter stating whether or not they had followed the correct withholding

period for chemical treatments before the sale. The Australian system links the NVD and the movement of individual animals in NLIS, providing transparent life history information for individual animals from birth to slaughter for both consignment and individually identified animals. The expansion to sheep, pigs and goats is now underway.

- 3.4.2.4. National Traceability Performance Standards were developed in 2003 and then revised in 2007 following an FMD economic analysis and a series of intensive audits by importing countries. Meat and Livestock Australia are conducting a trial using electronic National Vendor Declarations (eNVD) that transfers integrity data from the consignor through the supply chain to the receiver, and is verified against Property Codes registered with the NLIS database and Livestock Production Accreditation to deliver improved data integrity.

### 3.4.3. *Canada*

- 3.4.3.1. In 2013, the Canadian Federal government established Canadian Agri-Traceability Services, a non-profit organization created to complete work on a national livestock tracking system - TraceCanada. In 2014, \$7.5 million was allocated to merge two existing databases and get the long-promised, national system up and running. The two organisations are: the Canadian Cattle Identification Agency (CCIA) and Agri-Tracabilite Quebec (ATQ). The Canadian Pork Council PigTrace system that became mandatory for pork producers in July 2014 will also be added to TraceCanada.
- 3.4.3.2. The Canadian Livestock Tracking System records events against each tag number; these events include birth, death, movement in, movement out, exported. The only required information for an event are date, account ID, and destination ID. Optional information is source details of the animal, sex, species, breed, colour, comment. Each province and territory requires specific movement documentation; in general the owner, transporter, and receiver must sign the movement manifest. Veterinary/food safety declarations are not recorded on the movement manifest. New regulations are being proposed and coming into force in 2017 expanding the scope of the identification and tracing requirements from bovine, bison, sheep and pigs, to goat and cervid and to make farm holding registration mandatory.

### 3.4.4. *European Union*

- 3.4.4.1. The European Union's General Food Law came into force in 2002, making traceability compulsory for food and feed operators and requiring those businesses to implement traceability systems. The EU introduced its Trade Control and Expert System, or TRACES, in April 2004 supported by over 50 European organisations and China. The EU has introduced separate regulations requiring electronic identification for pets, horses, sheep and goats alongside their existing specifications for cattle. All member states must operate an individual animal identification scheme, except for pigs that can be identified on a batch basis. EID tagging of sheep and goats became mandatory in 2010 (for national herds of more than 16,000 animals). Each animal (except pigs) must have a paper passport that travels with and records the movements of the animal throughout its life. Animal movements, including births and deaths, must be reported to a National database within a maximum of 14 days. The National database should connect with the TRACES (Trade Control and Expert System) database. TRACES is a "trans-European network for veterinary health which notifies, certifies and monitors imports, exports and trade in animals and animal products". The system provides a central database to track movement of animals within the EU and from third countries; it was an initiative to deliver integrated traceability systems, guides to traceability best practice and food verification systems; it incorporates a strong focus on traceability enabling an ability to track and food or food producing animal or substance that will be used for consumption through all stages of production, processing and distribution.
- 3.4.4.2. Vehicles transporting stock for longer than 8 hours must be equipped with a satellite tracking system and transporters must be authorised to carry animals. Any beef which goes on sale in the EU for the consumer must include on the label information on the origin: a) A reference number that enables to trace-back to the holding of origin (birth), b) Information regarding the origin of the meat, e.g. "Animal Born: in Spain; Raised: in France, Slaughtered: in Germany. The legislation and implementation of these requirements is the responsibility of the



member states. In Europe, every bovine animal must be registered and individually identified using one tag in each ear. Individual paper passports are required for all bovine animals and must accompany the animals when they move. This is similar to New Zealand in respect that the consignment information is paper based, but the difference is, in Europe the consignment information is linked to the individual animal and its lifetime movements. The legislative requirement for on-farm register applies and systematic data validation and data integrity checks are made following the EU control requirements. Supporting the control, eradication and surveillance of bovine diseases such as TB, Bovine Viral Diarrhoea (BVD) and FMD remains a priority.

#### 3.4.5. United Kingdom

- 3.4.5.1. A keeper must record all movements of cattle on and off their holding. Only cattle with the correct tags and a valid animal passport may be moved. The keeper must record the movements in their holding register within 36 hours and report them to the British Cattle Movement Service within 72 hours. In Northern Ireland, a keeper must report movements to APHIS Online (Animal and Public Health Information System) of the Department of Agriculture and Rural Development. Republic of Ireland requires an animal passport that contains more information than the cattle passport applied in rest of the United Kingdom.
- 3.4.5.2. The British Cattle Movement Service is a government agency that maintains the cattle passport system and the database of all bovine animals and movements in the mainland UK. Keepers must record movements in the Cattle Tracing System (CTSO), an online only system accessed via farm management software or a direct web connection. Keepers without internet access must phone in their movements to a self-service phone system.

#### CASE STUDY: COMPARISON OF THE NEW ZEALAND NATIONAL ANIMAL IDENTIFICATION AND TRACING SCHEME AGAINST INTERNATIONAL TRACEABILITY SCHEMES<sup>8</sup>

Knowledge of the existence and location of every animal during its lifetime in a country is the primary output of an animal identification and traceability (AIT) system for animals. Comparing the performance of the New Zealand's National Animal Identification and Tracing (NAIT) system for cattle with AIT systems of other jurisdictions demonstrates that NAIT is part way to providing this knowledge.

The four AIT systems compared with the NAIT vary substantially and produce different results. Therefore the comparison and the interpretation of performance figures has to be done carefully taking into account the drivers, the specific conditions and the current development status of each AIT system.

##### Key observations on the performance

The key observations on the performance of the NAIT underpin the emerging status of the NAIT. Generally speaking, this is acceptable since the NAIT was only introduced four years ago and the transition period for bringing cattle into the NAIT ended on 30 June 2015. Hence, the performance indicators of the NAIT cannot be compared to the AIT systems in Australia, Ireland and Scotland with a track record of more than 10 years. It is one of the lessons learnt from those countries that their AIT systems also went through a development phase of several years and only produce significant benefits when they are correctly executed and fully exploited.

For the NAIT, the performance figures of the more experienced countries are nevertheless useful. They can be regarded as benchmarks which the NAIT should aim for in the next few years.

##### Key observations on drivers and purposes

The key observation on drivers and purposes is that the level of appreciation of a well-functioning AIT system is less evolved in New Zealand than in most of the other countries even though the economic role of the cattle industry is higher. Hence, the relevance and use of the NAIT for biosecurity, international market access and requirements of

<sup>8</sup> Commissioned work for NAIT review undertaken by ADT Projekt GmbH, Germany, Dr. Ferdinand Schmitt, Dr. Brian Wickham, Dr. Helmut Karb et al, 2016.

the food industry has not been considered with the same rigor as in other countries and the NAIT is less integrated within the information and service infrastructure of the New Zealand cattle industry than it should be.

#### **Key observations on the legal framework**

The key observation on the legal framework is that major provisions for animal identification and traceability are in line with international standards and expectations of trade partners. The NAIT act itself is rather comprehensive and detailed. Compared to the other countries some provisions on establishment registration and movement recording are unusual and confusing for users and could be reconsidered.

#### **Key observations on the technical design**

When NAIT started there were already other IT systems such as TbFree, FarmsOnLine and MINDA™ in place which have been designed for different targets but included already aspects of AIT such as the registration of establishments or identification of animals. While these systems have aspects of traceability they are not legislated for this specific purpose.

The New Zealand approach for dealing with this situation was to allow a co-existence of all information systems without giving the NAIT the dominant role of the master system with regard to identification and traceability.

By doing so, the NAIT has to accommodate to the existing systems instead the other systems having to accommodate with NAIT. Although there are technical solutions available (e.g. mapping tables) to synchronize the systems one should not underestimate in long-term the costs necessary for keeping, for example, the data exchange between such systems up-to-date.

Although IT solutions are determined mainly by technical requirements they also reflect the organizations behind them and their power in the relevant business domains. It seems that in New Zealand the NAIT information system has not fully secured its role being the master system for identification and traceability.

#### **General recommendations derived from the gap analysis of the international animal identification and traceability (AIT) comparison can be concluded as follows:**

- 1) Achieve higher acceptance by all beneficial stakeholders that the NAIT must hold the most up-to-date AIT data
- 2) Develop and maintain the NAIT to provide near real-time accurate data on the location of all cattle in New Zealand
- 3) React to the highest relevance of biosecurity and food safety needs
- 4) Enhance integration for and with other purposes that provide value to the cattle industry and strengthen the pivotal role of NAIT within the information and service infrastructure of the cattle industry
- 5) Take expectations of market partners and consumers seriously into account
- 6) Improve enforcement by strengthening the role of the competent authority on NAIT policy and AIT control
- 7) Review the legislation underpinning AIT for the New Zealand cattle industry in order to achieve a more integrated framework around traceability, product integrity and livestock management and biosecurity
- 8) Review and revise as required, the NAIT Act
- 9) Enhance the current NAIT information system, and associated interfaces with providers of information services to the cattle industry. Third party products have strictly to follow the interfaces and protocols set out by the NAIT database.
- 10) Review and optimize operational procedures in the field and simplify recording procedures
- 11) Strengthen the capacity of the NAIT organization and ensure that it is adequately equipped with human, technical and financial resources
- 12) Expand information campaigns, public relation and education on NAIT to achieve a higher commitment of all stakeholders involved
- 13) Review the tag management system to remove existing anomalies such as trading of tags, and the multiple

numbering systems

- 14) The results confirm that the international comparison of the NAIT with other leading AIT systems in the world serves in an excellent way the current needs of the NAIT since it provides best practices and lessons learnt of other AIT systems with a longer track record.

## 4 NAIT REVIEW RECOMMENDATIONS

### 4.1 ANIMAL LOCATION

#### 4.1.1. Context

- 4.1.1.1. Location identification is defined as the assignment of a unique identification number that is assigned to a parcel of land where livestock may be located.
- 4.1.1.2. The identification of the farming premises location where an animal is held and residing, as specified in the OIE guidelines, is the most fundamental component of any traceability system, alongside the identification of the individual animal with an approved form of identification method. Livestock traceability systems are based upon three core elements: animal identification; location (premises) identification; and animal movement.
- 4.1.1.3. Premises identification connects animal traceability to geographic locations for purposes of locating and tracing the animals registered.
- 4.1.1.4. Information relating to presence of livestock in a certain location at a certain point in time provides the basis for any trace-back activity. The maintenance of robust, reliable and accurate location (premises) information remains an essential element of an effective animal identification and tracing framework.

#### 4.1.2. Summary of the current requirements

- 4.1.1.1. A Person In Charge of Animals (PICA) is obligated to register with the NAIT organisation, as a NAIT location, any location where NAIT animals are to be kept or held.
- 4.1.1.2. Each PICA must register with the NAIT organisation every location where that person is in charge of NAIT animals (NAIT location).
- 4.1.1.3. In registering a NAIT location, a PICA must confirm that he or she is a PICA for the specified location.
- 4.1.1.4. A PICA registering a NAIT location must provide the following information to the NAIT organisation in the registration document: (a) type of NAIT location; and (b) location information.
- 4.1.1.5. Where the location of origin PICA is same with location of destination PICA, the PICA can make one declaration for the movement.

#### 4.1.2. Recommendations

##### RECOMMENDATION 1:

NAIT numbers are assigned to, and remain with, a specific NAIT location.

##### RECOMMENDATION 2:

NAIT Limited to use LINZ as the source of farm boundary and ownership information for NAIT.

#### 4.1.3. Rationale

- 4.1.3.1. Currently the NAIT number defines both the premises and the person in charge of animals. Since the establishment of the NAIT programme, the users were allowed to use the same NAIT number if they move their farming practice to another location. The assignment or movement of a location identifier to another location or multiple locations can markedly impact data quality over time.

- 4.1.3.2. The NAIT Act currently requires the NAIT organisation to identify and keep a register of all NAIT locations. To achieve this, the NAIT Act specifically requires the NAIT information system to interface with the biosecurity database (currently as identified under the relevant legislation, Farms Online, FOL). In accordance with the Act, and as suggested for purposes of avoiding duplication at the establishment and implementation of NAIT, the FOL ID was to be utilised as the primary geographical boundary information provider for the NAIT system.
- 4.1.3.3. While NAIT location registration is mandatory under the NAIT Act, currently, Farms Online registration is voluntary and therefore there is an inconsistency across obligation to register and keep information up to date across these two systems. In addition, there is inconsistent alignment between these data sets, since the policy application of location and the assignment of identifier is different and alongside, there are significant gaps in the regularity and quantum of verification by Farms Online in terms of changes to land parcel and boundary information for which NAIT relies upon in order to remain up to date with its premises registration.
- 4.1.3.4. As a consequence of the current arrangements, single NAIT numbers can correspond to multiple Farms Online IDs and these also change over time, single Farms Online ID can correspond to multiple NAIT numbers and also these changes over time and both data may further change as land parcel use changes through sale or transfer of ownership, boundary redefinition, subdivision and aggregation. The complexity caused by one-to-many identifier relationships result in sub-optimal data quality, which in turn weakens fast response ability in the event of a disease incursion.
- 4.1.3.5. Multiple location identifiers that are administered by separate government and commercial entities (such as Farms Online, AgriBase and other industry and commercial systems) and that are not designated, nor designed for, national traceability systems, are causing complexity when trace back is needed. Relying on multiple systems for responding to a disease generally results in more time spent on alignment of the data and field verification of the data than the immediate analysis and utilisation of the data for decision making purposes, leading to inefficiency in the disease response.
- 4.1.3.6. There remains a need for NAIT to be supported as the nationally recognised traceability system and for it to be able to assign, set and confirm unique location identifiers against single and dedicated government land parcel use and boundary records to ensure these are accurate and reflective of premises locations at a point in time.
- 4.1.3.7. There is a need to ensure that NAIT number represents specified locations (land areas) and that this can be verified against the government registry, Land Information New Zealand (LINZ), as the primary basis for defining land area. LINZ provides land and parcel information for utilisations by various organisations for free that is defined by legal land ownership and transfers remain up to date. NAIT Limited have sourced the land information from LINZ and upon change of relevant regulations as per the recommendation, can assign location identifiers for those premises that are required to register with NAIT organisation under the NAIT Act. This is particularly important to quantify movements between premise locations and enable analysis of disease spread in adjacent and bordering locations against the confirmation of animals and the species of the animals held at each premises.
- 4.1.3.8. Identifiers that are enabled to be moved or that represent multiple or different elements are prone to change over time and maintenance of alignment is laborious and costly. Notwithstanding, the utilisation of multiple data sets and multiple identifiers utilised by other commercial entities not responsible for trace back of livestock in the event of a response is contrary to the efficiency sought to be required from having systems such as NAIT in place. It is noted in the international comparison that the New Zealand approach of allowing co-existence of other information systems (e.g. Farms Online, AgriBase and MINDA) to apply individual identifiers and to be utilised for disease response in conjunction with NAIT erodes the dominant role NAIT should be fulfilling as the master system for traceability.
- 4.1.3.9. Therefore the optimum solution is assignment of a NAIT number to a premise to reduce reliance on multiple systems with different rules, identifiers and arrangements. There is a need to fix the NAIT number to a single specified premise at a single location validated by land parcel use data from government and to ensure that each premise holds a NAIT number where livestock are kept for the NAIT programme to deliver more effective tracing.

## 4.2. ANIMAL REGISTRATION AND DECLARATION

### 4.2.1. Context

- 4.2.1.1. Animal identification relies on application of identifiers (e.g. ear-tags, rumen bolus, and microchips, etc.) and registration of the animal in the national database. This means identifying the animal with a number and registering the presence of an animal against the animal's individual identification number.
- 4.2.1.2. Information relating to presence, type and number of livestock in a certain location at a certain point in time provides the basis for any effective trace-back activity. All modern traceability systems rely on premises (location) and animal identification. In addition, knowledge of the national herd size, the registration of animals to premises and identification devices enables probability assessments to occur in conjunction with movement analysis in the event of a disease response.
- 4.2.1.3. The registration of livestock provides the information relating to animal population in a location at a certain point of time and is therefore essential element of the traceability framework. It is crucial to know how many animals reside on a particular location and the device numbers of each individual animal if traceability is to occur effectively. These data provide for decisions on action to be taken, treatments to be issued or other responses to an incursion, disease outbreak or food safety incident to be identified and resourced.
- 4.2.1.4. Without knowing how many animals reside in any affected area or premises, it remains impossible to quantify and assess the size of the problem, assign actions and resources and to manage the issue. Timely registration of the livestock is also crucial in terms of lifetime traceability of the animals, which is increasingly demanded by the modern customer profile in premium markets.

