



National Animal Identification and Tracing

Enhancing New Zealand's animal identification and tracing systems

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by National Animal Identification and Tracing (NAIT) project partners

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Disclaimer

This document outlines the proposal by the Crown and some livestock industry parties for adoption of enhanced animal identification and tracing for New Zealand's cattle and deer. It does not yet reflect government or industry policy.

Every effort has been made to ensure that the information in this report reflects the decisions and discussions of the National Animal Identification and Tracing (NAIT) Governance Group.

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NAIT Partner Organisations

The following organisations are members of the National Identification and Tracing (NAIT) project initiative and are represented on the Governance Group and Technical Advisory Group of NAIT:

Dairy Companies Association of New Zealand
DairyNZ (previously Dairy Insight)
Deer Industry New Zealand
Federated Farmers of New Zealand (Inc)
Meat & Wool New Zealand Ltd
Meat Industry Association of New Zealand (Inc)
Ministry of Agriculture and Forestry
New Zealand Food Safety Authority

These organisations have been working together since an Animal Identification and Traceability Working Group was established in September 2004.

The NAIT partner organisations endorse the NAIT concept and system proposed in this document, and encourage submissions from any interested organisations or individuals.

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Foreword from the Minister for Biosecurity

Worldwide lifetime identification and traceability of livestock and domestic animals is becoming increasingly important for a number of reasons, including trade and market access, management of livestock diseases and providing assurance to consumers that their food is safe and of the highest quality.

Globally, trading partners are signalling that credible systems that provide whole-of-life tracing of animal products will be a major factor in deciding which countries or suppliers they purchase from. The World Animal Health Organisation (OIE) has taken a lead in this area and is actively encouraging improvement in and standardisation of animal identification and tracing. A number of countries, including those in North and South America, Europe and the Far East, have already adopted identification and traceability systems with focus on the tracing of individual animals. The best national systems are those where the Government, producers and processors work together to meet common needs.

While New Zealand has established identification schemes for some livestock, a more comprehensive and co-ordinated approach is now needed to ensure we continue to be seen as world leaders in the production of top quality animal products.

In addition, we need easier and more efficient means to identify and trace all animals that may be affected in a disease outbreak, to target our response activities to effectively manage risks, and to provide assurances on our national livestock disease status.

The National Animal Identification and Tracing (NAIT) project aims to address these issues, starting with cattle and deer.

I strongly support the partnership approach between Government and industry to achieve a single, universal identification system that collects core information so that New Zealand can better meet its animal identification and tracing needs into the future. My thanks to all those involved in the project, both past and present, who have worked hard to progress the NAIT project as outlined in this document. I look forward to your feedback on this proposal and how we can work together to establish an enduring animal identification and traceability framework.



Hon Jim Anderton
Minister for Biosecurity

Foreword from the Chairman NAIT Governance Group

As the world marketplace becomes more discerning and the risk of a biosecurity incursion remains ever present, the importance of individual animal identification and the NAIT project cannot be overstated.

The NAIT Governance Group came together in 2006. The partners include representatives from Meat Industry Association of New Zealand (Inc), Dairy Companies Association of New Zealand, Deer Industry New Zealand, Meat & Wool NZ Ltd, DairyNZ, Federated Farmers of New Zealand (Inc), the New Zealand Food Safety Authority and the Ministry of Agriculture and Forestry. The project has clearly received a high level of support from the Minister in his Biosecurity and Agriculture portfolios.

All participants are to be thanked for their input and support in working through the issues and complexities surrounding this project.

The driving force behind NAIT is the necessity to make individual animal identification and tracing work for the good of all participants and to protect New Zealand farmers in the market place. It will also ensure that New Zealand will be better positioned in the event of a biosecurity incursion. The use of radio frequency identification (called “RFID”) will not only speed the process of data collection but will ensure accuracy.

The partnership approach to this NAIT project has been essential to ensure that all parties concerns and needs have been able to be addressed.

On behalf of the NAIT Governance Group, I welcome and look forward to feedback from individuals and groups on this very important proposal and ways that we can continue to work together to achieve a good result.



Ian Corney
Chairman NAIT Governance Group

Executive Summary

It is important for New Zealand to have world-recognised animal identification and tracing systems. This need is driven by growing demands from consumers to better manage disease and to provide evidence that New Zealand-sourced product is free from disease, is safe to eat and meets other preferences.

The World Organisation for Animal Health (OIE) sets outcome-based guidelines for animal identification and traceability systems and advocates a joint government and industry approach to addressing country-specific needs (page 6, 29). Recognising that the existing schemes in New Zealand are unable to adequately meet these wider needs (page 8), government and industry have been working together to provide livestock owners, processors and government with timely and quality information on the current location, movement history and other key attributes associated with livestock (page 11).

The National Animal Identification and Tracing (NAIT) system will enhance the quality and completeness of the information needed to meet a range of biosecurity, market access, emergency services, policy and industry good activities (page 13). It will start with cattle and deer, which already have mandatory tagging for bovine tuberculosis.

Key attributes of the new system are:

1. A single, overarching animal identification and tracing framework. It is designed to start with cattle and deer but will be flexible enough to be adopted by other livestock industries (pages 11, 35).
2. Properties associated with cattle and deer (farms, saleyards, meat processors, etc) will need to be registered on NAIT (page 16).
3. Farmers, transporters, processors, saleyards and other parties will need to record some new information to meet NAIT purposes (pages 18-21).
4. Cattle and deer will be individually identified and recorded in the NAIT system. A radio frequency identification (RFID) ear tag will be adopted, initially as a secondary tag within the current official schemes during a “sign-up” phase (pages 15, 32). Information connecting visual and RFID numbers will be uploaded onto the NAIT database when it goes live (page 33). While the specified RFID technology works for cattle, it is currently being evaluated to be sure it is functional for deer in typical handling situations on farm, at saleyards and at meat processing premises.
5. Cattle and deer will need to be registered on NAIT within three months of birth or at the time of first contact with the animal (whichever is sooner). An exemption will be provided for dairy calves less than 30-days-old going directly to slaughter (page 15).
6. When cattle and deer move between properties, information will need to be recorded for each animal individually and stored on NAIT, so that a history of all movements for individual animals can be retained (pages 15, 18). Animal Status Declaration forms will be able to be generated on NAIT to assist with this requirement (page 34).
7. Farmers will be able to interact with NAIT, nominate a third-party service provider to meet their NAIT requirements by way of commercial arrangements, or provide records to NAIT over the telephone (at marginal cost) (pages 17, 18, 25).
8. While alternative options were considered (page 27), the NAIT parties agree that the NAIT information will be held electronically on a centralised database and can be accessed by approved parties for defined purposes.
9. NAIT will enable standard and ad hoc reports and extracts (page 23).

The NAIT system reflects the risks that New Zealand wishes to manage and incorporates existing international benchmarks. Features include (page 14):

- making best use of current information collection arrangements. Many of these will continue with NAIT data being subsequently uploaded once validated;
- data standards to make data-matching easier and reduce duplication;
- user-friendly interfaces;
- access (including protection of privacy), security, disaster recovery;
- transition from existing systems.

NAIT will not provide all property-related information. It will not (at least initially) identify properties other than those used for cattle and deer. For biosecurity purposes, a more complete rural property register (FarmsOnLine) will be developed and managed by the Ministry of Agriculture and Forestry (page 16). NAIT will have access to the property data (including information to enable maps to be produced).