### 4.2.2. Summary of the current requirements

- 4.2.2.1. A PICA must register the livestock for which the NAIT Act applies, within 180 days of birth or before the livestock moves off the farm (whichever comes first).
- 4.2.2.2. A PICA must ensure that the NAIT animals in his or her charge are: (a) correctly fitted at all times with the NAIT device required for those animals; and (b) registered with the NAIT organisation.
- 4.2.2.3. A PICA must not move NAIT animals from the NAIT location which that PICA controls unless those animals are fitted with the prescribed NAIT device.
- 4.2.2.4. There is no current obligation to declare presence of livestock species other than cattle and deer under the NAIT Act.

### 4.2.3. Recommendations

#### RECOMMENDATION 3:

NAIT Limited to develop a streamlined and simplified process for animal registration.

### 4.2.4. Rationale

- 4.2.4.1. The review affirmed the need for animal registration within 6 months of birth as currently stated in the legislation and therefore focussed on the need for the system to be enhanced to enable a more user-friendly approach to registration in high volume circumstances.
- 4.2.4.2. The review also affirmed the need for accurate knowledge of the animals held at each premise against their individual devices as a fundamental element for effective traceability. This applied beyond cattle and deer to other species, especially with the consideration that integration of ASD with NAIT would provide data on additional species held and moved and that trace-back in the event of a cross species disease would require more thorough understanding of the animal population held at individual premises across the country.
- 4.2.4.3. Currently, in order to register a cattle or deer, the PICA needs to apply the tag to the animal and find/select the tag in NAIT system to register the livestock. It is perceived that, in case of high volume of registrations required to be made, the process is not user-friendly if the user does not own a scanner (transceiver that can electronically read

the identity information encoded in the tag) and that this administrative burden is perceived to be impacting NAIT uptake and compliance for farmers.

- 4.2.4.4. With consideration of the above, it is argued that a simplified animal registration process would support uptake of the NAIT. The review resolved that NAIT Limited would design this given the inter-relationship with other aspects including the assignment of tags to a fixed NAIT number for premises, movement declarations and tag RFID upload in sequenced order, to minimise time spent by the PICA for animal registration to address this recommendation. To achieve this in practice, there is a need to align any system amendments with a series of other recommendations presented in this review including the assignment of tags to premises/NAIT number.

#### 4.2.5. Recommendations

##### RECOMMENDATION 4:

The PICA is obligated to declare presence and estimated numbers of other livestock species farmed in the NAIT location every year.

#### 4.2.6. Rationale

- 4.2.6.1. Currently, it is possible to record presence of other species in a NAIT location in the NAIT system. However declaration of presence of species other than cattle and deer is not mandatory. Therefore, for the species other than cattle and deer, there is no national dataset for presence and population of animals that is specifically designed for confirming animal population at premises and trace-back purposes. For future biosecurity and disease response activities, particularly in the event of cross-species disease incursions, this information remains crucial to the effective determination and application of disease or food safety response activities.
- 4.2.6.2. It was noted that for biosecurity or food safety issues that transverse beyond the cattle and deer sectors, other data inputs are still required for the presence of other livestock on NAIT premises. Without this information, additional burdens and time impacts will continue to occur during a response since these data would have to be sourced from commercial or other agencies that do not have traceability responsibilities, and that carry a range of multiple and different identifiers. This lends to the issue for investigators and veterinary epidemiologists spending precious time on data alignment matters from multiple commercial datasets rather than premises risk identification and assignment of resources to respond to the risks. The alignment of ASD with NAIT would further the data capture of movements alongside other species residing on premises with cattle and deer.
- 4.2.6.3. Since there are no other national animal identification and tracing programme for species other than cattle and deer, and most of the farms produce multiple species and production types (such as beef and sheep) in the same location that are subject to NAIT obligations, it has been argued that declaration of presence of other species in NAIT system would be most efficient for the farmers and give greater strength to the effectiveness of the national traceability system, particularly for those issues (biosecurity, food safety contamination and disease) that are transmissible cross species or sectors. While some of this information is available from paper ASD forms, since there is no ASD database, lack of recognition of the ASD as a means of consignment traceability or alignment of these data with NAIT locations, effective tracing of other species will remain a challenge.

### 4.3. ANIMAL MOVEMENT RECORDING

#### 4.3.1. Context

- 4.3.1.1. Modern countries established their traceability schemes with the commencement of the declaration of presence of animals at a farming location and registration of those premises involved in farming activities. Currently in New Zealand, the registration of premises is voluntary as opposed to the overseas examples. Then these countries moved to consignment or movement declaration for tracing movements of these livestock, alongside slaughter surveillance for the identification of diseases either endemic or exotic. Especially in the last two decades, several of those countries, including New Zealand, progressed to individual animal identification for better surveillance of diseases throughout the lifetime of the animals.

- 4.3.1.2. Livestock movements are a major contributor to the spread of animal diseases and hence are one of the most important aspects for the control and prevention of spread of animal diseases in most parts of the world. To effectively apply movement restrictions, monitor the prevalence of the disease and to apply control activities for the disease, both the location and number of animals needs to be registered, alongside the formal declaration of any animal movements to and from the specified location.
- 4.3.1.3. If an infected animal (if the infection is contagious or transmissible between animals) is comingled with other animals in a location, the other animals have the potential to be infected as well. If the infected animal is moved to another location, then the animals in that location could be at risk of being infected. Depending on the incubation period of the disease, whether it remains latent in the animal and how the disease is (or is not) being controlled by movement permit, movements over time period of months to years can have an impact on disease spread. To effectively apply movement restrictions, monitor the prevalence of the disease and to apply control activities for the disease, both the location and number of animals needs to be registered, alongside the formal declaration of any animal movements to and from the specified location.
- 4.3.1.4. Presence of accurate and reliable movement data is therefore essential to trace animals that are or were kept together in a certain location at a certain point of time. Movement records also dictate other premises that might be suspect, where animals may have resided in their prior history or cohorts of infected animals may have resided at a point in time.
- 4.3.1.5. Lack of, or inaccurate movement data in the online database (e.g. where the movement has not been recorded by the PICA or is not up to date) leads to time consuming interviews and the need to revert to visual inspection at the premises and where possible or available, the examination of paper records such as the ASD, which is also a movement declaration by consignment of animals, similar to that required for individual animals within the NAIT system.

#### 4.3.2. *Summary of the current requirements*

- 4.3.2.1. Every PICA must declare every movement of NAIT animals between 2 NAIT locations to the NAIT organisation.
- 4.3.2.2. A declaration must be made both by: (a) the PICA at the location from which the animals are moved (point of origin); and (b) the PICA at the location to which they are moved (destination).
- 4.3.2.3. A PICA must, as soon as practicable, make a declaration to the NAIT organisation if a NAIT animal dies or is lost (an animal exit declaration).
- 4.3.2.4. If a PICA intends to export a NAIT animal from New Zealand, the PICA must make an animal exit declaration at the transitional facility.
- 4.3.2.5. It is required to declare the origin and the destination NAIT numbers in order to make a movement declaration to the NAIT organisation.

#### 4.3.3. *Recommendations*

##### RECOMMENDATION 5:

The obligation on sending PICA to record sending movement will be met by a completed Animal Status Declaration form or equivalent and approved consignment declaration linked to the NAIT system, once the Government is comfortable that the required regulatory changes to underpin this and system changes are implemented. Until such time, the sender PICA and receiver PICA will continue to record two-legged movements in the NAIT system as per current regulations.

#### 4.3.4. *Rationale*

- 4.3.4.1. Currently, it is required for both sending and receiving PICA to create a movement in NAIT system (two-legged). If the sending or receiving party is an accredited entity (meat processor or sale-yard) then the other party involved in movement is not required to create a movement and those movements are one-legged in nature e.g. receiver only. In order to minimise the effort associated with movement recording, it is argued that a receiver-only movement



recording model would be most optimal and reduce some burdens across industry, and would potentially increase compliance. If animals are not confirmed to be received at a premises they are assumed to be at the premises of origin (registration), or in transit e.g. the animal is either at A or B or in transit, and the importance remains on confirming the animal at a point in time, meaning where it is received not where it *might* be sent. Therefore the receiver-only movement recording deemed to be superior to sender-only movement recording.

- 4.3.4.2. It was noted that a one-legged movement recording requires a secondary declaration mechanism to ensure the receiving party records the movement (and to know the movement exists or should exist). This latter aspect is important for compliance as without extensive and ongoing field presence at the time of livestock being consigned and moved, it cannot be reasonably identified what movements may be missing from NAIT at any point in time since this requires knowledge of how many movement should, and actually have, occurred in reality at that same point in time.
- 4.3.4.3. In New Zealand, for market access, TB declaration and traceability purposes, at the consignment level, the ASD paper forms are utilized. For the minimization of administrative burden and to enhance whole of supply chain traceability, it has been considered that ASD would be also utilized for traceability purposes. The ASD is a key traceability tool that provides for the physical documentation and declaration of livestock movement information by consignment. The ASD could be utilised to verify the occurrence (or the expected occurrence) of NAIT transactions on a more dedicated and national scale in comparison to the occasional field inspection checks that would validate the data being recorded in NAIT.
- 4.3.4.4. It has been argued that the ASD form, since it is a movement declaration and provides a national platform for consignment-level traceability of other species as well as supports market access and animal health status, could be utilised by the sender to notify the NAIT organisation of a livestock movement occurrence. Moreover, in the absence of scanning equipment or available NAIT data, consignment declarations are the only movement documentation physically able to be utilised in a disease response, alongside farmer interviews and field inspections. This applies to sectors other than deer or cattle.
- 4.3.4.5. Verification of individual NAIT movements would be able to be made possible by comparison of movement declarations using ASD. NAIT Limited has little to no ability to confirm whether the movement recorded in the online database is that which has occurred on the ground unless field inspection for each individual movement is applied. To effectively validate whether an accurate movement has been recorded in NAIT, there are only two methods – the first visual field inspection of the movement, and the second, comparison against other equivalent data – for which the ASD provides as the secondary movement declaration mechanism. Without this secondary dataset, field inspection is the only way to actually confirm the real movement occurring against that recorded in the NAIT database, which is extremely costly.
- 4.3.4.6. Farm-to-farm movement recording rate, therefore, cannot be ascertained, as comparing NAIT data against NAIT data does not give the whole picture of movement occurrence in the field, and currently there is no secondary mechanism or baseline data that is readily available for direct comparison, which might be achieved in case of utilisation of consignment traceability data.
- 4.3.4.7. Electronic ASD (eASD) has been trialled in 2016 and 2017 in farm-to-processor movements and could satisfy the requirements of Ministry of Primary Industries alongside generating time-saving benefits and increased operational efficiency for farmers and meat processors. The Business Case for eASD, which was developed by NAIT Limited, included both electronic ASD linkage with NAIT and the upload of paper forms and recognised the importance of a comparative dataset for movement verification purposes with NAIT alongside the obvious enhancement to biosecurity management through consignment traceability introduction. It is recommended by the review that the obligation for the sending PICA to record a sending movement be met by the ASD movement declaration form that is linked to the NAIT system.



#### 4.3.5. Recommendations

##### RECOMMENDATION 6:

A prohibition on PICAs physically sending NAIT animals to premises without a current NAIT number is introduced.

#### 4.3.6. Rationale

- 4.3.6.1. Currently, in order to create a movement in the NAIT system, the person creating the movement shall know the sending and receiving NAIT numbers. In the absence of this information, the users cannot make a movement declaration. However this does not preclude the possibility that the livestock can still be physically sent to a location without a NAIT number.
- 4.3.6.2. It is argued that a prohibition on PICAs physically sending NAIT animals to premises without a current NAIT Number should be introduced to ascertain the livestock is not physically moved to a location that is not registered with NAIT. This in practice can be achieved by identification of the premises that are not registered with NAIT utilising consignment information that include such locations as origin or destination and these premises would be subject to penalties as a consequence of non-compliance with the NAIT Act.
- 4.3.6.3. It is discussed that for the traders, where they are involved in a sale, an obligation to record movements on behalf of sending and receiving parties would support implementation of the NAIT programme. However it was noted that where a trader have a farming location and the animals physically resided at the premises, then they would be considered as PICA and if the animals are not transferred to a premises operated by the trader, then the trader can be an information provider (if desired) or act as a delegate for sending and receiving parties.

### 4.4. ANIMAL IDENTIFICATION DEVICES

#### 4.4.1. Context

- 4.4.1.1. Since the earliest of times, people have sought means of identifying livestock in order to place their mark of ownership on them.
- 4.4.1.2. Livestock identification is an important tool that is an essential component of programmes for controlling animal diseases and to ensure the traceability and safety of livestock and livestock products.
- 4.4.1.3. Electronic ear tags (RFID) are deemed to be the most practical and efficient method of modern identification and traceability systems from application, data collection, animal welfare and efficacy perspectives.

#### 4.4.2. Summary of the current requirements

- 4.4.2.1. A PICA must ensure that the NAIT animals in his or her charge are correctly fitted at all times with the NAIT device required for those animals.
- 4.4.2.2. When a destination PICA receives a NAIT animal without a NAIT device fitted, the destination PICA must notify the NAIT organisation.
- 4.4.2.3. When a destination PICA receives a NAIT animal without a NAIT device fitted, a destination PICA who is not the PICA for a meat processing facility must choose to; (a) comply with section obligation to register the animal himself or herself; or (b) arrange with the point of origin PICA to have the animal returned to the point of origin PICA.
- 4.4.2.4. When a live NAIT animal is fitted with a device that cannot be read by an RFID reader, the PICA for the animal may: (a) seek authorisation from a NAIT officer or NAIT authorised person to remove the device; and (b) if authorisation is received, immediately replace the device that cannot be read by an RFID reader with a device that can be read by an RFID reader; and (c) register the animal under section 30(1)(b); and (d) in the registration document, provide information enabling the linking of the visual information on the device that cannot be read by an RFID reader to the RFID number of the replacement device.
- 4.4.2.5. A PICA may seek authorisation from a NAIT officer or NAIT authorised person to do the following whenever the need arises: (a) remove a device that cannot be read by an RFID reader fitted to a live NAIT animal; and (b) replace it with a device that can be read by an RFID reader.

#### 4.4.3. Recommendations

##### RECOMMENDATION 7:

NAIT tags can only be used on livestock for the NAIT location they are issued for; it becomes an offence to apply the tags issued for a particular NAIT location on animals that reside on a different NAIT location.

##### RECOMMENDATION 8:

Tag manufacturers/suppliers may only sell tags to PICA/PICA delegates for their specific NAIT location.

#### 4.4.4. Rationale

- 4.4.4.1. Currently, the NAIT identification devices (aka, tags) can be used for the livestock that is at a location other than the property that ordered the device originally. Tags transferred between properties or tags with same location identifier used by multiple properties results in decreased reliability of individual premises and animal identification. This decreases the accuracy and reliability of the traceability data, considering the fundamental principle of traceability is identification of source of the animal, and devices exchanged between premises result in inability to achieve this essential purpose.
- 4.4.4.2. In all major countries operating individual animal identification and tracing systems, it is prohibited to use ear tags which have not been assigned to the relevant establishment or premises. However in New Zealand, exchange or sale of tags occurs between PICAs. If the tag is given to a neighbour and the person applying the tag does not register the animal in NAIT system, when the animal is moved to another location, from data point of view, it becomes unclear where the animal was born and where exactly it is coming from (movement history).
- 4.4.4.3. Prevention of use of tags issued for a certain location in another location would ensure, at least, where the animal was sourced from and would support the quantification of the numbers of livestock on premises in terms of the national herd dataset.
- 4.4.4.4. In addition the review affirmed that assignment of tags to a specified location would enhance overall data integrity, alongside the accompanying assignment of animal type which already occurs.

#### 4.4.5. Recommendation

##### RECOMMENDATION 9:

NAIT Limited to facilitate tag distribution to maintain better control of tag attributes for improved tracing.

#### 4.4.6. Rationale

- 4.4.6.1. Currently, the tag distribution is managed by device manufacturers, some large commercial entities, and retailers that have commercial relationship with the tag manufacturers. In addition, the pricing of the tags is currently set by the marketplace and is highly variable depending on manufacturer, distributor and supplier and in addition, the services added by various agencies selling tags are also variable.
- 4.4.6.2. The NAIT review has suggested there may be significant animal traceability advantages of having a centralised tag supply. This is on the basis that tags are a regulated product, and management of the distribution and pricing of tags provides additional benefits such as the ability to assign the tags to premises (NAIT number) alongside control of the portion of tags issued, such that these reflect the actual animals intended to be tagged at a location, thereby being reflective of animal population held at premises. This distribution and assignment, coupled with the requirement to only sell tags to designated NAIT numbers and record production types, mitigates the risks of tag transfers, on-selling, tags being stockpiled and not applied to animals, thereby re-enforcing the data held on the national herd at any one time.
- 4.4.6.3. It is possible to achieve these outcomes while enabling the current distributors and suppliers to continue selling tags. Similarly for the order of replacement tags, processes to support the distribution and application of these in conjunction with current legislative requirements can be enabled for greater recording and application of replacement RFID for lifetime traceability.

- 4.4.6.4. General competition theory suggests that open market competition will result in most innovation and lowest prices. However in the case of lack of competition, and for regulated products, there remains argument that the pricing of tags should be managed such that commercial gains are overseen by government authority. There is a suggestion that the competition pressure in the New Zealand tag market is not strong. The New Zealand market is dominated by few players and there are market size issues and regulatory barriers inhibiting new entrants. There is potential in setting the tag price, to reduce the current costs to industry significantly, especially given the levy contribution to NAIT Limited for cattle tags remains at \$0.9 per tag, whereas by controlling the prices, NAIT Limited can reduce the economic and financial impact of the NAIT programme to the industry and public.
- 4.4.6.5. A review into the potential enablers for such a system was carried out to support NAIT review committee deliberations, which was commissioned by MPI and a summary of its findings can be found below.

#### CASE STUDY: ECONOMIC REVIEW OF TAG SUPPLY IN NAIT<sup>9</sup>

- 1) A review of the national animal identification and tracing (NAIT) system has been underway in New Zealand for some time. As part of this review, an issue has arisen over the industry structure for the production and supply of NAIT tags, and consequently over the prices being paid by farmers. The Ministry for Primary Industries (MPI) asked me to investigate this issue from a competition economics standpoint.
- 2) The instructions were to consider a tag-centralisation model, under which a single firm would supply all of the NAIT tags, and to investigate the system used in the state of Victoria. The information sources have been constrained by time/budget and commercial sensitivity.
- 3) While discussing the proposal with New Zealand based sources, a reasonably efficient sole-supply model is developed, including consideration of re-tendering and the long-term incentives on potential tag suppliers. This model is described below.
- 4) Subsequent interactions with other sources revealed that the Victorian system is rather different. They
  - Conduct reasonably frequent tender processes for stated volumes,
  - Accept enough compliant bids to meet demand in each tender round; and
  - Have a centralised agency closely managing the number ranges.
- 5) As a result, there are currently multiple tag suppliers in Victoria (currently there are two suppliers for cattle tags and four for sheep and goats). The prices offered into the market by these firms are capped at the level of their tender bids plus annual CPI inflation adjustments if necessary. In practice, trends in tag production costs combined with competition between tag suppliers has led to flat nominal prices over time (i.e. prices have been declining in real terms).
- 6) The prices paid by Victorian farmers are much lower than in New Zealand (AU\$0.88 - AU\$1.10 for cattle tags as against an average of NZ\$4.40 in New Zealand). However, despite the Australian suppliers (Allflex and Leader) also offering tags in New Zealand, these prices are not directly comparable. This is due to a per-tag subsidy in Victoria which is confidential. Although direct price comparisons cannot be made, there is nevertheless evidence that some New Zealand farmers are paying excessive prices.
- 7) For reasons explained in detail below, it is considered that the Victorian tendering approach is superior to the sole-supply model developed, when viewed in the New Zealand context. Moving to this model would have two main advantages:
  - it would not automatically exclude any firms currently supplying since all would be invited to tender, which mitigates the risk that a firm might not participate in future tenders; and
  - the combination of volume constraints on the auction and centralising allocations of tag numbers is likely to improve the accuracy and reliability of the NAIT system.
- 8) Either of the tendering systems explored in this report would be superior to the status-quo. Current information is that the average retail tag price in New Zealand is \$4.40 but some farmers can buy at \$2.30.

<sup>9</sup> MPI commissioned work for NAIT review, Covec Limited, John Small

- When this difference is aggregated over 4.3m tags sold annually, the excess profit is \$9m per annum. The benefit of removing this excess well above any reasonable estimate of tendering costs.
- 9) Therefore it is concluded that the Victorian approach should be pursued further.

#### 4.4.7. Recommendations

##### RECOMMENDATION 10:

NAIT best practice guidance includes the promotion of re-scanning procedures and the expectations of NAIT system participants when tags are lost/unable to be scanned.

##### RECOMMENDATION 11:

NAIT Limited to require tag suppliers to provide essential information on tag application and make these available in website and NAIT Limited and tag manufacturers will provide these through their engagement and communication activities including stands at agricultural events.

#### 4.4.8. Rationale

- 4.4.8.1. The review contemplated best practice guidelines that describe when or if tags are not effectively scanned and what is required to be done as a part of standard re-scanning procedures. The review also affirmed that when high levels of lost or un-scanned tags are determined, follow-up and potentially compliance action would be required to occur to identify cause and take the required corrective actions.
- 4.4.8.2. It was considered important to provide educational information relating to tag application for purposes of improving tag retention since this aspect has a major impact, however since devices and applicator practices are different it was indicated that NAIT Limited would work with manufacturers to ensure this information was extended to industry and end users. These materials would be made available in agricultural events for NAIT participants in order to raise awareness and to ensure tag application is well understood and widely communicated.

#### 4.4.9. Recommendations

##### RECOMMENDATION 12:

NAIT Limited to develop a standard operating procedure for reporting tag retention issues and communicate these with PICAs and information providers.

##### RECOMMENDATION 13:

NAIT Limited to require tag suppliers to report any reports of tag loss/retention issues to NAIT Limited under the device standards.

##### RECOMMENDATION 14:

NAIT Limited develops a centralised system for the reporting and monitoring of tag losses and monitors feedback for ongoing assessment under the device standards.

#### 4.4.10. Rationale

- 4.4.10.1. Tag loss and lifetime tag functionality remains an ongoing concern for animal identification schemes worldwide in terms of the need to provide corrective action mechanisms that enable the continuation of traceability. As lifetime traceability has developed over the last 5-10 years and is becoming required by customers and markets, emphasis has been placed by technology providers into increasing the longevity of these identification devices, though development of new designs, materials, material durability and overall hardness in order to withstand the longer

time period animals are being required to be identified and the varying climatic and management conditions they are existing in for their lifetime.

- 4.4.10.2. Currently tag losses or retention problems are reported by the PICA to the tag manufacturer (the tag manufacturer then reports to NAIT Limited) however the number of reported issues is significantly lower than the anecdotal complaints and these are also currently not formally reported to NAIT Limited for any assessment under the device approvals for accreditation. NAIT Limited monitors tag retention rates upon receiving information, since these data support assessment of the device standards, however without a formalised process these reports may or may not reflect the practical circumstances or incidence in some cases.
- 4.4.10.3. In other words, currently, persons experiencing retention issues do not formally report these issues. Therefore neither individual tag manufacturers nor NAIT Limited can take any actions or investigate these issues or examine performance of specific devices in regards the targets specified. Since the tags are accredited according to a standard and there is a certain level of tolerance for tag retention issues, it is argued that central collection of all retention related complaints by NAIT Limited could support ongoing assessment of suitability of the devices and can ensure any retention issues are investigated and are taken into account.
- 4.4.10.4. In addition, the review contemplated NAIT and tag manufacturers providing supporting information on tag application which may improve tag retention in some instances, alongside increasing levels of regular engagement with farmers in dialogue on tag performance more generally. Information on tag application, devices and management of tags including tag replacement, would be made regularly available through a number of channels including NAIT Limited, tag manufacturers, industry and government. It was also noted that manufacturers and suppliers would be required to report any tag loss or retention issues to NAIT Limited under the device standards in future. However it was noted that the current NZ based field trials and equivalent experimental demonstration of tag standards were effective in terms of supporting device product performance.
- 4.4.10.5. It was noted in the review that over time, the establishment of a centralised tag reporting mechanism would support the existing and ongoing monitoring of device performance and enable NAIT Limited to more easily review this performance against the accreditation standards, which is an existing activity and function of the company.

#### 4.4.11. Recommendations

##### RECOMMENDATION 15:

The device accreditation standard is to be revised and include updated tag replacement policy.

##### RECOMMENDATION 16:

Tag suppliers and information providers to be required to provide information to farmers on tag replacement procedures and requirements.

#### 4.4.12. Rationale

- 4.4.12.1. Tag replacement is essential to ensure the traceability of livestock is maintained and that each animal remains identified in accordance with the legislation. It is proposed that a revised tag replacement regime be implemented in support of the current regulations, but in a manner that ensures, where possible, the lifetime traceability of the livestock is maintained in practice through adherence with these existing specifications.
- 4.4.12.2. In the event that the PICA cannot identify the original tag number of the livestock and property of birth, it is proposed that a 'post-breeder' tag type should be made available to ensure, at minimum, the movement history of the livestock is retained at the points following the tag replacement. This continues the demonstration of NAIT provisions before the point of slaughter including traceability and product integrity standards required to continually be met.
- 4.4.12.3. It is considered that information related to tag replacement procedures should be provided by tag manufacturers and information providers to support the end users in fulfilling the practice.

4.4.12.4. It is noted that the device accreditation standard will be revised to take account of the relevant NAIT review recommendations.

#### 4.4.13. *Recommendations*

##### RECOMMENDATION 17:

NAIT Limited to develop a national and standardised coding for the application of visual identification on RFID tags.

#### 4.4.14. *Rationale*

- 4.4.14.1. When the NAIT programme was formally established, the existing identification systems that were approved under the Biosecurity Act were given the ability to use their own identifiers (e.g. LIC and CRV participant codes and AHB herd numbers) as unique animal identification numbers in NAIT. While NAIT Limited have decommissioned use of herd numbers be printed on tags, it is still possible for LIC and CRV participants to order tags that have participant codes printed on them alongside unique animal identifier. The use of multiple identifiers in visual coding results in lack of consistency and erosion of the value in having visual identification in all cases – identifiers that belong to commercial companies (e.g. participant codes of LIC and CRV) are neither fully confirmable nor easily accessible to the remainder primary industries organisations in the supply chain. Maintaining multiple location identifiers and maintenance of alignment between these identifiers are not the primary function, investment basis or focus of a national animal identification and traceability programme.
- 4.4.14.2. Tag manufacturers are currently responsible for managing the uniqueness of the assigned NAIT RFID numbers as per the ICAR rules that advise utilization of tag manufacturer codes in the absence of the assignment to a competent authority managing the allocation of national codes. There is a need to ensure the national integrity of these systems and the issuance of numbers assigned to RFID, alongside the oversight and assignment of NAIT Limited approved devices and assigned IDs for data integrity purposes.
- 4.4.14.3. The use of multiple identifiers in visual coding contributes to issues in case of an emergency situation. The optimal circumstance is that the person on the ground in the emergency (with no database access) can view the code on the tag and identify the region (code by number or letter) and note the origin of the animal. It is argued that, a single location identifier printed on identification devices would be valuable for on the ground visual identification, in case of a disease response or a natural disaster. Moreover, additional valuable information, such as breed type, region, district, etc. could be printed on the tags which would support improvement of traceability data. Thus, there remains a need to formalise and make consistent, the visual identifier on tags to further support animal identification in field.
- 4.4.14.4. With consideration of the above recommendation there is potential to determine a visual identifier for tags alongside, that could include a part or all of the RFID number; include location code/reference; include year/region/district. This coding would provide better capacity to visually identify animals to their location – a crucial element of on the ground emergency response where access to database/connectivity or scanners are jeopardised due to weather or other potential issues. This would also increase the speed at which on the ground response can occur – decisions can be made and minimize the efforts of meat processors to identify the source of an animal by utilizing visual identifiers – whereas currently this is not possible due to multiple identifiers printed on tags.
- 4.4.14.5. It is noted that the device accreditation standard will be revised to take account of the relevant NAIT review recommendations.

#### 4.4.15. *Other considerations relating to devices*

- 4.4.15.1. The review recommended that ongoing evaluation of new and emerging technologies to occur post review implementation; where potential tag technologies would be evaluated as these come into the marketplace.
- 4.4.15.2. The NAIT review has contemplated a range of new and emerging technologies for consideration in the future. An independent international consultant an overview of existing and emerging technology options with consideration

of whole of supply chain linkages from farm to slaughter, however concluded that these technologies were still too preliminary and in development phases for reasonable consideration of industry wide implementation.

- 4.4.15.3. While UHF as an emerging technology appears to provide future promise in terms of alleviation of some operational difficulties associated with low frequency RFID e.g. scanning distances and multiple reads, the technology is still in the process of optimization for livestock application. NAIT currently adopts ISO 11784 and 11785 standards for animal identification as adapted by all other nations utilizing RFID for livestock. An ISO working group is currently in the process of considering alignment of UHF standards, which is being managed by GS1, with the existing animal identification standards applied worldwide.
- 4.4.15.4. Therefore, as currently, low frequency and high frequency tags are subject to different coding structures and are not aligned. Additionally, any contemplation of significant technology shift will always require procurement of infrastructure for scanning, especially at critical control points such as meat processors and sale-yards. These costs will require consideration is any country is to shift to these new and emerging technologies once new standards are developed and adopted. A method to overcome difficulties associated with changes in technology would be the utilization of both sets of technologies over a transition period, which would inevitably increase the costs of the overall traceability programme and would need careful consideration.
- 4.4.15.5. NAIT Limited is involved in, and follows up, the most recent developments in UHF technologies. As and when this or other technology becomes mature enough to be adopted by modern economies, NAIT Limited would, by engagement of industry and government, initiate discussions including the potential costs and benefits to the wider supply chain.

#### CASE STUDY: CURRENT AND FUTURE OPTIONS FOR THE USE OF RFID TECHNOLOGY IN THE NEW ZEALAND NATIONAL ANIMAL IDENTIFICATION AND TRACING SYSTEM<sup>10</sup>

- Livestock traceability is rightly recognised as important and NAIT already represents a significant improvement over the systems that were previously in place in New Zealand. In particular, by imposing a uniform approach to identifying animals, people and properties and by adopting digital rather than paper-based records with RFID as the means of identifying individual animals.
- However, users' experience of NAIT reveals some issues requiring attention. In particular, retention rates for ear tags and the knock-on effects for data completeness are concern. For example, replacement tags impose an additional cost on farmers and missing tags can cause a loss of information, weakening traceability – including hampering “on” confirmation of “off” moves. In addition, the performance of LF RFID is a constraint in some circumstances, depending on the type of operations being undertaken and the type of animal involved. For example, requiring animals to be slowed to restrained to be read, which may be feasible for dairy cattle but less so for beef cattle or deer.
- Ear tags, whether purely visual or RFID, are the most common form of identification used in livestock traceability. However, international evidence supports NAIT users' view that ear tag retention and legibility decline over time. Maintaining full traceability requires clear and enforced procedures for reporting tag losses and replacement, but requirements for initial tagging prior to any movement also possibly need to be reviewed and debate would be better informed by transparency over the retention rates of different types and brands of tags.
- Of available identification technologies, RFID offers significant advantages in terms of speed and accuracy over physical markings and paper-based recording. However, RFID (indeed, even LF) is not an homogeneous technology and different variants offer different advantages. Although biometric identification has some potential, it is not currently a viable alternative. The potential for RFID devices to physically hold additional data, beyond simply an animal ID, may have some management applications but is not directly relevant to livestock traceability.