This document describes in more detail the requirements of the NAIT system for farmers, meat processors, saleyards, transporters of animals, shows, existing animal identification scheme administrators, tag suppliers, the Crown and industry parties. Saleyards and processors have proposed some additional roles reading RFID identifiers (page 19).

NAIT will be an enabling system, which provides a defined data set linked to other databases. NAIT will provide comprehensive information about animals and their movement between properties, allowing participants to leverage additional on- and off-farm benefits, if they so wish. Examples of this include automatic drafting of animals in stock yards, monitoring weight gain and recording animal treatments (pages 28, 30).

A pilot programme is currently testing farmer, saleyard and processor information transfers. Feedback from the pilot and this document will be used to finalise requirements before the NAIT concept is signed off and the system is built (page 31).

The initial build of NAIT will cover the data needed by all parties, and will include additional functionality that can be rolled out to meet future needs consistent with the purpose of NAIT. It is proposed that this functionality will include some other regulatory functions already in place that may be more efficiently held and accessed from NAIT in the future (page 12, Appendix Two).

The current NAIT governance arrangement is by way of a joint venture under a signed Memorandum of Understanding. Once NAIT goes live, formal governance arrangements will need to be adopted (pages 24, 31). A three-tiered structure of a governing body, a management agency and accreditation of third-party service providers is proposed. The Crown may also have some new roles associated with NAIT.

A sign-up phase between 2008 and mid-2011 is proposed to enable industry to gear up for the new requirements of NAIT and start leveraging off benefits. By July 2011, the new NAIT requirements will be mandated by regulations. The overarching policy and legal framework will be defined by early 2009 (page 32).

The cost of the NAIT system will be shared. The Crown will meet the capital expenditure and 35 percent of the ongoing operating costs of NAIT. It will also fully fund the rural property database initiative. Industry will meet the residual 65 percent of operational costs (under funding mechanisms still to be confirmed). Industry will also meet the costs of tagging and recording data in NAIT, including the provision of readers and related infrastructure (page 26).

Introduction

The purpose of this document is to inform parties and seek feedback about the development of a national approach to animal identification and tracing systems to meet market access, biosecurity, food safety, and on-farm needs. It builds on the previous industry consultation document released by the National Animal Identification and Traceability Working Group in July 2005. Feedback from that document indicated support for the concept but asked for further information on the detailed proposal.

This document explains why it is desirable to have an overarching system for electronically identifying livestock, sharing where livestock are located, and recording livestock movements between locations. It outlines how the proposed NAIT system would work and what the roles of the various parties would be. Enhancements to the current arrangements for cattle and deer will be included in the initial roll-out of the new system; however, the framework proposed is intended to be suitable for inclusion of other livestock species in time.

The parties to NAIT invite submissions from industry and other interested parties. In particular, we are interested in:

- Confirming the proposed information to be collected in the first roll-out of the NAIT system, and the additional information capability that will also be included in the initial build of NAIT.
- Confirming the purpose for which the data on NAIT will be used for. Access to the data will need to be consistent with purpose.
- It is not yet clear whether deer should be mandated from 2011, given that further work is needed to test the efficacy of radio frequency identification. What are the views on this issue?
- Fine-tuning, and confirming the requirements of the various parties who will participate in NAIT. Have we achieved a pragmatic balance between the compliance required and NAIT supporting other on-farm and off-farm information needs?
- We have identified ways in which we propose to record animal movements, including who is responsible, and who captures individual animal identification data in particular. Does this make sense and what will this mean for participants?
- What other rules and incentives are suggested so we can ensure that the information on NAIT is kept accurate and up-to-date?
- Views on the methods for raising funds to support the establishment and ongoing costs of the NAIT system.
- What things may need further work to ensure a smooth transition between current systems and the new NAIT system?
- The proposed transition to NAIT is by way of an initial sign-up phase, before the NAIT requirements are mandated under regulations by 2011. What is the likely interest in registering animals and recording movements on NAIT before it becomes compulsory under regulations in 2011?
- Anything else in the concept design that we may have overlooked and needs further consideration before we proceed with building NAIT?

The closing date for submissions on the NAIT system, as outlined in this document, is **Friday 1 August 2008**. A submission form is included at the back of this document, as are common questions and answers. Further information can be found at www.nait.org.nz/resources.

BACKGROUND AND CURRENT APPROACH

Joint industry-government partnership

The World Organisation for Animal Health (OIE) has developed guidelines for animal identification and traceability¹, providing member countries with an instrument to improve animal health and public health, as well as better management of health crises at national and international levels. The guidelines and other international experience emphasise the importance of the livestock sector and government in each country working together to address animal identification and traceability needs. This approach has been adopted in New Zealand.

History and current state of the NAIT project

In 2004, a working group involving representatives of livestock industries² and the Ministry of Agriculture and Forestry (including the New Zealand Food Safety Authority) began working together to consider enhancements to New Zealand's current animal identification and tracing systems.

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) purposes. Written submissions³ received reflected broad support for the principles set out in the document. General assent to proceed was given, provided there was more detail on the design of the system and ongoing dialogue as the practical details were sorted out. A number of suggestions on design elements were provided and a number of submitters sought more cost information before making a final, informed decision.

In March 2006, the National Animal Identification and Tracing (NAIT) project was formally established. The NAIT Governance Group includes senior management representatives of the NAIT partner organisations with an independent chairman (Ian Corney) and an agreed project brief and terms of reference. The current NAIT partner organisations are:

- Dairy Companies Association of New Zealand (DCANZ)
- DairyNZ (previously Dairy Insight)
- Deer Industry New Zealand (DINZ)
- Federated Farmers of New Zealand (Inc)
- Meat & Wool New Zealand Ltd (M&WZNZ)
- Meat Industry Association of New Zealand (Inc) (MIA)
- Ministry of Agriculture and Forestry (MAF)
- New Zealand Food Safety Authority (NZFSA).

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.

¹ S. Ammendrup & L.O. Barcos (2006). *The implementation of traceability systems*. Rev. sci. tech. Off. int. Epiz (OIE), 2006, 25 (2), 763-773

² Dairy Insight, Deer Industry New Zealand, Federated Farmers of New Zealand Limited, Fonterra Co-operative Group Ltd, Meat Industry Association and Meat & Wool New Zealand.

³ Animal Identification and Traceability Working Group (December 2006), *Proposal for an Enhanced National Animal Identification and Traceability System: Analysis of Submissions and Pathway Forward*

Meat & Wool New Zealand Ltd is currently designated the Administrator for NAIT and oversees contributions from parties and provides secretariat services to the project.

Much of the work on the detailed design of the proposed NAIT system that is described in this implementation paper was co-ordinated during 2006 and 2007 by the NAIT Technical Advisory Group, which advises and provides recommendations and supporting papers to the NAIT Governance Group. Decisions are made by way of a process of joint discussion and agreement. The proposed system design has been developed and informed through extensive consultation and negotiation between the NAIT partner organisations, other interested parties and individual subject matter experts, including: farmers, transport operators, livestock processing experts, data analysts, livestock disease specialists, academics, regulatory officials, economists and experts in international trade and marketing. Care has also been taken to ensure that the results of the previous consultation in 2005 have been reflected in the design of the proposed NAIT system. These include provision for:

- the adoption of radio frequency animal identification (RFID) technology;
- provision for transitional arrangements from existing schemes;
- mandatory compliance;
- unique animal and property identification;
- centralised database;
- an initial “sign-up” phase for industry uptake before new NAIT requirements are legislated;
- flexible system able to accommodate other species in future if required.