<sup>10</sup> Commissioned work as a part of NAIT Review undertaken by Pareto Consulting, UK. Authors: Andrew Moxey, Mark Powell, Hamish Stuart



- LF RFID is a mature technology, well established for animal identification and supported by international standards and widely available tags and reading equipment. UHF is an alternative variant, widely used in logistics and retailing but not widespread in animal identification. However, UHF offers some advantages over LF in terms of the speed and distance at which IDs can be read, plus lower costs. Consequently, some NAIT users have expressed interest in UHF.
- Reluctance to officially adopt UHF for livestock traceability appears to stem from a combination of out-dated perceptions of its suitability and concerns over inter-operability with existing systems and standards, both domestically and internationally. However, although fragmented and under-reported, there is compelling evidence that modern design developments make UHF suitable for livestock traceability. Moreover, inter-operability can be achieved in a number of ways and is not necessarily constrained by current arrangements (which do not themselves necessarily adhere completely to international standards).
- In particular, existing generic UHF standards already ensure inter-operability across different tags and reading equipment and various encoding standards could be utilised to support domestic consistency (as has already happened in the USA where an interim domestic standard has been issued). The relevance of international inter-operability depends on the volume and value of live imports and exports actually affected by any difference arising from variation in technology and/or standards. In the case of New Zealand, live trade is minimal, implying that even if animals had to be retagged at the border the aggregate costs would not be significant.
- Consequently, the merits of permitting UHF alongside LF to offer flexibility within NAIT should be given serious consideration. Further stakeholder consultation would be required and, ideally, information on the investment requirements for the transition would be estimated together with anticipated efficiency gains to support a formal cost-benefit analysis across the supply-chain.
- Overall, the choice of technology for identifying animals is less important than the robustness of procedures for data capture, validation and analysis. That is, traceability depends upon the timely and accurate transfer of data, not the precise mechanism(s) by which data are transferred to the central database. However, where improvements can be achieved, they should be pursued.
- Extension of traceability beyond the point of slaughter for farm-to-fork coverage poses is achievable, as demonstrated in some other countries and various proof-of-concept projects. However, again, whilst standardisation of approach has some attractions, it is not necessarily required to achieve inter-operability across the supply-chain as there are different ways to transfer information between stages.

Ten specific recommendations are offered:

- 1) R1: Information on tag retention rates is presumably contained within NAIT. This information should be made publicly available, to inform debate and to guide farmers' choices between different tag designs and/or brands.
- 2) R2: The merits of encouraging competition through approving tags from a wider range of manufacturers should be considered.
- 3) R3: Tag approval procedures should be reviewed in terms of on-going monitoring of retention and legibility, plus in terms of the appropriateness of extending approval to variants of original designs.
- 4) R4: Consideration should be given to relying on non-RFID identifiers (e.g. fold-over metal tags) unless and until animals move from the farm of birth, at which point RFID tags would be inserted.
- 5) R5: Procedures for notifying lost and replacement tags should be clarified and enforced, accompanied by continued efforts to promote best practice.
- 6) R6: Evidence from international research and independent experts (not only incumbent tag suppliers) on UHF capabilities and adaptabilities should be highlighted, to better inform domestic debate.
- 7) R7: Evidence on the domestic costs of permitting UHF alongside LF in New Zealand should be compiled. In particular, on the installed base of existing LF reading equipment and hence new investment required in UHF and/or dual readers. Equally, the efficiency gains across the supply-chain from UHF need to be estimated.



Such information would facilitate formal cost-benefit analysis.

- 8) R8: Evidence on the volumes (and value) of live imports from and exports to countries using LF should be compiled, together with information on any existing or likely requirements for retagging of imported and exported animals. This information would indicate the likely magnitude of any additional trade cost arising from adopting UHF domestically. Again, such information would facilitate cost-benefit analysis.
- 9) R9: Stakeholders should be consulted on the relative merits of alternative UHF encoding options for livestock traceability.
- 10) R10: Stakeholders should be consulted on the desirability of consistency of technology and standards across the supply-chain.

## 4.5. PROGRAMME PARTICIPANT ROLES AND RESPONSIBILITIES

### 4.5.1. Context and background

- 4.5.1.1. Accreditation of third party organisations is an important element of the NAIT programme to minimise the administrative burdens for PICAs with completing their obligations under the Act. This is since farmers can achieve multiple farm management activities with the support of these third party providers, including their NAIT transactions. Accredited third party providers are able to submit data to NAIT Limited on behalf of, or in lieu of PICAs.
- 4.5.1.2. Currently, there are two types of accreditation for third parties provided for in the NAIT system. The first is accredited entities, which have the obligation of recording each and every animal movement onto and off their premises and the second is information providers, where these are typically farm management programme agencies or commercial entities which provide services to the farmers in the form of physical device scanning, registration and movement recording or provides NAIT system updates through their farm management software.
- 4.5.1.3. The key competency required for accreditation is the capability to gather and provide to the NAIT system, the information to NAIT standard specification and within the specified time limits.
- 4.5.1.4. Meat processors and sale-yards are identified as 'NAIT accredited entities' dealing with NAIT animals under the NAIT programme. Currently, the person in charge of each meat plant or sale-yard location is required to register with NAIT as a PICA. The NAIT accredited entities have obligations under the NAIT Act and their participation to the NAIT programme is mandatory.
- 4.5.1.5. Information providers, a concept which has been envisaged for the individuals or organisations that provide services for the PICAs to meet their NAIT obligations (tag scanning, animal registration, movement recording, etc.) are also accredited under the NAIT programme, should the individuals or organisations concerned wish to become a NAIT information provider. NAIT information system also provides the third party organisations the ability to electronically interface (application programming interface) their systems with NAIT system. This enables automatic transmission of the NAIT data from those third party systems to NAIT system.
- 4.5.1.6. NAIT Limited can also accredit other identification systems, should the operator of the identification system wish to link their own identification system with NAIT information system and the operator and identification system is meeting the identification system standard issued by NAIT Limited. Identification system status is applicable for those organisations, who issue separate location, person and animal identifiers to their participants, their premises and livestock.

### 4.5.2. Summary of the current requirements

- 4.5.2.1. The NAIT organisation may approve the identification system of its own design and any other identification system whose operators wish to link with the NAIT information system.
- 4.5.2.2. The NAIT organisation may suspend or revoke the approval of any NAIT identification system if the applicant fails to meet any conditions that the applicant must meet before the identification system may commence.
- 4.5.2.3. An information provider may, on behalf of a PICA, perform 1 or more of the following functions or duties of the PICA: (a) carrying out animal registration obligations of the PICA; (b) providing animal movement declarations; (c)

providing information to the NAIT organisation; (d) providing notification when NAIT animals die, are lost, or are exported live; and (e) registering a person as a PICA or a PICA delegate.

- 4.5.2.4. The NAIT organisation may issue, amend, or revoke an accreditation standard.
- 4.5.2.5. The NAIT organisation may accredit: (a) an entity as an information provider, if the entity meets the accreditation standards that the NAIT organisation has issued for entities that apply to be accredited: (b) an entity dealing with NAIT animals, if the entity meets the accreditation standards that the NAIT organisation has issued for entities that apply to be accredited.
- 4.5.2.6. The NAIT organisation may: (a) suspend or revoke the accreditation of an information provider or an accredited entity dealing with NAIT animals if the information provider or the entity (as the case may be) fails to meet any conditions that the information provider or entity must meet before operating as an information provider or an accredited entity dealing with NAIT animals or if the information provider or an accredited entity fails to comply with an applicable standard.
- 4.5.2.7. The NAIT organisation: (a) may audit each year the following information: (i) the quality of the information gathered by an information provider or an entity dealing with NAIT animals; and (ii) the information-gathering and information-handling practices of an information provider or an accredited entity dealing with NAIT animals; and (b) may audit each year any other matters concerning the information gathered or handled by an information provider or an accredited entity dealing with NAIT animals.

#### 4.5.3. Recommendations

##### RECOMMENDATION 18:

The accreditation standard is to be reviewed and revised to include specifications on the role, responsibility and requirements relating to information providers, accredited entities, identification systems and mobile or farm management application vendors.

##### RECOMMENDATION 19:

The standards for information providers to be revised to include definition of role, responsibility, reporting obligations, NAIT recording obligations, monitoring and audit functions of NAIT Limited and licensing arrangements.

#### 4.5.4. Rationale

- 4.5.4.1. The current NAIT accreditation standard was issued (pre-launch of NAIT programme) for a wide range of organisations (meat processors, sale-yards and information providers) and therefore, does not address the expectations from each type of accredited organisations. The current NAIT accreditation standard was planned and is going to be revised post this NAIT review to account for the recommendations that have resulted, as this standard was formerly issued pre-establishment of the NAIT system.
- 4.5.4.2. Specifically, there remains a need to specify more clearly in the standards, the role and responsibility of information providers and accredited entities, their obligations under the NAIT Act if accredited, their obligations on behalf of PICAs, and the standards they must adhere inclusive of data uploads, the timeliness of these data uploads, the responsibility for issues resolution and disputes (NAIT transaction related) raised by PICAs, the obligations for reporting to NAIT Limited and the overall performance outcomes that must be met to fulfil their accreditation requirements.
- 4.5.4.3. In order to effectively manage performance of the third party organisations, the committees agreed that, separate type of accreditation standards shall be developed by NAIT Limited for organisations that (a) provides services physically (e.g. tag scanning, movement recording) to the farmers to meet their NAIT obligations, (b) meat processors and sale-yards as these have obligations under the Act, (c) mobile applications as the expectations from these type of organisations are not the same with other types, (d) other identification systems whose operators want to link their system with NAIT information system.

#### 4.5.5. Recommendations

#### RECOMMENDATION 20:

**NAIT Limited to amend the identification system standard and require the operator of those identification systems that are involved in supply and distribution of the NAIT tags to be accredited under the standard.**

##### 4.5.6. Rationale

- 4.5.6.1. NAIT Limited, as per the NAIT Act, has the power to issue identification system standard for a system of its own design which is also applicable for those systems whose operator wish to link their own identification system with NAIT information system and the operator and identification system is meeting the identification system standard issued by NAIT Limited. Existing identification systems that were approved under the Biosecurity Act are accredited as information providers under the NAIT Act rather than as identification systems under the NAIT Act.
- 4.5.6.2. There is a need to ensure that any other “approved” identification system<sup>11</sup> (commercial business or entity) outside that of NAIT Limited as the designated agency is subject to the same legal sanctions and responsibilities of the NAIT Act and that government seek to enforce these provisions or enable NAIT Limited to do so directly.
- 4.5.6.3. The existing “approved” identification systems have their own set of identifiers for farming locations (participant code) and visual tag ID format. These additional identifiers are causing increased complexity in terms of maintaining consistency of corresponding identifiers across the national dataset and resulting data integrity issues over the course of time.
- 4.5.6.4. In addition, these entities also operate tag ordering systems for their participants, on which the NAIT Limited has limited visibility and no oversight despite the fact that accreditation and management of identification devices and the associated device manufacturers to set standards remains a responsibility of NAIT Limited.
- 4.5.6.5. Therefore, a NAIT identification system standard is planned to be issued post NAIT review that includes technical and operational standards, roles and responsibilities and performance expectations from organisations that wish to link their system with NAIT information system.

##### 4.5.7. Recommendations

#### RECOMMENDATION 21:

**Information providers will be subject to new requirements on behalf of PICAs including providing current information in formats required by the NAIT database, keeping the PICA informed of issues or changes to their NAIT accounts.**

#### RECOMMENDATION 22:

**Performance of information providers to be improved through introducing sanctions in the accreditation process such as a financial penalties regime for breach of accreditation agreement.**

#### RECOMMENDATION 23:

**NAIT Limited to review accreditation status of the accredited organisations to ensure performance expectations and reporting requirements are met.**

##### 4.5.8. Rationale

- 4.5.8.1. Transactions that fail due to non-compliance with validation rules (which are underpinned by NAIT programme business rules and are reflected in the NAIT system) are not currently required to be remedied by uploading accredited entity or information provider on behalf of the NAIT account users.
- 4.5.8.2. In these instances, the PICA may also be unaware they are not complying with NAIT requirements through their service provider. There is no lock out mechanism or sanctions for incorrect or irregular maintenance of NAIT information by accredited entities or information providers; this can only be dealt with by dedicated external audit

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<sup>11</sup> Approved under the Biosecurity Act, 1993

of their information against the requirements of the standard. In system interface transactions for example, some information providers use their own credentials to submit NAIT data and in these cases NAIT cannot return any potential error messages to the user who completes the upload. This means that the PICA does not receive any notification of an issue (the information provider does, if the error messages are not programmed to be delivered to the account owner) however it is the PICAs account that becomes non-compliant. Thus there is a need to contemplate the regulatory and compliance responsibilities of information providers interfacing with the NAIT system and/or create a mechanism where these issues are communicated to the PICA as the account authority.

- 4.5.8.3. In the case a PICA does not meet NAIT obligations; there is an infringement regime applicable in the form of regulations. However, in some cases, third party organisations, through lack of provision or data, provision of inappropriate or missing data or the timing in which they provide the data, may be responsible for the offence and currently there is no applicable infringement regime for those organisations.
- 4.5.8.4. The NAIT Act enables the NAIT organisation to suspend or revoke the accreditation status of the third party organisations. In the case of low performance, especially if the organisation is an accredited entity (a critical control point, aka, meat processor or sale-yard), suspending or revoking the accreditation status would be detrimental to the interest of all PICAs and the collection of crucial data required for traceability. Since the movements to those accredited entities are one-legged (only recorded by the entity), suspension or revocation becomes a penalty to the PICAs alongside the entity concerned rather than a revocation as per the standard. It is proposed that an infringement regime should be applied for these circumstances to ensure the low performance is dealt with and industry does not experience any commercial interruptions due to NAIT accreditation status under Section 23 of the NAIT Act.
- 4.5.8.5. Since compliance with the NAIT programme is essential to ensure objectives of animal identification and traceability are met, and industry and government have called for greater focus on compliance, it is proposed an infringement regime that is similar to the one that is applicable for PICAs should be introduced to disincentivise non-compliance of third parties with NAIT obligations.
- 4.5.8.6. Section 23 of the NAIT Act, enables the NAIT organisation to review performance of the accredited entities and information providers. Initially, since the establishment of the NAIT programme, the performance management regime was not applied as individuals and organisations were getting accustomed to their obligations under the NAIT Act and the entire system was in a transition phase as aforementioned. It is proposed that now, after 5 years of establishment, a performance management regime be implemented to ensure only high quality animal and movement data is provided to NAIT organisation by those third party organisations. The performance framework would be utilised to assess suitability of the third party organisations for accreditation and would inform any determination to apply infringement or license continuation in instances the responsibilities and obligations were not being upheld by third parties on behalf of PICAs.
- 4.5.8.7. A proposed license renewal process is envisaged to ensure the performance of third party organisations informs their ongoing accreditation status. If a third party organisation is not meeting the requirements in a 12 month period, it is proposed that the accreditation would not be renewed until the performance issues are demonstrated to be resolved and NAIT Limited is satisfied that the previous issues will not recur.

#### 4.5.9. Recommendations

##### RECOMMENDATION 24:

PICA to be defined as an individual person in charge of animals at a farming enterprise. Processors, sale-yards and accredited entities to be defined under the NAIT Act as enterprises, subject to specified standards for accreditation and not assigned in the NAIT system as PICAs.

#### 4.5.10. Rationale

- 4.5.10.1. Currently the PICA definition applies to any person that is in charge of a NAIT location (farm, processor, sale-yard, feedlot, etc.) in which the NAIT animals reside (currently cattle and deer). It is proposed that the PICA definition

only applies to individuals (persons) in charge of animals on a farm and meat processors and sale-yards are to be defined as organisations (or companies) which reflect the wider use and expectations for verification, user privileges, and account for the individual user responsibilities in the context of organisational responsibilities.

- 4.5.10.2. This same approach applies to food safety regulation where it is not the individual stock handler or slaughter floor supervisor responsible or found to be at fault in terms of the legislation but the company they are employed and commercial and employment practices manage the remaining responsibilities of individuals.

#### 4.5.11. Recommendation

##### RECOMMENDATION 25:

Framework for allowing two-way information exchange between NAIT system and the information provider such that the information in NAIT is enhanced while its integrity is protected.

#### 4.5.12. Rationale

- 4.5.12.1. Currently NAIT only allows third party applications/systems to interface with NAIT system using application programming interface that only allows one-way flow of information (third party systems updating NAIT but NAIT does not update third party applications). This design consequently results in significant data integration issues, such as misalignment in data, including tags, credentials, and location and transaction information. In some instances farmers seek to update their third party system which in turn seeks to update NAIT, but due to misalignment or system issues NAIT must reject the changes – which do not always make it back to the farmer since the third party is not responsible for the compliance with traceability legislation or provisions and NAIT has no way to see/enforce/amend changes in a third party system.
- 4.5.12.2. There remain some disadvantages including a potentially significant investment by NAIT Limited and third parties would be required for transition to the two-way information flow concept (this would require reasonable benefit cost analysis), the costs relating to management of third party relationships and the costs of maintaining the system interface would increase. Costs relating to resolution of operator errors and for handling of data integrity issues caused by third parties would also increase due to the increased need to support third party and commercial organisations in a two-way information flow environment. However, the committees resolved that, in order to ensure primacy of the NAIT data, two-way information sharing option shall be made available by NAIT Limited to the operators of competent systems whose owners wish to link their system with NAIT information system.
- 4.5.12.3. The advantages of considering this system enhancement would be that current and previous investments made by third parties to date remains relevant – although significant investments may be required to comply with two sided information flow, especially for those information provides not aligning their systems to RFID and NAIT numbers, rather alternative identifiers creating duplication. However, it is reasonable to expect that if a third party seeks to interface with NAIT and offer this service, then they should consider ongoing investment to ensure the required alignment with the NAIT system - rather than the other way around.

## 4.6. NAIT SYSTEM AND APPLICATIONS

### 4.6.1. Context and background

- 4.6.1.1. All modern traceability systems utilise on-line and computerised databases for collection and storage of animal identification and movement data.
- 4.6.1.2. NAIT information system provides a web-based application, using which the programme participants can meet their obligations under the NAIT Act. NAIT web application cannot be accessed offline.
- 4.6.1.3. NAIT information system enables the NAIT Limited to collect animal identification and movement data from all programme participants. The information is utilised by MPI for wide range of operations (e.g. verification, compliance, epidemiology, policy planning, etc.), meat processors (for export eligibility), brand operators (to record

additional attributes such as parentage, genetic make-up, sire/dam, etc.) and wide range of data access applicants (crown agencies, police, researchers, etc.).

#### 4.6.2. *Summary of the current requirements*

- 4.6.2.1. The NAIT organisation must maintain the NAIT information system.
- 4.6.2.2. The NAIT organisation may approve an identification system of its own design that complies with the standards that the NAIT organisation has issued for a NAIT identification system.
- 4.6.2.3. NAIT information system is required to hold core and non-core data as per requirements under the NAIT Act.

#### 4.6.3. *Recommendations*

##### RECOMMENDATION 26:

NAIT Limited to develop mobile applications and lightweight NAIT web application for improved access by end users.

##### RECOMMENDATION 27:

NAIT Limited to facilitate the addition of attributes in response to farmer and/or industry requests to support disease management, food safety, market assurance and animal productivity needs (e.g. Tb testing status, contaminants, BVD status, parentage, etc.)

#### 4.6.4. *Rationale*

- 4.6.4.1. The NAIT web application was designed for use in a large screen (e.g. PC with a monitor or lap-top) and in smaller devices (smartphone or tablet) the user experience is sub-optimal. Considering the developments in technological ability to record information offline and exchange data when online via mobile applications, this approach for NAIT is now deemed to be a feasible option for rural areas where the connectivity is intermittent or mobile coverage is limited to certain areas or for convenience.
- 4.6.4.2. Use of dial-up connection is common in rural areas as broadband cable or fibre services are not offered in some areas. In case of a dial-up connection, the bandwidth may not be sufficient to view a web page or could be subject to interruptions when multiple page browsing (which is required in some web applications to complete a transaction) is required. It is proposed that a lightweight version of the NAIT web application be developed which would help the users that use dial-up connection to be able to fulfil their NAIT obligations in a timely manner. It remains recognised that remote and rural areas are often challenged with internet access and broadband connectivity and infrastructure efficiency challenges.
- 4.6.4.3. The committee discussed further utilisation of the NAIT system by addition of animal attributes disease and status information and acknowledged that the NAIT information system is best placed to record animal attributes and disease information as it is the only national database with individual animal identification information. NAIT Limited has integrated TB disease (animal and property) status with NAIT information system alongside a disease management module implemented for surveillance of mycoplasma bovis for ongoing management and surveillance.
- 4.6.4.4. Utilisation of national animal identification database for animal attribute recording is common in other countries that have official traceability programmes since the national database holds movement and animal records and provides a least cost means of recording statuses for nationally significant endemic diseases or animal product attributes. The attribute information recorded in NAIT system can be utilised for disease monitoring and surveillance, disease response planning, market access eligibility assessment and assurance for consumers of livestock products. There are multiple fields already available in NAIT for these purposes that could directly support national animal health surveillance and monitoring activities.

## 4.7. EXEMPTIONS

### 4.7.1. Context and background

- 4.7.1.1. Exemptions from the obligations are required to ensure the requirements put in place do not have an unreasonable financial and effort impact or physical risk to the PICAs and that unusual or rare practices or circumstances do not erode the overall intention of the system and its data collection.

### 4.7.2. Summary of the current exemptions

- 4.7.2.1. The PICA for a calf is exempt from the animal registration obligations if the calf: (a) is moved from the NAIT location where it is born to a meat processing facility; and (b) stays at the facility until it dies.
- 4.7.2.2. A PICA is exempt from the animal registration obligations if the PICA decides that it is impracticable to fit a NAIT device to the animal.

### 4.7.3. Recommendations

#### RECOMMENDATION 28:

Calves, including bobby calves required to be tagged if they leave the farm of birth prior to 6 months of age and are not consigned direct to slaughter.

### 4.7.4. Rationale

- 4.7.4.1. Currently, bobby calves (less than 30 days old) are not subject to tagging obligations under the NAIT Act if the animals are directly going to slaughter. It is proposed to amend the bobby calf exemption to absolve the birth location PICA of the obligation to tag a NAIT animal when a meat processor elects to tag, register and on-sell a calf.

### 4.7.5. Recommendations

#### RECOMMENDATION 29:

The requirement on the sending PICA to record ITT 48 hours prior to consigning the livestock is to be removed from regulations.

#### RECOMMENDATION 30:

The obligations on the sending PICA to record the ITT will be met by completing the ITT section on the Animal Status Declaration form or equivalent and approved consignment declaration, once the amendments to regulation and the ASD/eASD database integration with NAIT is implemented. Until such time, the ITT requirements will remain as currently defined in legislation.

#### RECOMMENDATION 31:

Meat processors are required to pass the costs of the ITT levy to the supplier.

### 4.7.6. Rationale

- 4.7.6.1. Currently, the PICA is required to notify the destination PICA of an untagged livestock movement 48 hours prior to movement. This has never been implemented and is deemed as an unnecessary requirement that makes the exemption complicated since mustering may occur less than 48 hours prior to loading, alongside tag loss and determination of the consignment for transport. It is proposed to remove the 48 hour advance notice requirement for ITT animals, and requiring declaration of untagged animals in a consignment within the ASD form or on a separate equivalent and approved notice.
- 4.7.6.2. Some meat processors pay the ITT levy on behalf of farmer in order to maintain their commercial relationship between parties secure and to remain competitive. Since the basis of the levy is to recover the administration costs associated with untagged animals, it is proposed that the meat processors shall be obligated to pass the levy onto



their livestock supplier in order to disincentivise potential misuse of ITT exemption and reduce the quantum of animals being sent as ITT.

#### 4.8. COMPLIANCE

##### 4.8.1. Context and background

- 4.8.1.1. Traceability framework is constituted of sets of obligations applicable for a certain group of programme participants (PICAs, meat processors, sale-yards, tag manufacturers/suppliers, information provider, etc.). The obligations, as aforementioned, includes but are not limited to; location registration, animal identification, animal registration, movement recording, animal fate declaration (export, lost, slaughtered, etc.).
- 4.8.1.2. Compliance with the obligations prescribed by the Act, regulations and standards is essential to the success of the programme implementation. Non-compliance with the obligations result in decreased data quality and therefore is an impediment to the full utilisation of the traceability system and data.

##### 4.8.2. Summary of current compliance approach

- 4.8.2.1. NAIT Limited commenced its compliance activities at the lower end of the typical VADE (compliance model – stands for voluntary, assistance, direction and enforcement respectively) where effort was placed towards education, extension and encouragement of voluntary uptake. This as considered appropriate utilisation of the limited levy monies provided through co-investment, noting that this activity still required several personnel for implementation. This approach was further complemented by NAIT Limited seeking to integrate compliance activities with industry programs and existing commercial and government initiatives (for instance building NAIT into industry programs, encouraging company uptake of traceability for food safety quality assurance, integrating NAIT with MPI verification activities at processing plants and so on).
- 4.8.2.2. NAIT Limited has also been providing funding to MPI to support NAIT related verification and compliance activities conducted by MPI staff. The MPI activities were presumed to be focussing on the direction and enforcement end of the VADE (Voluntary, Assisted, Direction, Enforcement) model, thereby enabling NAIT Limited as an industry and Government co-funded agency to focus on engagement, service support, education, training and field activities that encouraged uptake, rather than legal sanctions per se which are best placed with Government as the primary controlling authority. It is noted that investigations, application of infringements and prosecution typically involve multiple offences under multiple Acts and require in-field determinations in many cases (forced entry, seizure of evidentiary material, etc.), therefore can be significantly resource intensive unless integrated with other existing inspection and verification functions that occur at key points in the supply chain.

##### 4.8.3. Recommendations

###### RECOMMENDATION 32:

NAIT Limited and MPI develop a dedicated agreement to implement defined monitoring, reporting and subsequently compliance activities.

###### RECOMMENDATION 33:

The roles and responsibilities of NAIT Limited and MPI in regards compliance activities of various nature are defined and communicated to industry.

###### RECOMMENDATION 34:

Infringement regime to be reviewed to ensure it is fit for NAIT compliance purposes.



#### 4.8.4. *Rationale*

- 4.8.4.1. Compliance with the NAIT programme is essential part of the programme framework and its overall function and non-compliance with key aspects can potentially erode the effectiveness of the programme in meeting its stated aims.
- 4.8.4.2. Initially, compliance with NAIT in the business case was predicated on the commercial incentives rather than enforcement. The supposition was that commercial drivers would create “market pull-through” for the NAIT scheme based on the assumption that customers would emphasise increased requirements for traceability, however this was not at the level required to drive compliance. However, the “pull-through” market mechanisms have not occurred as anticipated, meaning there remains a need for further “push” mechanisms in terms of compliance.
- 4.8.4.3. Initially however, during the transition period, stakeholders preferred more educational approach rather than direction and enforcement due to lack of familiarity with the obligations that were introduced as a part of NAIT implementation and the need for a transition period for industry to integrate NAIT with their systems and practices. However, in some areas, there is still a significant volume of non-compliance that now and into the future, will impact the success of the system (e.g. animal registration, movement recording, fate declaration, etc.).
- 4.8.4.4. NAIT Limited is a not for profit, industry and Government funded agency. At the time of NAIT development and implementation, the regulatory impact statement did not consider the costs of compliance or the designation of agency lead in terms of inspection or the required constant field inspectorate presence that would be anticipated for effective compliance outcomes. However Government remain the primary controlling authority for legislation it implements (Acts and regulations) and Government make the determination on the appropriate inspection and enforcement processes that underpin its Acts and regulations accordingly. These range from direct inspection to the commissioning of authorities or commercial agencies to operate with the appropriate powers and funding for enforcement activities.
- 4.8.4.5. NAIT Limited currently contributes funding to Government for enforcement. These costs require examination for future conduct of compliance activities under an agreed strategy. Currently, NAIT compliance is not a formal part of regular monitoring, verification and enforcement activities undertaken by the existing government inspection and field functions a range of agencies at sale-yards, farms and meat processing plants. There will be a need to consider the economies of scale and potential duplication in investment by both industry and Government towards traceability compliance – which may be carried out in conjunction with biosecurity, animal health, on farm or meat processing, ante- or post mortem inspection activities. If NAIT Limited is required to conduct more activities these will need further funding consideration given the current funding model and arrangements.
- 4.8.4.6. In order to eliminate duplication of efforts (e.g. current veterinary and food safety inspections on livestock and product), as envisaged at the inception of the NAIT programme, it might be proposed that NAIT Limited shall fulfil monitoring and reporting functions for traceability and provide these directly to Government and the MPI remain as the controlling authority for the Act and regulations, thereby ensuring that appropriate arrangements are in place for industry to demonstrate compliance with the NAIT Act.
- 4.8.4.7. Since government officers already have access to, and utilise, the NAIT database for their verification and inspection activities for other purposes such as animal welfare regulation and ASD verification, the consolidation of NAIT compliance with these types of inspection functions would provide further efficiencies. The integration of NAIT as an inspection function alongside existing field inspection and verification activities for welfare, biosecurity and animal product matters would facilitate the best economies of scale for both government and industry.
- 4.8.4.8. In a shared compliance plan between NAIT Limited and Government (MPI) the parties are best placed to facilitate the desired level of compliance through particular sets of activities that align with the existing function and nature of each organisation. NAIT Limited is best placed to provide reporting on identifiable non compliances and government is best placed to integrate NAIT with their existing inspection, verification and enforcement functions and resources. It is clear that a regular field inspection presence for NAIT compliance, coupled with the integration of NAIT legislative provisions into enterprise licensing and quality assurance frameworks, will be required to gain

the adherence to the law required in some areas, coupled with regular efforts for infringement at key verification points. Anything less, such as reliance on the occasional prosecution, may not yield the same result.

- 4.8.4.9. As a part of this NAIT review the rules and regulations applicable for PICAs, meat processors, sale-yards, tag manufacturers and information providers should be reviewed and agreed and infringement penalties should be regulated. Since NAIT Limited applies and approves the standards relating to accredited entities and information providers, it would initially facilitate compliance activities in these areas, subject to individual cases resulting in prosecution or infringement for which government would remain lead as occurs with other principle Acts such as the food safety legislation.
- 4.8.4.10. In order to overcome the perception within the PICA community that non-compliance with the NAIT Act would not end up in application of sanctions defined under the NAIT Act and the regulations, NAIT Limited would commence targeted reporting (where non-compliance is repeated and the offender is not responsive to NAIT Limited's engagement efforts) and provide these data to the MPI for application of direction and enforcement phases of the VADE model.
- 4.8.4.11. It was noted in the review that any changes to the current NAIT system, such as those being recommended in this review should these be supported, would be accompanied by a strong informational campaign and designed in a manner that explains, promotes and communicates the benefits, practice change required and outcomes for industry.

#### KEY NAIT COMPLIANCE AREAS AND POTENTIAL COMPLIANCE ROLES OF MPI AND NAIT Limited

The following provide overview on the key potential priorities for compliance action.

- Failure to register as a PICA (and NAIT location) with the information prescribed in regulations;
- Failure to identify (tag) livestock;
- Failure to register livestock with the information prescribed in regulations;
- Failure to record livestock movement with the information prescribed in regulations;

It should be noted that to effectively examine compliance, a combination of reporting and monitoring with in-field presence is required. NAIT Limited is not positioned to issue infringements without the due diligence of verification of the offence in practice. Therefore, while data can be provided, this needs to be examined within a true inspection setting and supported by observations of the offence.

NAIT Limited can provide indicative data to support government focus on key priority areas. However, it is acknowledged that once a dedicated compliance regime is applied, the current indication of data will likely change dramatically. In other words, once end users become aware of a targeted compliance regime applied by government, behavioural change is anticipated to occur quickly – meaning current data indications in terms of compliance at a point in time, will alter with this intervention.

The following provides a summary of some examples of data that could provide government an indication.

##### *Offences that can be identified/observed online<sup>12</sup>:*

- **Animal registration:** Failure to register a NAIT animal within 6 months of birth or prior to first movement (whichever comes first) is an offence under the NAIT Act and regulations. It is possible to identify whether a livestock is registered on time (within 6 months of birth) by calculation of the variance between date of birth and time of registration.
- **Auto-registration:** Auto-registration occurs where the livestock is tagged at property of origin but not registered within NAIT system and recorded as a part of movement in destination. Offences associated with auto-registered livestock are failure to register the livestock and failure to record livestock movement and

<sup>12</sup> NB. for infringement and/or eventual prosecution require observation of offence

both can be identified online.