In addition, consultation with officials and industry representatives from other countries where animal identification and/or traceability systems are currently operational (see page 29) has contributed significantly to the robustness of the system proposed for New Zealand.

WHY DEVELOP A NEW ANIMAL IDENTIFICATION AND TRACING FRAMEWORK FOR NEW ZEALAND?

Why is animal identification and traceability increasingly important?

The New Zealand livestock industry plays a prominent role in the New Zealand economy. Cattle (including dairy), deer and sheep account for \$13 billion worth of exports per annum. Livestock production, farming and allied industries are also an important part of the social and cultural fabric of New Zealand. The health of our citizens is influenced by the continued availability of safe animal produce. Protecting and developing sustainable livestock production within New Zealand is therefore important to a wide variety of stakeholders.

Identification and traceability of livestock and their products provides a set of tools that can be used to enhance market access, animal health and welfare and provide opportunities for more efficient management throughout the food chain (farm to fork).

New Zealand currently has some animal identification and tracing systems in operation (page 8) that have been developed to meet specific needs. However, there is growing pressure to improve them, arising from:

- **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.

Animal identification and traceability systems currently operating in New Zealand

New Zealand has several systems for identifying and tracing livestock, primarily for cattle and deer. The main official purpose of current schemes is for managing bovine tuberculosis (Tb). Farmers must identify all cattle and deer aged 30-days-old and older prior to their first movement, using a double ear tag scheme⁴. The primary tag is a visual, bar-coded tag that identifies the herd where the animal was first tagged and the animal number. Animals going directly to slaughter from the herd of origin can use a single direct-to-slaughter tag as an alternative and cheaper option. Three scheme administrators are approved by MAF for this purpose: Animal Health Board Inc. (AHB), AsureQuality Limited, and Livestock Improvement Corporation (LIC).

Tracking movements is also required for Tb management. When animals are moved, the owner or person in charge of the animal must record these movements using an Animal Status Declaration Form⁵ (ASD), including the known Tb-status and Tb testing dates and the herd number of the herd from where the animal is being moved.

Under the National Bovine Tuberculosis Pest Management Strategy, administered by the Animal Health Board, some temporary identification tags are used. When cattle or deer are positive to a Tb test, a uniquely numbered orange tag is applied to the animal. Either the animal is sent to slaughter or cleared of Tb. Once cleared of Tb the orange tag is removed. Also under the Tb Strategy, if a herd becomes infected with Tb all animals are tagged with white tags that remain in place until the herd is cleared of Tb.

Separate regulations require imported live animals to be identified with an approved tag⁶ and be recorded on a database administered by the New Zealand Food Safety Authority (NZFSA). Animals treated with hormone growth promotants (HGPs) must be identified with an orange HGP tag, logged on an HGP database and declared in Animal Status Declaration forms⁷. The ASD form covers cattle, deer, sheep, goats, horses, alpacas, llamas, ostriches and emus. A different ASD form covers pigs.

An ASD form must be completed for animals sent for processing⁸. It must be completed for all animals (except alpacas, llamas and horses) moved from one property or saleyard to another property or saleyard or property where there is a different person in charge. The ASD form has to be completed by the person in charge of the animals.

⁴ Biosecurity (Animal Identification Systems) Regulations 1999

⁵ Biosecurity (National Bovine Tuberculosis Pest Management Strategy) Order 1998

⁶ Biosecurity (Imported Animals, Embryo and Semen Information) Regulations 1999

⁷ Animal Products (Hormonal Growth Promotant Specifications) Notice 2004

⁸ Animal Products Act 1999

New Zealand leverages off official schemes to:

- meet international obligations around market access requirements and freedom from disease or contaminants;
- enable animals to be traced through the production chain for a range of purposes, including potential exposure to disease; and
- give producers better information for improving productivity, e.g. tracing genetic performance.

Voluntary identification schemes for bobby calves, dairy production, genetic breeding and on-farm management also exist. Of these, the most significant is the voluntary scheme used in the dairy industry (Management Information System for Dairy Administration – MINDA), which was developed by Livestock Improvement Corporation primarily as a herd improvement tool and to aid decision-making in the dairy industry. MINDA allows for some level of traceability based on individual animals. Some non-dairy animals are also registered with MINDA, and a beef tracing module has recently been developed.

Problems with New Zealand's existing ID systems

Existing schemes have been developed to meet specific purposes and from the perspective of animal identification and tracing, problems with these existing systems include:

- **Data on properties is incomplete** – Property data in the agricultural and horticultural sector has 85 percent coverage with enterprise data (ownership, management, stock and crop details) only 65 percent accurate. Information on properties other than those where cattle and deer are located (required to be registered for bovine Tb) is limited. Under the Biosecurity (Animal Identification Systems) Regulations there is no requirement for identification to be linked to properties. Current official identification schemes do not have specifications for the capture and maintenance of accurate property information as the location information is collected through different regulatory powers.
- **Data on livestock is incomplete** – Animals less than 30-days-old are not required to be recorded because these are deemed low risk for Tb infection. Animal movements from breeding farms, young animals moving between farms, and stock movements between transport operators, saleyards and to non-contiguous locations within farm enterprises are not always recorded. Records are largely herd-based (except for dairy) and records of individual animal movements are voluntary for the main part except for imported animals, hormone growth promotant-treated animals, Tb test-positive animals or animals moved from Tb infected herds. While this may be sufficient for animals going directly from farm of birth to slaughter, some estimated 30 percent of deer and 65 percent of cattle which go to other properties usually lose whole-of-life traceability, depending on the availability of sales records or Animal Status Declaration forms.
- **These schemes operate under different rules imposing additional tagging costs** – Additional regulated ear tags are used for individual animals that are either imported, are Tb test-positive, are in Tb-infected herds, and/or are treated with hormone growth promotants. A relatively small number of cattle and deer are tagged with these tags in addition to the standard double tag. On-farm management and other non-regulatory tags may also be applied.

- **System costs are not efficient as common data cannot be shared** – Farmers and other system users must interact with a variety of different systems to upload data. Data matching is difficult due to different data standards, and data (such as personal information collected for a specific, narrowly defined purpose) generally cannot be used for other purposes resulting in duplication of datasets. Where industry or other parties wish to manage a disease already present in New Zealand, lack of access rights to existing data means they may be required to develop their own databases. For example, the dairy industry needed to establish a new database to manage enzootic bovine leucosis (EBL), a disease of cattle.
- **Most of these schemes rely on paper-based records** – While electronic records (including movements between properties) are generally kept for dairy animals, beef cattle and deer movements are manually recorded on Animal Status Declaration forms, to comply with Tb scheme requirements and the terms of the Animal Products Act. These forms are required to accompany animals going to slaughter; if a line of animals is subdivided or mingled with another, the Animal Status Declaration form is amended. Tracing therefore requires time-consuming and error-prone manual reconciliation across Animal Status Declaration forms.

In summary, we do not know, with sufficient confidence, where all at-risk livestock animals are located at any given time and there is no single definitive source for this information that can be rapidly and easily interrogated. The overall management of existing systems is seen to be inefficient and imposes risks around data accessibility, accuracy and completeness for wider purposes than the objectives of those specific schemes.