- **Movement recorded within 48 hours:** There is a requirement to record movements within 48 hours in order for the database to remain current in terms of location and movement of livestock. It is possible to calculate the movement recording timeframe online (the variance between movement occurrence and movement record creation).
- **Missing chains – Movement recording:** Broken chain in animal movement history occurs where an animal appears to be located at location A however is involved in a movement from another location B to a location C. Logical assumption in this case is animal was moved from location A to location B, however neither party recorded a movement declaration. It is possible to identify the animals that have broken chains in movement history.
- **Movement confirmation – Sender and/or receiver:** In NAIT legislation, the users are required to create a sending movement that needs to be confirmed by the receiving party and the receiver needs to create a receiving movement which needs to be confirmed by the sending party. In the instance one of the parties do not confirm either the sending or receiving movement record, the status of the movement becomes 'pending' in the NAIT system. N.B. The NAIT review recommendation on receiver only movement recording may change the above information since the emphasis will remain on movement transaction recording.
- **Tag application at sale-yards:** In the case an animal arrives to a sale-yard without a NAIT tag, the sale-yard operator tags the animal before the animal leaves the property. NAIT system can distinguish the tags that are issued to and applied by a sale-yard operator. It is possible to identify which animals are tagged in the sale-yard location online.
- **Use of incorrect tag type:** It is an offence under the NAIT Act, if a livestock is applied with a tag that is issued for another species (e.g. applying cattle tag for deer or deer tag for cattle). It is possible to identify these instances online.
- **Failure to record livestock export:** It is an offence under the NAIT Act, that a PICA for a NAIT location that is a port of export from New Zealand who, contrary to the requirements prescribed by regulations made under the Act, fails to make (before the animal leaves New Zealand) an animal exit declaration at that port for a NAIT animal that is to be exported live from that port. It is possible to identify the livestock export declarations that are not recorded in NAIT by comparison of NAIT data with MPI export records.
- **Movements that are not recorded in NAIT:** If NAIT Limited's business case and proposal to implement ASD/eASD linkage with NAIT, then it is possible to identify the movements that occurred (and there is a consignment for the movement) but not recorded in the NAIT system (individual animal movement record not created).

**Offences that cannot be identified/observed online:**

- **Failure to register as PICA:** If NAIT Limited's business case and proposal to implement ASD/eASD linkage with NAIT, then it is more likely to identify the PICAs that moves animals and not registered with NAIT. The offence needs to be observed.
- **Failure to tag livestock:** The offence needs to be observed and cannot be remotely monitored.
- **Failure to register animal:** Some of the offences can be observed online, however not all instances. The offence needs to be observed.
- **Failure to replace tag:** The offence needs to be observed.
- **Failure to register event:** The offence needs to be observed.
- **Failure to register transit stop:** The offence needs to be observed.
- **Failure to notify home-kill:** The offence needs to be observed.
- **Failure to tag animal that arrives without a tag:** The offence needs to be observed.
- **Failure to ensure the information provided is accurate:** The offence needs to be observed.
- **Failure to notify change in information within 30 days:** The offence needs to be observed.

It is recognised that in many cases, multiple offences, both supported by on-line information (supporting the

investigator or officer) and observation, will apply.

Therefore, it is considered that, as a part of the compliance plan that will be developed by NAIT Limited and MPI would include certain roles and responsibilities undertaken by each party, potentially as follows:

NAIT Limited would be best positioned to:

1. Develop the revised NAIT education and extension package following the NAIT review recommendations and that covers NAIT system requirements, the roles and responsibilities of users and accreditation information;
2. Continue engagement with end-users on roles and responsibilities (in-field and contact centre);
3. Identify the top verification and compliance priorities;
4. Agree with government the provision of regular (monthly) monitoring and reporting of data to inform government on priorities and activities for verification; this will include:
  - a. Reporting on top priority areas e.g. registrations, movements, tagging, ITT;
  - b. Reporting against NAIT Act standards – information providers and accredited entities;
  - c. Reporting on trends over time in relation to key NAIT compliance priorities.
5. Revise the current warning letter template and issue for 1st offences (refer below to pyramid of sanctions);
6. Provide verification support for ongoing investigations e.g. contact centre casing of accounts and/or account information provision at government request;
7. Support any dedicated government NAIT enforcement blitz activity by reporting (similar to the current government trace-back exercises);
8. Encourage commercial entities (sale-yards, meat processors, dairy companies), to apply NAIT within their QA as a mechanism of ensuring adherence to food safety and animal health processes;
9. Provide verification of NAIT vs ASD movement records/transactions and associated reporting of NAIT against ASD application<sup>13</sup>.
10. Oversee field verification service delivery on key NAIT compliance areas as part of the multi-party agreement with government.

MPI would be best positioned to:

1. Confirm NAIT as a requirement of domestic law and a priority of existing inspection and verification services;
2. Consider integrating NAIT as a requirement with:
  - a. Meat processor license and QA requirements - including Codes of Practice, OMARs, RMP processes, RROP processes and associated verification and inspection functions;
  - b. Food safety regulation and licence requirements for product integrity requiring traceability and associated inspection and verification functions;
3. Consider referencing NAIT within related biosecurity and food safety legislation, including:
  - a. Biosecurity Act;
  - b. Animal Product Act;
4. Consideration of ensuring that officers are multiple act authorised and able to provide inspection for range of offences, build investigations for range of offences and could commence prosecution processes for range of offences;
5. Inclusion of NAIT within existing government inspection and verification functions e.g.;
  - a. On-plant veterinarians at ante-mortem inspection, to check livestock tagged, ITT, scanning uploads, while verifying ASD;
  - b. Current on-farm and sale-yard verification activities;
6. Consideration of integrating NAIT verification with the existing function of authorised officers that are currently accessing NAIT database to validate other Acts and requirements e.g. officer access NAIT for ASD

<sup>13</sup> On the basis the OSPRI business case is agreed by government and industry as documented.

verification, ownership of livestock and conduct other investigations e.g. investigations into animal welfare utilising NAIT database;

7. Consideration of support for NAIT Limited to implement eASD/ASD database with NAIT to enable automated verification of both transactions utilising unique movement numbers/codes; (there are potential efficiencies for current government considering the current manual processes for ASD verification);
8. Consideration of an annual inspection regime e.g. one week unannounced and targeted inspection in North and South Island sale-yards;
9. Consideration of a rolling inspection schedule based on key priorities e.g. 3 priorities (tagging, movement recording and registration) annually that may change over time depending on change in compliance as a consequence of blitz inspection activities;
10. Alternatively, consideration of a quarterly inspection round on the top priorities, focussing on the key verification points of the supply chain (where the majority livestock and movements occur in order to manage inspection resources while capturing the greatest number of transactions by farmers) such as sale-yards and meat processing plants;
11. Commissioning field resources for verification of NAIT and requiring reporting to NAIT Limited and MPI. Audits could be conducted in conjunction with industry QA, HACCP and ISO approaches and government inspection audits for other matters such as food safety and meat inspection, achieving efficiencies in resourcing.

#### 4.9. ACCESS TO NAIT DATA

##### 4.9.1. Context and background

- 4.9.1.1. Data held in NAIT information system is valuable in terms of potential uses of it, as described in the following section. However, due to commercial sensitivity of this data, as a part of NAIT programme implementation, a data administrator is employed and a data access panel was established with regulations it is subject to in terms of assessing and enabling any application for access to NAIT data. The administrator and panel make determination, depending on the nature of the data request, about the data access applications made by individuals and organisations.

##### 4.9.2. Summary of the current requirements

- 4.9.2.1. Core data is held in the NAIT information system for the following purposes:
  - (a) to enable the NAIT organisation, a NAIT officer, or a NAIT authorised person to exercise their powers and carry out their functions and duties;
  - (b) to assist other persons with duties under this Act to carry out their duties;
  - (c) to facilitate the purposes of the Animal Products Act 1999, Biosecurity Act 1993, Commodity Levies Act 1990, Primary Products Marketing Act 1953, and any other enactment relating to animals or animal health;
  - (d) to respond to the following human health issues:
    - (i) food residues associated with animals;
    - (ii) food-borne diseases associated with animals;
    - (iii) diseases transferable between animals and humans;
  - (e) to provide data supporting productivity, market assurance, and trading requirements;
  - (f) to respond to natural disasters or requests from emergency services when rapid access to data on animals and people is needed to manage risks to life and welfare;
  - (g) to provide statistical data for policy development and related advice about the industries to which this Act applies;
  - (h) to enable the NAIT organisation to publish general agricultural statistics under section 49;
  - (i) to provide data to enable a potential purchaser of a NAIT animal to trace the history of the animal over its life.
- 4.9.2.2. A person may request the NAIT organisation to make an agreement with the person to hold non-core data in the NAIT information system. The NAIT organisation may make the agreement if it is satisfied that:

- (a) holding the data in the NAIT information system—
  - (i) is in the interests of the industry that the data is about; and
  - (ii) is consistent with the public good; and
  - (iii) does not compromise the operation of the NAIT information system; and
- (b) the NAIT information system is the most efficient, effective, and appropriate place to hold the data; and
- (c) the person who made the request has agreed to meet the full costs of holding the data in the NAIT information system.

4.9.2.3. A department or other Crown agency may make the application for access to core data, whether or not it is personal information. The administrator or the panel must grant the application, wholly or partly, if satisfied that access to the data is reasonably necessary to achieve the purposes set out in section 40 of the NAIT Act.

4.9.2.4. A New Zealand citizen, permanent resident, or a body corporate can make an application for access to non-core data, whether or not it is personal information. The administrator or the panel must grant the application, wholly or partly, if satisfied that the applicant has express consent from the person whose data it is to the applicant having access.

#### 4.9.3. *Recommendations*

##### RECOMMENDATION 35:

Definition of the term Crown Agency to be confirmed for data access applications under the NAIT Act.

#### 4.9.4. *Rationale*

4.9.4.1. Crown agency is insufficiently defined under the NAIT Act as the definition can apply to both government departments and entities established by but not entirely controlled by Crown. Defining crown agency will segregate the access determinations under the NAIT Act and reduce administrative burdens in the assessment of applications by government departments.

#### 4.9.5. *Recommendations*

##### RECOMMENDATION 36:

Regulations provide for cost recovery to the NAIT organisation for those costs incurred in processing data applications, extracting data and applying quality assurance to data requests granted in accordance with the provisions of the NAIT Act.

#### 4.9.6. *Rationale*

- 4.9.6.1. NAIT Limited is only allowed to charge a standard data access application fee; however some data access applications received by commercial entities (it should be noted that this does not apply to disease response purposes, which is a core traceability function) require significant use of NAIT operations and information technology personnel and resources in order to be delivered.
- 4.9.6.2. NAIT Limited needs to recover the costs of the efforts associated with applications that require significant use of operational and information technology resources instead of using the programme revenue, which is allocated for a particular set of activities directed at facilitating the implementation of the program.

#### 4.9.7. *Recommendations*

##### RECOMMENDATION 37:

Enable direct access to NAIT core data by government departments or Crown agent (e.g. Police) to support stock theft and wandering stock enquiries.

##### RECOMMENDATION 38:

Remove any statutory barriers that are being treated as preventing the NAIT information system from carrying out its statutory function of providing data to enable a potential purchaser of a NAIT animal to trace the history of the animal over its life.

#### 4.9.8. *Rationale*

- 4.9.8.1. NAIT Limited currently supports stock theft enquiries by manner of the Police engaging for data access by production order for purposes of protecting privacy while facilitating their investigations. NAIT Limited also provides support to PICAs or other community persons that call in with tag RFID by contacting the registered PICA about their livestock as these cases arise. NAIT Limited provides this support since interpretation of the data is required to ensure the outcome in terms of identifying the relevant PICA, animals registered and registered location.
- 4.9.8.2. Current data access regulations require an application to be made to the system administrator in accordance with Section 40(1)(c) of the NAIT Act. If the application is made by a crown agency, and in the case of NZ police, is accompanied by a production order, the system administrator can make determination or alternatively by manner of consulting NAIT data access panel.
- 4.9.8.3. It should be noted that the application of visual tag identifiers would facilitate improvements in identifying the premises for wandering stock even in absence of a scanner, and potentially without changes to access to location information of PICAs.
- 4.9.8.4. It was also recommended by the Committee that clarification in the NAIT legislation that location information is not personal information and that potentially a re-definition of this may be required to enable sharing of address/location for purposes of obtaining information on animal location history and for stock theft (ownership and location) information. This was the basis for the recommendation of the committee for removal of statutory barriers to NAIT information and enabling greater access of persons to animal history information. It was also noted that this would require changes to the definition of personal information under the Privacy Act and this recommendation may not be viable to implement.



### 5.1 SUMMARY PERFORMANCE STATISTICS OF THE NAIT PROGRAMME

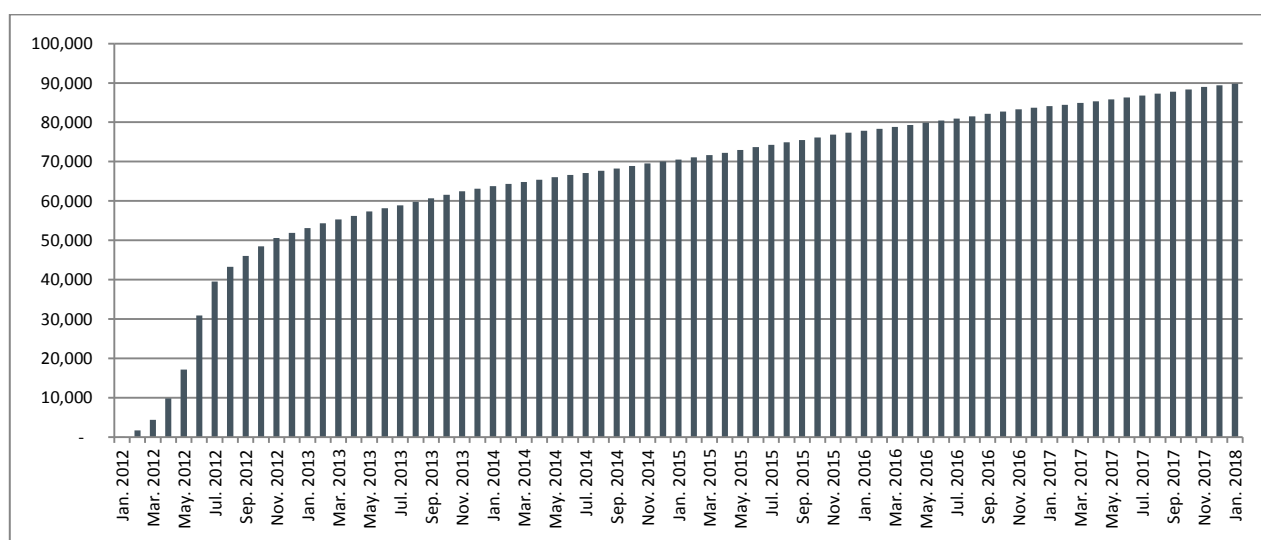
#### 5.1.1 Context

- 5.1.1.1. The National Animal Identification and Tracing (NAIT) programme has been in operation since 2012 with a three year transition period for bringing cattle and deer into NAIT that ended in March 2016.
- 5.1.1.2. An international comparison that provided observations on the performance of the NAIT indicate that the current performance is reflective of the emerging status of the NAIT as a relatively new system compared with some of the more long-running systems in some overseas countries.
- 5.1.1.3. This is acceptable since the NAIT was only introduced four years ago and the transition period for bringing cattle into the NAIT ended on 30 June 2015.
- 5.1.1.4. Hence, the performance indicators of the NAIT cannot be compared to the AIT systems in Australia, Ireland and Scotland with a track record of more than 10 years. It is one of the lessons learnt from those countries that their AIT systems also went through a similar development phase of several years and only produce significant benefits when they are correctly executed and fully exploited.
- 5.1.1.5. It needs to be recognised that NAIT is an online database and to effectively validate the data contained in NAIT, physical inspection or another means of data verification is required to evaluate performance. Typically this is conducted through disease trace-back exercises or response exercises, ongoing field inspection at key verification points, and through comparable datasets or data such as ASD verification. In this next phase of improving NAIT compliance and verification, it is considered that the verification of individual NAIT movements would be able to be made possible by comparison of movement declarations using ASD. Currently, NAIT Limited has little to no ability to confirm whether the movement recorded in the online database is that which has occurred on the ground unless field inspection for each individual movement is applied.
- 5.1.1.6. To effectively validate whether an accurate movement has been recorded in NAIT, there are only two methods – the first visual field inspection of the movement, and the second, comparison against other equivalent data – for which the ASD provides as the secondary movement declaration mechanism. Without this secondary dataset, field inspection is the only way to actually confirm the real movement occurring against that recorded in the NAIT database, which is extremely costly.
- 5.1.1.7. This report provides a summary of the data available within NAIT.