Purpose and objectives of NAIT

The NAIT Governance Group recognises that the global expectations around identification and tracing are changing and New Zealand has to enhance its existing systems, using business best practice, to meet these needs into the future. The group believes the costs and risks of New Zealand's animal identification and tracing systems can be better managed if a whole-of-New Zealand approach is adopted by all the participants in the livestock sector. This should begin with the electronic identification of cattle and deer and the holding of information, including their movements, in a single, shared database.

The primary purpose of a new national animal identification and tracing system is to:

Provide New Zealand livestock owners, processors and government with timely and quality information on the current location, movement history and other key attributes associated with livestock.

The system will enhance the quality and completeness of the information needed around cattle and deer to manage the risks posed by livestock in respect of biosecurity and food safety, and facilitate market access. It will introduce electronic recording of the movements of animals between locations/properties to enable lifetime tracing. While it will start with cattle and deer (and require individual animal identification for these species), it will be designed so that the information needs for other livestock species can be included over time. The information obtained from such a system could also be used to meet other information needs around on- and off-farm livestock management, and general information on the livestock industry under appropriate controls.

The objectives of the NAIT project are to:

1. Develop a single animal identification system for all cattle and deer by June 2011 which incorporates:
 - a) information to be provided by those managing or processing livestock on the location, transport and movement of cattle and deer – initially using a mix of current regulations and industry uptake, but with regulations around the provision of data and the operation of the NAIT system (including access rights) to be made as soon as possible (estimate 2011);
 - b) electronic storage of all animal movement records (replacing current paper-based records);
 - c) a core registry linking people, property and animals available for purposes including biosecurity (e.g. disease control, surveillance), market access and statistical records, with clear regulatory rules around uploading, storage and access links to other industry and government databases as required;
 - d) the ability to trace all individual cattle and deer forward and back from property of birth to place of slaughter, and within the processing chain, as an alternative to current herd-based identification and tracing systems;
 - e) reduced duplication of the data in existing systems; and
 - f) guidance for stakeholders and participants to make changes in their systems and practices to support the new requirements.
2. Develop an animal identification and tracing system with sufficient flexibility that it can be adopted by other livestock sectors over time, or include additional information as the need arises.

How NAIT will work

WHAT DO WE NEED?

NAIT is primarily a data recording and collection system. Animals are identified with whole-of-life devices using the unique identifiers on these devices as the reference point; specific information on those animals is collected and held on a central electronic database. The information held can then be drawn on for clearly defined needs/drivers (biosecurity, market access, etc) when animals are registered, moved, traded and slaughtered.

Information needs

Data needs were defined by NAIT partner organisations by way of four⁹ separate needs analyses that were then combined into a single, agreed list of requirements¹⁰. This exercise indicated that there were many common information needs, but all the parties did not need many of the additional requirements that were identified. This led to discussion on what information NAIT would hold initially, and what information may be needed to be held on NAIT in the future, but would not be initially collected in the first roll out of the NAIT system.

The “NAIT data”

The following information, called the “NAIT data” was agreed by the NAIT Governance Group in October 2007, as being of importance to both Crown and industry parties, and therefore included within the NAIT system design:

- ownership, location and access to spatial data on all property/enterprises across New Zealand of relevance to the NAIT drivers;
- information pertaining to those in charge of such properties/enterprises and/or in charge of livestock;
- individual animal identification data and key related attributes of animals;
- animal movement data; and
- any other regulated biosecurity or market access data requirements (as appropriate).

Appendix Two lists the full range of data needs identified by the parties as being NAIT data.

The view of the NAIT Governance Group is that the scope and type of information held on NAIT in the first instance should be limited to this data and any further enhancements would need a specific business case before being included in NAIT.

⁹ Dairy sector (producers and processors), MAF, beef and deer, and meat processors.

¹⁰ *National Animal Identification and Tracing – Combined Needs Analysis*, Version 6.1, October 2007

What do we need the NAIT data for?

The NAIT data is needed to enable the Crown and industry to manage the following functions:

- biosecurity activities related to animals and animal health;
- human health issues arising from animals and animal products (e.g. food residues, food-borne diseases, zoonoses¹¹, etc.) and to support government and industry-led risk management programmes);
- to provide information to support market access requirements, including the future capability for vendor declarations (such as animal status declarations);
- adverse events and other emergency services, (e.g. floods), where rapid access to information on properties and animals is needed to manage risks to human and animal life and/or welfare;
- evidence-based policy, related advice and information across the livestock sector;
- industry good activities, e.g. industry pest management schemes or for use in accountability processes to levy payers.

Future capability of NAIT

The *Combined Needs Analysis* identified a number of information needs that only some parties want, but that may be more efficiently held and accessed from NAIT than elsewhere. An example is recording the gender of each animal. Some stakeholders have also indicated a willingness to pay for additional animal information needs to be brought into NAIT in the future.

Other information currently required for a regulatory purpose, and collected and stored by other means, may be more usefully held using NAIT as the core data repository. For example, information that is currently captured on ASD forms. Migration of such data from other sources to NAIT may be a medium term goal of NAIT. This will be considered once the initial NAIT implementation is completed and the new systems are working well.

Much of this type of additional system capability is relatively easy to build into the initial design of NAIT. The cost of capturing data by NAIT lies primarily with the collection of operational data from the field and validating it, not in building the capability of NAIT to hold it in the first place. If not included in the initial design, however, it would be more costly to re-engineer NAIT at some future point to include the additional data fields.

Therefore, the NAIT partner organisations have agreed that NAIT should have the latent capability to “switch on” additional functionality when required by some or all sectors. These datasets are indicated as “Future Capability” (see Appendix Two). It is proposed that additional datasets may be held on NAIT provided there are clear business rules governing their establishment and use. Parties seeking to include the information on NAIT would have to demonstrate to the governing body of NAIT that:

- the information will be consistent with the purpose and objectives of NAIT and held in the wider industry and/or public interest;
- the inclusion of the new information will not compromise the provision, storage, access to or maintenance of existing NAIT data;
- the costs for the data will be met by those who need it;
- NAIT is the most efficient, effective and appropriate place to hold the new data.

¹¹ Diseases that are transferable from animals to humans

NAIT functionality

The functionality of NAIT needs to reflect the risks New Zealand wishes to manage and reflect international benchmarks where they exist. A successfully designed NAIT system should ensure:

- market access for livestock-related exports is maintained and enhanced;
- more efficient and lower cost management of incursion responses and endemic diseases;
- complete datasets enabling unbiased data-frames for activities such as surveillance and trend monitoring; and
- more efficient management of uploading, storage and access to key data of interest to those involved in the livestock industry.

Other needs for the NAIT system that were identified, to be reflected in system design and performance, include:

- making best use of current sources of credible information;
- clearly defined metadata and data quality standards and business rules that support data completeness, accuracy and precision to enable easier and more efficient data sharing;
- systems and processes that minimise the administrative burden placed on users;
- user-friendly interfaces to the system;
- the means to protect the data in the event of system failures (disaster recovery);
- processes to validate data provided to NAIT;
- rules around access to protect privacy and confidentiality of individual information, while enabling data to be used for defined purposes;
- ability to draw off data or interact with NAIT when reasonably needed (availability to users) so as to not hinder the movement, processing or sale of animals;
- appropriate archiving of information to enable historical searches;
- access to property information enabling maps with overlaying information layers to be produced;
- flexibility to cover individual animals and/or groups of animals (dependent on risks for individual livestock species);
- the data structure and capacity in the NAIT system enables additional functionality to be added in future, and other livestock (that may have specific information needs) to be included;
- effectively manage the risks of transition from current systems to NAIT.

CORE SYSTEM PROPOSED

How will animals be identified?

The cornerstone of the initial NAIT system will be the requirement to individually tag cattle and deer with radio frequency identification (RFID) ear tags that meet the NAIT standard for devices (the “NAIT tag”). These NAIT tags will contain a radio transponder having a unique number with a linked visual number on the outside of the tag. The RFID number links the visual number within the NAIT system. Those in charge of animals will tag their animals with a NAIT tag and send the unique RFID number and other supporting requisite information to NAIT. The database will include many other pieces of information, as described in Appendix Two, linked to this unique number.

RFID enables quick and accurate identification of the animal using electronic reading devices. The visual number will enable individual animals to be identified in the absence of an electronic reader or should the transponder or reader fail.

The NAIT tag will be introduced via existing identification schemes currently approved under the Biosecurity Act, as a secondary tag. The primary tag will continue to be used to meet existing scheme requirements during the transition to NAIT. By 2013, the aim is to reduce official tagging requirements to a single NAIT tag.

How will animal movements be recorded?

NAIT will require all animal movements between properties to be recorded. A movement occurs when an animal departs from one property and is completed when the animal arrives at another known location. In the proposed system, each “leg” (departure and arrival) will be recorded and the information submitted to the central NAIT database. Transit points during a movement may also need to be recorded if the group of animals being moved mingle with other animals or are sub-divided into smaller groups going to different destinations during that movement.

Methods of recording an animal movement (see Table 1) can be characterised as a:

- **Two-legged transaction** – in which both the sender and recipient of the animal record and confirm the movement transaction; or a
- **One-legged transaction** – in which only one of the parties involved records and confirms the movement.

The advantage of a two-legged transaction is its accuracy. Because the identification of animals is recorded twice, the data of each leg can be reconciled or a “flag” in the system can be raised if a discrepancy exists. Two-legged transactions to record movements are therefore the preferred basis for recording movements on NAIT.

One-legged transactions, however, which require less administrative burden, will be permitted on an exemption basis for some movements. This exemption will be given where there is confidence that the data recording by those responsible is consistent and accurate. Movements for which an exemption can be permitted are where one party is a saleyard or processing plant with capacity to individually record all animals using RFID readers.

Farm-to-farm movements, or other movements not involving saleyards or processors, will remain two-legged in terms of recording requirements. This is because movement records are less likely to be complete; the parties are less likely to have the facilities or regularly use the RFID technology on a daily basis, and some validation of the data is therefore needed. Exemptions may be possible where a party can demonstrate it meets the standards for data collection and recording using RFID on a consistent basis.

A further exemption from NAIT is proposed for bobby calves (defined in NAIT as calves less than 30-days-old that go directly to slaughter) which pose minimal biosecurity risk. Existing commercial tagging schemes enabling traceback to farm of birth are considered to have equivalent tracing to NAIT. NAIT will need to have access to the information held in these schemes for auditing purposes. NAIT would reserve the right to remove this exemption if a scheme does not meet NAIT requirements for identification and tracing. Other calves 30 days or older, which go to feeder and other farms, or which are going directly to slaughter, must be tagged under NAIT to enable whole-of-life tracing.

Table 1: Movement transaction types and responsibilities under NAIT

Sender	Receiver	Default Transaction type	Responsibility for recording movement on NAIT
Farm	Processor	One-legged (under exemption)	Processor
Farm	Saleyard	One-legged (under exemption)	Saleyard
Farm	Show	Two-legged	Both farm and show
Saleyard	Farm	Two-legged	Saleyard, with a confirmation of animals received required from the recipient
Farm A	Farm B	Two-legged	Both farms
Breeder	Farm	Two-legged	Both breeder and farm
Farm A	Farm A sub-location	No movement record required if part of a non-contiguous property is recorded as a sub-location in NAIT and the distance between sub-locations less than 10 km	Farm must register each sub-location
Farm (bobby calf direct to slaughter)	Processor	No movement record required if animal is tagged using equivalent commercial tag scheme	Processor will hold records of animals received and sources for access by NAIT if needed

Where an inconsistency exists in the movement data supplied, NAIT will consider the electronically-read record as the most likely to be accurate. The recorder of the final leg of the transaction is also the most likely to have the animal in their possession and can verify the data if necessary.

How will properties be managed?

While NAIT will collect information on cattle and deer properties (with the aim of including other properties holding other livestock species over time), this information alone is insufficient to meet biosecurity needs. Instead, a base level of information on all properties having at-risk host species of biosecurity interest (including those of plant origin) is required. As the recent foot-and-mouth disease hoax (Waiheke Island 2005) demonstrated, gaps in property information have to be addressed (either through phone contact or site visits) in order to determine whether a property is of interest or not. This diverts resources from the properties where biosecurity risks need to be managed.

The NAIT parties agree in principle that property information (including spatial data and assigning of unique property identifiers) should be held and managed by the Crown on a master property register that NAIT can access and support. The property register will support biosecurity, food safety, environmental sustainability (for example, carbon emissions), animal welfare, emergency management and policy-related advice and information. Users of the NAIT system will be able to access property data via NAIT or provide updates to the property register database as appropriate.

A separate FarmsOnline project has been established by the Ministry of Agriculture and Forestry with the objective of meeting these wider property needs by mid-2009. The Crown will need to seek access rights to existing property information for the purposes outlined above, including NAIT.

How will people provide information to NAIT?

In order to keep information on NAIT up to date and meet the purposes of NAIT, it is proposed that the data is uploaded onto NAIT within 48 hours of activity.

There will be a number of different ways that individuals can send information to NAIT: third parties service providers, direct computer-based interfaces and manually.

Third-party service providers

The preference is for NAIT information to be collected by accredited third-party service providers, which will provide services to individuals and collect and manage the NAIT data requirements as part of this service. This is because such parties can manage some of the data validation that is needed by NAIT ensuring that the quality of data uploaded into NAIT is high. Depending on the services offered, clients would be able to send their information in various forms to the service provider (emails, faxes, paper copies via mail, etc) provided the data is validated before being uploaded onto NAIT.

Third-party providers might include:

- tag manufacturers and suppliers;
- existing animal identification scheme administrators;
- transport operators as part of service provision;
- stock and station agents;
- saleyard operators;
- processors;
- other commercial third-party suppliers of specialist services working in the livestock sector;
- large-scale producers, with on-farm automated recording systems, etc.

Computer-based interfaces

Individuals will also be able to send information directly to NAIT using the internet via a password-protected interface. Dial-up access and broadband options will be available.

Manual provision of information

While this is the NAIT Governance Group's least preferred option because of the cost and data accuracy issues, manual entry of information will be needed where computer systems are down or not available. Manual data entry processes, however, will need to ensure the same standards as for other electronic information providers. Individuals without computer access to NAIT, and/or without an accredited service provider, will therefore be required to supply information to NAIT using a telephone to a NAIT call centre within 48 hours of activity. An assisted telephone call is preferable to paper faxes, e-mails and other forms of information because any queries about the data can be resolved at the same time. The marginal costs of such manual transactions would need to be met by the users of this method.