#### 5.1.2 Farmer registration

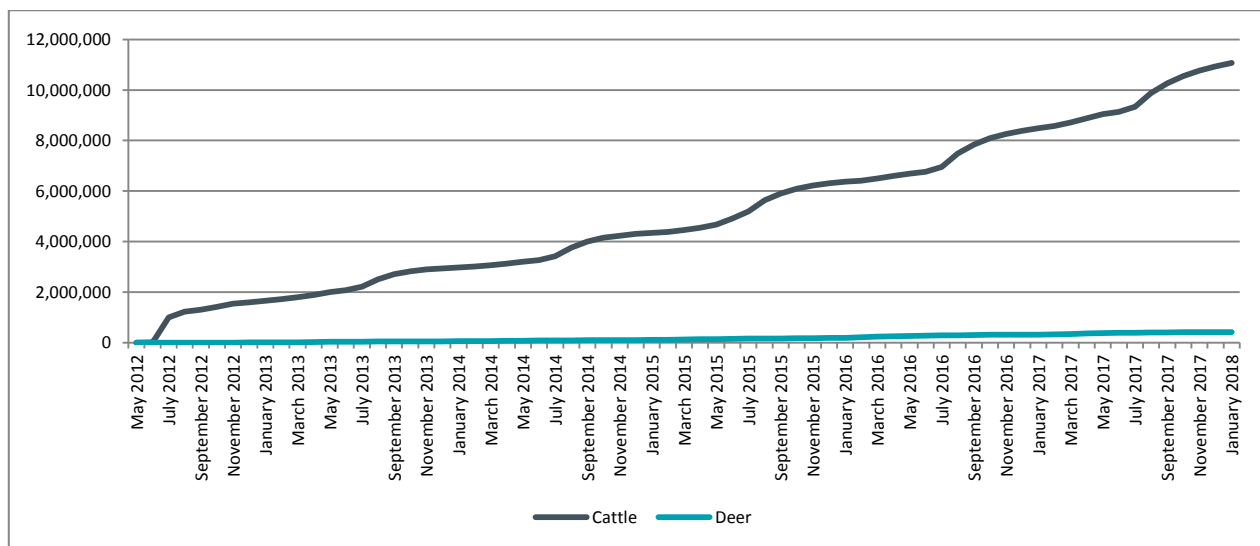
- 5.1.2.1. Under the NAIT Act, the persons in charge of animals (PICA) are required to register with NAIT organisation. This applies to persons on any premises that deal with NAIT animals, which are currently are cattle and deer. They are also required to register any premises in their account where cattle and deer are held.
- 5.1.2.2. By July 2012, when the NAIT Act came in force, 39,560 farmers were already registered with the NAIT system.
- 5.1.2.3. In first year of NAIT, additional approx. 20,000, in the second year approx. 8,000, in the third year approx. 7,000, in the fourth year approx. 6,000 and in the fifth year approx. 5,000 farmers were registered with NAIT.
- 5.1.2.4. As of February 2018, approx. 90,000 farmers are registered with the NAIT system.
- 5.1.2.5. It is not technically viable to assess the performance of the traceability programme in terms of farmer, or any other user, or NAIT location registration, as there is no other national dataset that can be utilised for comparison with the NAIT dataset. Furthermore, the definition of PICA covers the person and the location, whereas to verify the data appropriately a formalised and legislative requirement for premises location and identification is required since the numbers of persons registered is less fundamental to the number of premises registered. Additionally, asides from the requirement to register in NAIT for cattle and deer, there is no mandatory premises registration or premises identification number requirement for livestock producers or primary production enterprises in New Zealand, given Farms Online is voluntary.

- 5.1.2.6. In other countries, premises registration rate for the traceability programme is ascertained by comparison against farming location (land ownership) databases managed and verified consistently by the Government. The registration with such databases are mandated under various Acts that relates to animals and animal products, biosecurity and animal disease control. This is an aspect included in the NAIT review recommendations. Furthermore, in other countries, the requirement to order tags or contribute levies associated with the traceability system requires re-registration of location information so as to ensure records are maintained, alongside the verification comparison with other data such as consignment traceability information which defines premises (source/origin) for livestock consigned, sold or slaughtered.
- 5.1.2.7. The graph below exhibits the trend of farmer registration since the official establishment of the NAIT programme.



### 5.1.3 Livestock registration

- 5.1.3.1. Under the NAIT Act, cattle and deer must be registered within 6 months of birth or before moving off the property, whichever comes first.
- 5.1.3.2. By July 2012, when the NAIT Act came in force, approx. 1M cattle were registered with the NAIT system.
- 5.1.3.3. In the first year of NAIT, additional approx. 1.2M, in the second year approx. 1.2M, in the third year approx. 1.7M, in the fourth year approx. 1.8M, in the fifth year approx. 2.2M cattle were registered with NAIT.
- 5.1.3.4. As of February 2018, approx. 11M cattle are registered with the NAIT system.
- 5.1.3.5. In the first year of NAIT, approx. 40,000, in the second year approx. 46,000, in the third year approx. 70,000, in the fourth year approx. 130,000 and in the fifth year approx. 110,000 deer were registered with NAIT.
- 5.1.3.6. As of February 2018, approx. 420,000 deer are registered with the NAIT system.
- 5.1.3.7. It is not technically viable to assess the performance of the traceability programme in terms of livestock registration as there is no other national dataset that can be utilised for comparison with the NAIT dataset.
- 5.1.3.8. As aforementioned, there is no requirement in New Zealand, other than the NAIT system, to record or declare the presence and volume of livestock at farming premises as a part of any mandatory premises registration (since this does not exist) for biosecurity purposes. This is an aspect included in the NAIT review recommendations.
- 5.1.3.9. In other countries, premises registration is required by several Acts relating to animals and animal products and is either linked to the national traceability system and/or the Government operates a separate farming location database that confirms the national herd numbers, presence and location and registered and individually identified enterprises. Premises registration also therefore requires declaration of presence and volume of livestock in the location.
- 5.1.3.10. The graph below exhibits the trend of livestock registration for both species since the official establishment of the NAIT programme.

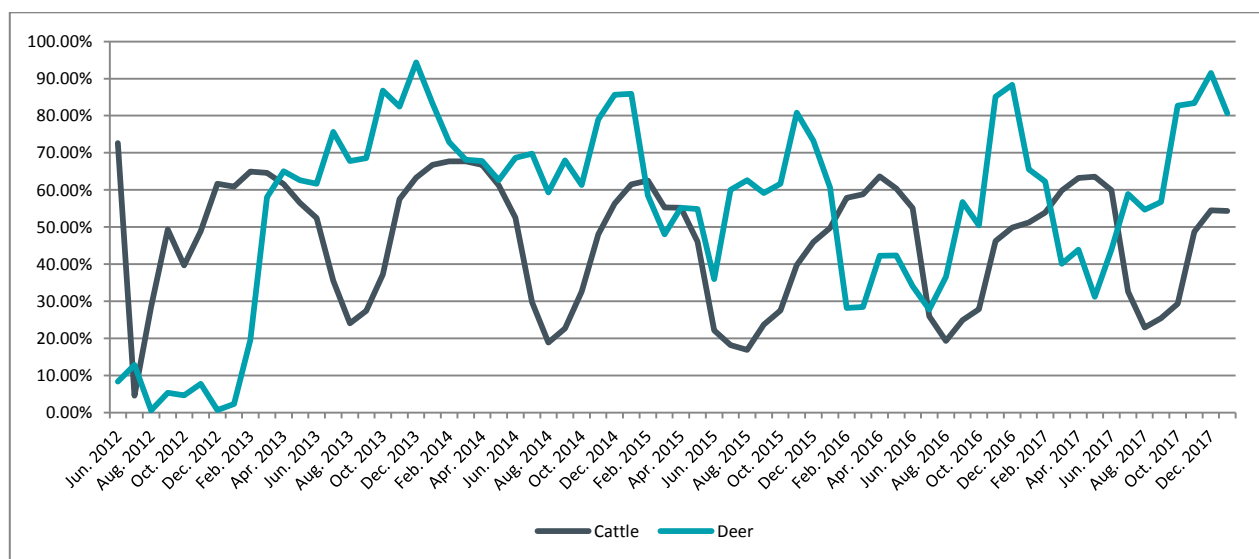


#### 5.1.4 Livestock auto-registration

- 5.1.4.1. The auto registration mechanism enables registration of livestock that is NAIT tagged but not registered in the NAIT system. When the animal's tag is scanned at a meat processing plant, sale yard or farm, and the animal ID is included in the movement record created by the receiving party, then the animal gets auto-registered with the NAIT system.
- 5.1.4.2. This process enables the identification of animals are tagged, but that are not registered in the database and therefore the scanning completes this process to at least register the animal and confirm the animal(s) existence in the supply chain alongside their origin and destination associated with the transaction/movement.
- 5.1.4.3. After initial increase in 2013, in all location types, the number of monthly auto-registration occurrence and yearly total number of auto-registrations is steadily decreasing.
- 5.1.4.4. After initial increase in 2013:
  - In farm locations, the number of monthly auto-registration occurrence and yearly total number of auto-registrations is decreasing.
  - In sale-yard locations, the number of monthly auto-registration occurrence has decreased until 2016 but has increased slightly since 2016.
  - In meat-processor locations, the number of monthly auto-registration occurrence and yearly total number of auto-registrations is decreasing.
- 5.1.4.5. Movements of animals that were NAIT tagged but not registered in NAIT system, and were involved in a movement in which the destination was farm locations, on a yearly basis, account for approx. 19-23% of auto-registrations.
- 5.1.4.6. Movements of animals that were NAIT tagged but not registered in NAIT system, and were involved in a movement in which the destination was sale-yard locations, on a yearly basis, account for approx. 23-29% of auto-registrations.
- 5.1.4.7. Movements of animals that were NAIT tagged but not registered in NAIT system, and were involved in a movement in which the destination was meat processor locations, on a yearly basis, account for approx. 46-56% of auto-registrations.
- 5.1.4.8. In kill seasons (January to May), the number of auto-registration occurrence in meat processor locations is increasing due to standard seasonal and movement practices in industry.
- 5.1.4.9. During February to June period, the number of auto-registration occurrence in sale-yard locations is increasing due to standard seasonal and movement practices in industry.
- 5.1.4.10. During February to May period, the number of auto-registration occurrence in farm locations is increasing due to standard seasonal and movement practices in industry.
- 5.1.4.11. In the agreed compliance plan between NAIT Limited and Government, auto-registration of livestock can provide potential for immediate sanctions to be applied since non-compliance can be easily identified (e.g. the animals that

were NAIT tagged as per the NAIT legislation but were not registered with NAIT system as per the NAIT regulations).

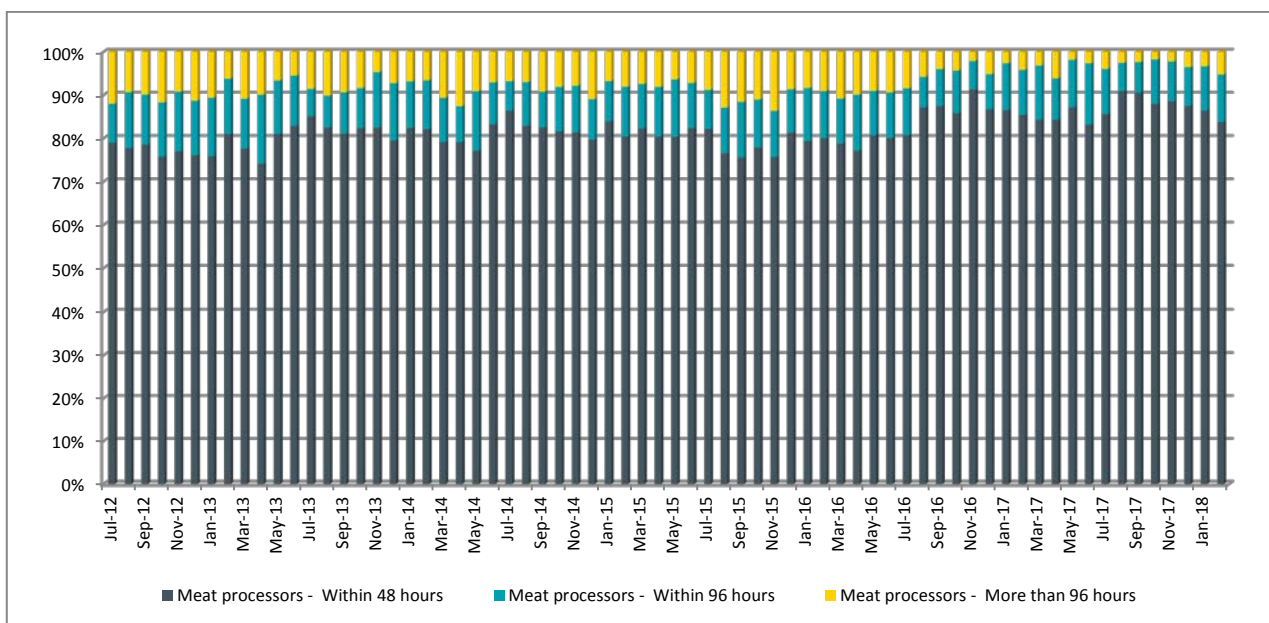
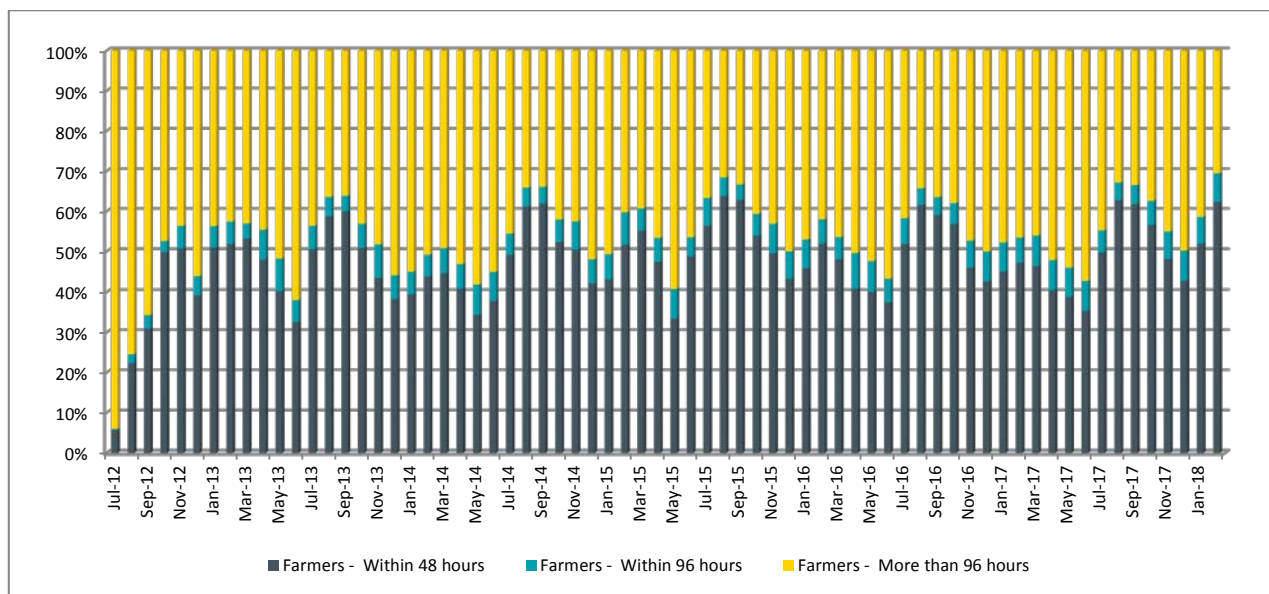
5.1.4.12. The graph below exhibits the trend of auto-registration occurrence in both species since the official establishment of the NAIT programme.