The likely requirements from different individuals in the livestock industry are described in more detail in the following pages.

What will be the requirements of participants in the NAIT system?

In order to gain the benefits from the proposed NAIT system, users of the system and other participants in the livestock sector will need to meet new requirements under NAIT. NAIT will have performance standards, such as time limits for uploading data that will need to be met to ensure the ongoing quality of the data.

The primary responsibility for accurate data in NAIT will lie with the owner of the animal or their designee. This includes providing information and assistance to resolve any data discrepancies relating to these animals. Other parties will also have responsibilities under NAIT.

Farmers/Producers

Farmers in charge of cattle and deer will have requirements to:

- register their property in order to interact with NAIT;
- apply a NAIT tag to all their animals¹² within three months of birth or at point of first contact with the animal (whichever is sooner), and prior to the animal leaving the property (see also page 33);
- replace lost tags and link the replacement NAIT tag back to the lost tag identifier (if possible) before animals are moved;
- send information on individual animals that have been tagged to NAIT;
- send information on movements of individual animals dispatched to another property, including date of departure and destination property of animals (other than where a one-legged transaction is approved) to NAIT;
- send information on movements of individual animals received on their property, including date of arrival and the source property of animals (other than where a one-legged transaction is approved) to NAIT;
- send information on animals that die, are slaughtered on property or go missing from the property to NAIT;
- ensure any discrepancies with data supplied to NAIT are resolved and corrected;
- assist with any data reconciliations required by NAIT;
- continue to meet requirements set out in existing legislation (e.g. Animal Products Act and Biosecurity Act) in respect of completing ASD forms for Tb and market access purposes.

Farmers will be able to contract a third-party service provider to provide some of these services that involve interacting with NAIT. They will not be obliged to purchase readers under NAIT, but it is anticipated that some will purchase readers (separately or shared across several properties) to meet on-farm needs or for convenience. Farmers will, however, be required to record individual visual identifiers and supply this and related information to NAIT where a reader is not used. Some producers will also have additional animal identification and tracing requirements that are linked to conditions of supply over and above the NAIT requirements.

¹² With the exception of bobby calves < 30 days old going direct to slaughter, see page 13

Meat processors

All premises receiving live or dead animals for processing¹³ will have requirements under NAIT to:

- register their premises in order to interact with NAIT;
- use approved RFID readers to read NAIT tags within the processing premises;
- individually identify all animals that are received by them, using RFID readers and send information on animal identifiers, processing premises, date of slaughter and animal status (slaughtered) to NAIT;
- hold relevant data to assist with any data reconciliations required by NAIT;
- continue to meet requirements set out in existing legislation (e.g. Animal Products Act and Biosecurity Act) in respect of receiving ASD forms for Tb and market access purposes, reporting suspected Tb animals, making determinations in respect of imported and HGP animals, etc.

Meat processors are expected to have RFID readers and establish interfaces between their systems and NAIT in order to be able to interact with NAIT. Where animals are received that do not have tags, the roles and responsibilities of processors have not been determined. Some options proposed include “no tag-no slaughter”, imposing a penalty on the owners of animals not complying with NAIT requirements, holding animals until verification of identification is confirmed, or assuming untagged animals pose risks and are excluded from supply to markets requiring identification. Some reporting of untagged animals (for compliance and enforcement purposes) is also proposed.

Other processors may decide to incorporate other requirements as a condition of supply and to manage risks, e.g. withholding from milk supply. Further work is needed to confirm such arrangements and whether the information is recorded on NAIT. NAIT is not intended to replace existing product tracing systems to manage information from slaughter/processing to final customer but it would be desirable for NAIT to interface with such systems.

Saleyards

Saleyards facilitate trade in animals and as such will have requirements under NAIT to:

- register their saleyard in order to interact with NAIT;
- use approved RFID readers to read NAIT tags within the saleyard environment;
- individually identify all animals that are received by them, using RFID readers and send information on animal identifiers, saleyard location identifiers, and source property of animals to NAIT;
- individually identify all animals that are dispatched by them, using RFID readers and send information on animal identifiers, saleyard location identifiers, and destination property of animals to NAIT;
- hold relevant data to assist with any data reconciliations required by NAIT;
- continue to meet requirements set out in existing legislation (e.g. Animal Products Act and Biosecurity Act) in respect of receiving ASD forms for Tb and market access purposes, reporting suspected Tb animals, etc.

Like meat processors, saleyards are expected to have RFID readers and establish interfaces between their systems and NAIT in order to be able to interact with NAIT. Where animals are received that do not have tags, the roles and responsibilities of saleyards have not been determined. Some options proposed include “no tag-no sale”,

¹³ A primary processor, as defined in section 4 of the Animal Products Act, as relevant to cattle and deer raised as livestock

holding animals until verification of identification is confirmed. Some reporting of untagged animals (for compliance and enforcement purposes) is also proposed.

Transporters of animals

In addition to farmers and drovers, the commercial transport sector also facilitates trade in animals. All transporters of animals will have requirements under NAIT to:

- register their company, along with associated truck registrations, on NAIT;
- record the truck registration onto the ASD form provided in respect of the stock being moved;
- record on ASD forms where animals have been held at a transit point which involves mingling with other consignments of animals;
- assist with tracing transport of animals as required by NAIT;
- continue to meet requirements set out in existing legislation (e.g. Animal Products Act and Biosecurity Act) in respect of carrying ASD forms.

While transport operators will not be obliged to upload or download information on NAIT, opportunities exist for them to provide services to farmers around the moving of animals. What has not been determined is the role of transport operators where animals to be transported do not have tags. One option proposed is “no tag-no transport”. Some reporting of untagged animals (for compliance and enforcement purposes) is also proposed. The NAIT parties consider that the person in charge of animals who initiates the movement (e.g. the farmer) should retain responsibility for ensuring animals to be moved have the official NAIT tags and arrange for replacements if lost.

Shows

Shows (and other places or occasions where animals are brought together from many locations) represent an increased biosecurity risk. Accordingly, the venues where these events take place will need to be registered as NAIT locations if they wish to receive cattle or deer. Movements of animals onto and off of these locations will also need to be recorded like any other two-legged movement, for example between farms. Show managers will have requirements to:

- register the show as an event/property on NAIT, including the location of the show and the date of the show;
- record and inform NAIT of each of the “on” movements when each animal arrives at the show;
- record and inform NAIT of each of the “off” moments when each animal returns to its property of origin or onto another location;
- assist NAIT with the investigation and reconciliation of any discrepancies in the traceability of animals linked to attendance at the show.

Existing livestock identification schemes

The existing administrators of current cattle and deer identification schemes (Animal Health Board, Livestock Improvement Corporation andASUREQuality Limited) play a key role in transitioning from existing arrangements to NAIT and have a future role in the NAIT system. Requirements under NAIT will include:

- recognition of NAIT tags, and the NAIT standards for devices, as the official tag (initially as a secondary tag) for cattle and deer within their schemes. NAIT tags will initially be introduced via existing schemes;
- collecting, holding and providing tag registry information to NAIT (if not provided by tag manufactures directly);
- assisting NAIT on access arrangements to NAIT data held in their databases;

- assisting in communicating with farmers/producers in particular, to ensure consistency and understanding during transition and beyond;
- assisting with reconciling tag registers and harmonising data in the transition to and roll out of NAIT.