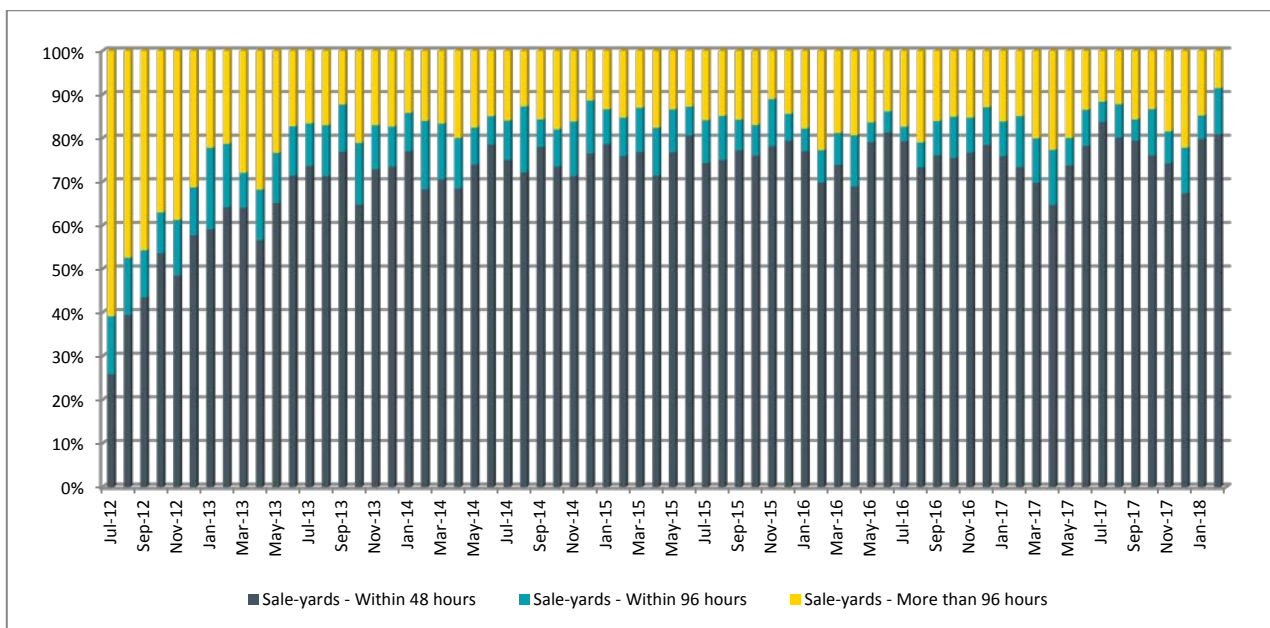


### 5.1.5 Movement recording timeframe

- 5.1.5.1. Under the NAIT Act, the farmers, meat processor and sale-yards are required to record animal movements onto and off their properties within 48 hours after the day the movement occurs.
- 5.1.5.2. In 2012, farmers, on average, recorded 33.18%; meat processors, on average, 77.40%, sale-yards, on average, 44.76% of the movements within 48 hours of movement occurrence.
- 5.1.5.3. In 2013, farmers, on average, recorded 48.32%; meat processors, on average, 80.49%, sale-yards, on average, 67.78% of the movements within 48 hours of movement occurrence.
- 5.1.5.4. In 2014, farmers, on average, recorded 46.60%; meat processors, on average, 81.52%, sale-yards, on average, 73.61% of the movements within 48 hours of movement occurrence.
- 5.1.5.5. In 2015, farmers, on average, recorded 50.87%; meat processors, on average, 79.94%, sale-yards, on average, 76.68% of the movements within 48 hours of movement occurrence.
- 5.1.5.6. In 2016, farmers, on average, recorded 48.62%; meat processors, on average, 82.98%, sale-yards, on average, 75.77% of the movements within 48 hours of movement occurrence.
- 5.1.5.7. In 2017, farmers, on average, recorded 48.04%; meat processors, on average, 86.87%, sale-yards, on average, 74.60% of the movements within 48 hours of movement occurrence.
- 5.1.5.8. In 2018, farmers, on average, recorded 57.14%; meat processors, on average, 85.15%, sale-yards, on average, 80.36% of the movements within 48 hours of movement occurrence.
- 5.1.5.9. Since the movement records include the time of movement occurrence and it is possible to identify for those movements when a movement record in NAIT system is created, in an agreed compliance plan between NAIT Limited and government, this area can provide potential for immediate sanctions to be applied since non-compliance can be easily identified.
- 5.1.5.10. Since New Zealand has yet to develop specified traceability standards applying to the relevant notifiable diseases and risks, and the performance of traceability within timeframes to mitigate these risks, this may also be a future consideration, since analysis of movement recording timeframes provides a measure for understanding the capability and performance of the system in responding to a disease incursion, particularly those that are exotic and rapidly spread. In some countries, movements are required to be recorded within 24 hours of the movement occurrence.

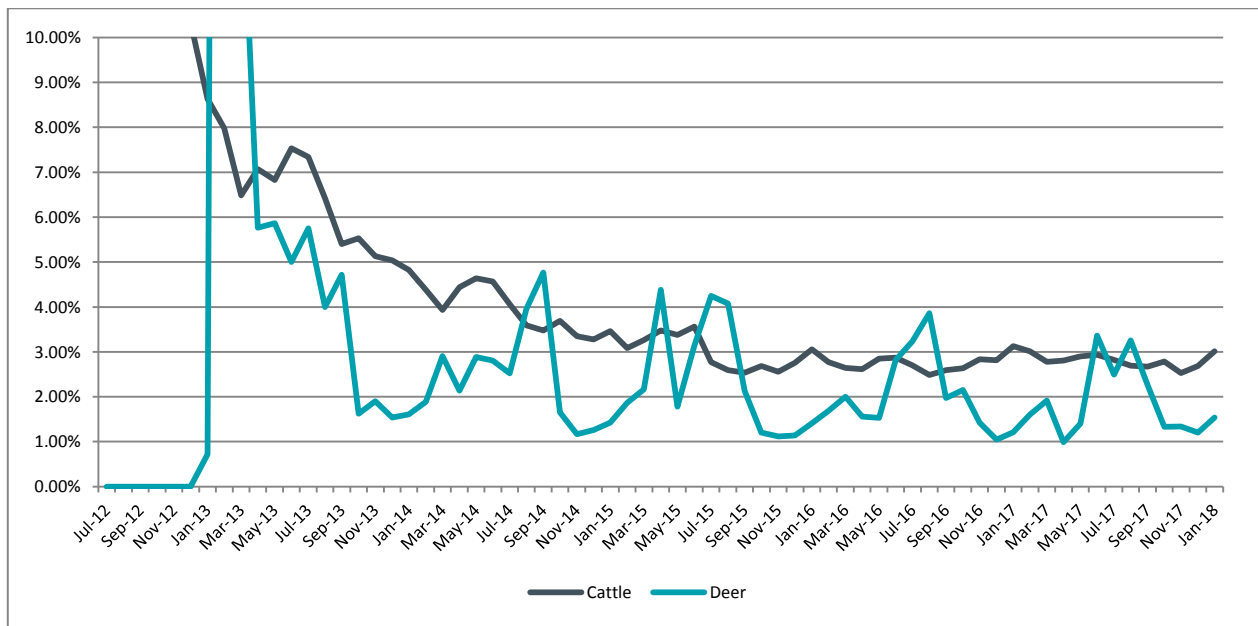
5.1.5.11. The graphs below exhibit the movement recording timeframes by user type (farmers, meat processors, sale-yards) since the official establishment of the NAIT programme.





### 5.1.6 Livestock slaughtered without NAIT tag under Impracticable to Tag exemption

- 5.1.7.1. Impracticable to tag (ITT, also known as impractical to tag) exemption allows the PICAs to determine, not to tag a livestock if the animal is dangerous to apply ear tag. Application of NAIT tags to cattle and deer is required under the NAIT Act. This exemption is to ensure health and safety of the person that applies the tag is considered.
- 5.1.7.2. If an animal arrives to a slaughtering facility without a NAIT tag, then the supplier of that animal is liable to pay impracticable to tag levy, which is \$13 per animal.
- 5.1.7.3. Due to low livestock registration rates in early years of NAIT, high percentage of animals were slaughtered without a NAIT tag and those animals were accounted as untagged slaughter. This does not mean all the livestock slaughtered without a tag were in fact impracticable to tag.
- 5.1.7.4. In last 3 years, for both species, the rates of impracticable to tag animals appear to stabilise at 2.8% for cattle and 1.8% for deer. This means approx. 5,800 cattle and 470 deer are slaughtered without official NAIT identification under this exemption.
- 5.1.7.5. One perception of the industry and stakeholders is that the current ITT levy may not provide sufficient disincentive for sending livestock without a tag. The current New Zealand legislation which includes this exemption but without sufficient penalty or verification, continues to enable farmers to send livestock for slaughter with no tag. Furthermore, the current legislation allows for the levy not to be passed to the supplier. It should be considered that no livestock should be presented for slaughter without a tag (or official permit for exemption by officials) and should not be considered for market including any attraction of premiums, considering the sourcing of the animal will then rely on the ASD only without any individual animal identification requirements and therefore meet consignment traceability requirements only. In other countries, it is prohibited to accept arrival of livestock at saleyard or processing plants without official ear-tag and therefore the animal(s), if found not to be tagged, are either tagged and registered and significant penalties apply or they are sent back to the premises of origin. Livestock presented with no tag should be returned to the farm premises, providing an incentive for farmers to maintain tagging, protecting the standards upheld in the marketplace around traceability and reducing the economic impacts on meat processors (e.g. being unable to export products of livestock that arrived without official animal identification).
- 5.1.7.6. The graph below exhibits the trend of untagged slaughter for both species since the official establishment of the NAIT programme.





## 5.2 SUMMARY OF THE RECOMMENDATIONS AND REGULATORY AMENDMENT

Category	Recommendation	No operational or legislative change required	Change required to what, by whom			
			Operational (NAIT Limited or MPI)	Notice (NAIT Limited or MPI)	Regulation (MPI)	Act (MPI)
Animal location identification	1. NAIT numbers are assigned to, and remain with, a specific NAIT location.				✓	(later tidy up)
	2. NAIT Limited to use LINZ as the source of farm boundary and ownership information for NAIT.	✓				
Animal registration and declaration	3. NAIT Limited to develop a streamlined and simplified process for animal registration.		✓			
	4. The PICA is obligated to declare presence and estimated numbers of other livestock species farmed in the NAIT location every year.				✓	✓
Animal movement recording	5. The obligation on sending PICA to record sending movement will be met by a completed Animal Status Declaration form or equivalent and approved consignment declaration linked to the NAIT system, once the Government is comfortable that the required regulatory changes to underpin this and system changes are implemented. Until such time, the sender PICA and receiver PICA will continue to record two-legged movements in the NAIT system as per current regulations.				✓	
	6. A prohibition on PICAs physically sending NAIT animals to premises without a current NAIT number is introduced.				✓	✓
Animal identification devices	7. NAIT tags can only be used on livestock for the NAIT location they are issued for; it becomes an offence to apply the tags issued for a particular NAIT location on animals that reside on a different NAIT location.				✓	✓
	8. Tag manufacturers/suppliers may only sell tags to PICA/PICA delegates for their specific NAIT location.			✓		
	9. NAIT Limited to facilitate tag distribution to maintain better control of tag attributes for improved tracing.				✓	
	10. NAIT best practice guidance includes the promotion of re-scanning procedures and what to do when tags are lost/unable to be scanned.		✓			

Category	Recommendation	No operational or legislative change required	Change required to what, by whom			
			Operational (NAIT Limited or MPI)	Notice (NAIT Limited or MPI)	Regulation (MPI)	Act (MPI)
	11. NAIT Limited to require tag suppliers to provide essential information on tag application and make these available in website and NAIT Limited and tag manufacturers will provide these through their engagement and communication activities including stands at agricultural events.		✓			
	12. NAIT Limited to develop a standard operating procedure for reporting tag retention issues and communicate these with PICAs and information providers.		✓			
	13. NAIT Limited to require tag suppliers to report any reports of tag loss/retention issues to NAIT Limited under the device standards.			✓		
	14. NAIT Limited develops a centralised system for the reporting and monitoring of tag losses and monitors feedback for ongoing assessment under the device standards.		✓	✓		
	15. The device accreditation standard is to be revised and include updated tag replacement policy.			✓		
	16. Tag suppliers and information providers to be required to provide information to farmers on tag replacement procedures and requirements.			✓		
	17. NAIT Limited to develop a national and standardised coding for the application of visual identification on RFID tags.		✓			
Programme participant roles and responsibilities	18. The accreditation standard is to be reviewed and revised to include specifications on the role, responsibility and requirements relating to information providers, accredited entities, identification systems and mobile or farm management application vendors.			✓		
	19. The standards for information providers to be revised to include definition of role, responsibility, reporting obligations, NAIT recording obligations, monitoring and audit functions of NAIT Limited and licensing arrangements.				✓	✓
	20. NAIT Limited to amend the identification system standard and require the operator of those identification systems that are involved in supply and distribution of the NAIT tags to be accredited under the standard.			✓		
	21. Information providers will be subject to new requirements on behalf of PICAs including providing current information in formats required by the NAIT database, keeping the PICA informed of issues or changes to their NAIT accounts.			✓		

Category	Recommendation	No operational or legislative change required	Change required to what, by whom			
			Operational (NAIT Limited or MPI)	Notice (NAIT Limited or MPI)	Regulation (MPI)	Act (MPI)
	22. Performance of information providers to be improved through introducing sanctions in the accreditation process such as a financial penalties regime for breach of accreditation agreement.				✓	
	23. NAIT Limited to review licences of the accredited organisations to ensure performance expectations and reporting requirements are met.				✓	
	24. PICA to be defined as an individual person in charge of animals at a farming enterprise. Processors, saleyards and accredited entities to be defined under the NAIT Act as enterprises, subject to specified standards for accreditation and not assigned in the NAIT system as PICAs.					✓
	25. Framework for allowing two way information exchange between NAIT system and the information provider such that the information in NAIT is enhanced while its integrity is protected.			✓		
	26. NAIT Limited to develop mobile applications and lightweight NAIT web application for improved access by end users		✓			
NAIT system and applications	27. NAIT Limited to facilitate the addition of attributes in response to farmer and/or industry requests to support disease management, food safety, market assurance and animal productivity needs (e.g. TB testing status, contaminants, BVD status, parentage, etc.)	✓				
	28. Calves, including bobby calves required to be tagged if they leave the farm of birth prior to 6 months of age and are not consigned direct to slaughter.	✓				
Exemptions	29. The requirement on the sending PICA to report ITT 48 hours prior to consigning the livestock is to be removed from regulations.				✓	
	30. The obligations on the sending PICA to record the ITT will be met by completing the ITT section on the Animal Status Declaration form or equivalent and approved consignment declaration, once the amendments to regulation and the ASD/eASD database integration with NAIT is implemented. Until such time, the ITT requirements will remain as currently defined in legislation.		✓	✓		
	31. Meat processors are required to pass the costs of the ITT levy to the supplier.				✓	✓
	32. NAIT Limited and MPI develop a dedicated agreement to implement defined monitoring, reporting and subsequently compliance activities.		✓			
Compliance						

Category	Recommendation	No operational or legislative change required	Change required to what, by whom			
			Operational (NAIT Limited or MPI)	Notice (NAIT Limited or MPI)	Regulation (MPI)	Act (MPI)
	33. The roles and responsibilities of NAIT Limited and MPI in regards compliance activities of various natures are defined and communicated to industry.		✓			
	34. Infringement regime to be reviewed to ensure it is fit for NAIT compliance purposes.		✓		✓	
Access to NAIT data	35. Definition of the term Crown Agency to be confirmed for data access applications under the NAIT Act.					✓
	36. Regulations provide for cost recovery to the NAIT organisation for those costs incurred in processing data applications, extracting data and applying quality assurance to data requests granted in accordance with the provisions of the NAIT Act.				✓	✓
	37. Enable direct access to NAIT core data by government departments or Crown agent (e.g. Police) to support stock theft and wandering stock enquiries.				✓	
	38. Remove any statutory barriers that are being treated as preventing the NAIT information system from carrying out its statutory function of providing data to enable a potential purchaser of a NAIT animal to trace the history of the animal over its life.					✓