Tag suppliers

Under NAIT, tag suppliers will be able to enter the New Zealand market and be licensed to supply approved NAIT tags provided they meet standards and NAIT requirements. Existing tag suppliers have an important role in transition to NAIT as they have good records of all their tag purchasers and can act as a communication conduit on NAIT requirements. In the transition to NAIT, tag suppliers will assist by holding information on NAIT-compliant tags and purchasers that can be uploaded onto the NAIT database once operational. Tag suppliers will have requirements under NAIT to:

- seek approval of tags under NAIT standards, including the provision of information to verify compliance with the standard;
- be licensed to supply NAIT tags and print the NAIT logo and visual number on all approved tags;
- link the RFID number on the transponder inside the NAIT tag with the visual number on the outside, and with the visual tag number on the paired primary tag (during the two-tag phase) and ensure this information is available for sending to NAIT;
- meet other requirements of scheme administrators as set out in memoranda of agreement (including the visual numbers to be used).

The Crown

The Crown has a number of roles in relation to the NAIT system and as a NAIT partner via MAF and NZFSA. It will:

- continue with approving identification system changes under the Biosecurity Act. During the initial, non-mandatory sign-up phase of NAIT, the approval of new schemes is unlikely. MAF will facilitate any transitional arrangements under existing schemes in accordance with agreed NAIT standards (where needed);
- establish the necessary statutory regime to support NAIT;
- manage the wider issues of property and location data (see page 16);
- have an ongoing participation in the oversight and governance of NAIT.

While the Crown's primary relationship with NAIT will largely be the download of information from NAIT, further work needs to be done to see what roles it may have (apart from property information) in providing updated information to NAIT (e.g. from a response MAF has managed) and ensuring compliance with NAIT (see also page 25).

The NAIT industry partners

The industry associations have a number of complementary roles to the Crown as partners in the establishment, oversight and governance of the NAIT system. Industry associations may have access to NAIT information for approved purposes, and will assist in consultation, communication and compliance within the sectors they represent.

HOW WILL NAIT ADDRESS INFORMATION REQUIREMENTS?

The NAIT system will collect and store demographic and movement information about animal populations, together with other related data, such as the contact details (and other personal information) of people associated with animals. Ensuring that data collected and/or maintained by NAIT is used appropriately and to the benefit of all participants is extremely important.

Who is likely to want access to the NAIT data?

The participants in NAIT (those providing information to NAIT) and users (those requiring access to NAIT) include:

- producers (breeders, farms, lifestyle blocks – generally the person(s) in charge of the livestock of interest);
- processors (meat processors, including small abattoirs and international processing plants, milk processors, with provision for other processors, e.g. hides and skins, velvet antler);
- stock and station agents (including those managing saleyards);
- veterinarians, laboratories and other animal health service providers;
- government agencies (including MAF, NZFSA, and potentially Statistics New Zealand and others);
- industry associations (M&WNZ, MIA, DINZ, DairyNZ, DCANZ, etc);
- educational and research institutions, and others with an interest in aggregate data;
- pest management agencies, regional councils (in accordance with pest management strategies), quarantine facility managers, and other agencies managing biosecurity activities;
- approved agents (including third-party service providers) of the participants.

Data access and privacy

The Crown and other parties will have rights (and obligations) under regulation to access data for the stated purposes of NAIT (see page 12).

Non-personal information (defined by the Privacy Act being that information not linked to an identifiable person e.g. aggregate livestock statistics) would be publicly available (see page 23). Personal information could be accessed by a party for another purpose but only if that party obtains the consent of the individual to whom the information relates (as is consistent with the Privacy Act).

The governing body of NAIT will control access to the data, and establish processes for ensuring access to data is consistent with the purpose of NAIT and otherwise complies with the Privacy Act.

Crown access to industry data (non-NAIT data)

Accessing additional data by the Crown will take place with the agreement of the industry members or through use of emergency powers in accordance with the defined purposes of NAIT. Where appropriate, the additional data may be subsequently mandated by agreement with the Crown to become NAIT data if full compliance becomes necessary to ensure data completeness.

Industry organisations access to NAIT-held data

Industry good organisations will be able to access aggregate data on NAIT, and other data as agreed, by application to the governing body of NAIT. This is for the purpose of carrying out an industry good activity or to improve the efficiency of accountability processes. Other industry organisations may also apply for access rights to aggregate data under certain principles and conditions.

Commercial use of data

Submitters to the 2005 consultation document indicated their preference for data not to be used for a commercial purpose. The NAIT parties have interpreted this as ensuring that the data does not fall into the hands of others who would use that data for a purpose not defined in NAIT (e.g. using NAIT as an address/contact database to sell farm equipment). Access to personal data will be allowed if permission to use the data is given by the person who supplied the data. An example is where the animal owner gives access to livestock data to a prospective purchaser to facilitate trading of animals.

Who would own NAIT data?

It is proposed under NAIT governance arrangements that Crown could own the NAIT data on behalf of New Zealand and the NAIT parties, once the data has been provided under regulation. Until that time (i.e. prior to its upload onto NAIT) it would be owned by the individuals that provided it unless some other contractual arrangement prevails. Some information is already collected by regulation under the Biosecurity Act and the Animal Products Act; existing rules of ownership/custodianship will need to be aligned with NAIT.

The ownership of the additional datasets will be in accordance with how these are established and funded.

What reporting will the system provide?

The NAIT system design will include the necessary functionality and supporting processes to enable timely, consistent and accurate data reporting. The data collected and held by NAIT will be of interest to a variety of participants (see page 22) and legislation and formal agreements around access for defined purposes will be needed.

Reporting will include overview information, such as aggregated data, trends and comparison (e.g. between years, regions, etc). It will include exception reporting that will highlight non-compliances or where information provided does not match and needs some form of validation. It remains to be determined whether the administration of the NAIT system will encompass a reporting and analysis service for preparing tailored and standardised reports on request or whether users of the data will be provided with raw data extracts that are then analysed and manipulated outside of NAIT.

A key advantage of the proposed NAIT system will be that data will be kept up to date because of requirements for timely recording of animal birth, death and movement data, and property information. This will mean that the NAIT could eventually replace other lower quality sources of the same information.

How will NAIT be managed?

A key outcome of the NAIT proposal is to ensure that the governance and management arrangements for NAIT allow the wide range of Crown, industry and individual interests and needs for the NAIT information to be appropriately met.

Once NAIT is implemented and mandated, a three-tiered structure is proposed:

- an approving and decision-making body with sufficient, statutory-based mandate to have responsibility for the overall NAIT system;
- a management organisation that is responsible for running the day to day NAIT system; and
- third-party information providers approved to supply client data to NAIT and other supporting third-party service providers working under contract to the management organisation.

An approach to ensure accountability at each level, encourage a lean operation, and enable representation in decision-making by industry representatives and the Crown needs to be confirmed. At the governance level arrangements will need to:

- enable the setting of rules that affect both Crown and non-Crown parties, reflecting the need to protect the public interest;
- facilitate administration of regulatory requirements;
- enable the long-term interests of the parties to be managed;
- allow a full partnership between the Crown, industry and possible new parties; and
- ensure the system is credible from the perspective of international trading partners (official assurances, for example, require the participation of government).

Options for governance and management of NAIT that have been considered by the NAIT Governance Group include a statutory board, joint ventures, incorporated societies (such as the Animal Health Board) and limited liability companies. Work on the governance arrangements is progressing and decisions will be made later this year through the NAIT Governance Group.

Governance

At present a small governing body (five to seven members) is proposed to approve NAIT standards and be accountable for the NAIT system. The key roles of the governing body are to:

- formulate policy (e.g. issues such as access rights to information, operation of third parties, inclusion of new parties/sectors within the NAIT system);
- administer rules and regulations, or advise the Minister on regulations. These include standards, business rules and compliance requirements for the uploading, storage and accessing of data on the core register and the related operation of the system;
- monitor, assess and document the performance of NAIT, parties contributing to NAIT, and technologies used by NAIT (e.g. tags and readers);
- planning and presenting communications with stakeholders;
- financial and funding oversight; and
- reporting on financial, administrative and regulatory functions.

Management agency

A separate organisation, accountable to the governing body, is proposed for the day to day running of NAIT. It would comprise a chief executive/manager and a small staff

responsible for implementing NAIT in accordance with rules and performance standards. The agency would:

- ensure the core register operates in accordance with the established rules;
- recommend policy;
- liaise with the Crown and industry bodies on data requirements;
- monitor and evaluate new technology developments in RFID, database design, and international approaches to animal identification and tracing;
- design and oversee the ongoing development of NAIT and its linkages with other systems and schemes in accordance with rules and regulations;
- manage the contracting out of services. Examples of services include communications, helpdesk, application management and maintenance, data cleansing, performance monitoring/audit of third-party service providers, managing changes to applications, compliance, education and training, provision of data extracts, reporting, etc; and
- ensure the financial viability of NAIT by collecting the required revenue (as specified in agreements or regulations) to meet the day-to-day costs of running the system, making provision for depreciation and other system maintenance costs. The agency would also collect additional revenue for agreed non-core NAIT data that is approved for inclusion in NAIT from parties wanting the information.

With an appropriate governing body in place, the management agency could be established as a function of another existing agency or as a consortium of industry parties (e.g. as a subsidiary company within an existing industry association), rather than be a stand-alone company.

Third-party information providers

Page 17 identifies a number of ways in which information can be uploaded into NAIT. The management agency of NAIT would oversee the accreditation and monitor the performance of third-party information providers. The nature, type and number of third-party information providers (provided they meet NAIT standards) are likely to remain competitive under NAIT. Participants with obligations to provide data to NAIT will be able to elect and give access to their designated third-party service provider or to change their provider if they wish. Key roles for third-party information providers will be around the credibility and quality of the information provided to NAIT, and that information would (preferably) be validated prior to being uploaded to NAIT. Some helpdesk or support function would be expected for this purpose. In other respects, third-party providers will have similar requirements for NAIT on behalf of the participants they represent.

Crown

The Crown's additional roles under NAIT could include:

- approval of the identification system in accordance with the law supporting NAIT;
- ownership of the NAIT databases (holding regulated data) and NAIT intellectual property in relation to those databases (on behalf of New Zealand);
- setting and administering regulations to support the NAIT system, including enforcement activities;
- auditing the financial viability of NAIT and the Crown's funding contribution (in accordance with the Public Finance Act);
- conducting other audits around NAIT performance on behalf of all parties where agreed; and
- provision of access to Crown-managed spatial property information.

THE COST OF NAIT

Since 2006, the NAIT partner organisations have already provided in-kind and financial contributions to the project. This has supported initiation of the project, planning, developing the NAIT concept and principles, preparing the business case to support investment decisions by the Crown and industry, and testing some of the information flows proposed.

From 1 July 2008, formal funding arrangements covering the build and implementation of the NAIT system will be finalised. The costs (outlined in Table 2) will be shared between the Crown and industry.

Table 2: Costs to build and implement the NAIT system

\$000	2008/09	2009/10	2010/11	2011/12	2012/13	2013 onwards
Capital Expenditure	2,880	4,180	210	210	-	-
Operating Expenditure	2,507	3,145	5,217	7,408	7,337	7,337

The Crown has agreed to fully fund the capital expenditure and 35 percent of the ongoing costs of the NAIT system. The Crown will also fully fund the costs of FarmsOnLine. The remaining 65 percent of operational expenditure for NAIT will be met by the industry parties through a mix of direct and proposed levy funding.

Costs of tags and readers

Farmers who want to introduce new radio frequency tags into livestock will be able to start using NAIT tags as a secondary tag from mid-2008. The incremental cost of the tag for each animal is estimated at \$2.30 to \$3.10 under the current two-tag scheme. If a single NAIT tag is adopted in the future (anticipated 2013), this cost will decrease. This cost will also drop as the cost of RFID technology continues to fall.

Meat processors, saleyards and show managers will need to introduce RFID readers into their premises/events. Wand readers cost \$1000 to \$2000 each and panel reading systems start at \$2700, with additional costs to link readers to computer systems (software, etc) and adjust existing yards and premises to accommodate the reader equipment.

How does the NAIT concept stack up?

WHAT OTHER OPTIONS WERE CONSIDERED?

In addition to the NAIT system that is proposed in this document, four other options were considered for the delivery of the combined needs of the NAIT participants. Each of the five options was assessed on a 1 to 5 scale (5 being closest fit) according to standardised criteria of strategic fit, reflecting international experience, data completeness and management of risks, flexibility to adapt to future needs, management of NAIT project risks, feasibility and cost effectiveness.

Status Quo (13/35) - the current animal identification schemes and databases holding information of interest to NAIT would continue in their current form without co-ordinated oversight. The needs outlined in this discussion paper would not be met.

Enhance an existing identification scheme/system and obtain data access (17/35) – one of the existing schemes would be made the pre-eminent scheme. The NAIT partner organisations would contract/regulate the preferred scheme administrator to provide the NAIT data. This would mean that information not needed by the preferred administrator would incur additional costs for inclusion or need to be met by other means.

Develop new single database for all NAIT information (replacing existing systems) (7/35) - existing animal identification scheme administrators would be replaced by NAIT and a new centrally-managed database containing all NAIT and other required data would be developed. This was the least favoured option as it would be costly and complex to replace the current systems. It would also be less flexible to meet changing needs of all parties, and data quality would be uncertain.

Build overarching NAIT with data inputs from existing systems – a repository database would draw from approved data sources and hold the NAIT data. All other data would be held in associated databases that could be linked to NAIT. Within this option, three further options were also evaluated under the criteria above:

- Build overarching NAIT with common NAIT data only (27/35).
- Build overarching NAIT with common NAIT data and other agreed data (24/35).
- Build overarching NAIT with common NAIT data first, then subsequently roll out other agreed data (31/35) (the preferred option outlined in this document).

The preferred option is to build an overarching NAIT system that includes functionality for storing common NAIT data and other agreed data (as outlined in Appendix Two). The common NAIT data will start to be collected in the first roll out (from 2009/10). The other agreed data can start to be collected as a result of a subsequent roll out once the first roll out is successfully completed. This option best meets the needs for data completeness and management of risks, best manages project risks, and is considered cost effective overall. The risks around the quality of the NAIT data can be managed in the implementation phase and there would be fewer transition issues; other datasets are added only when the core NAIT information system is going well. There would be good incentives for cooperation by all parties since they all need the core data. NAIT participants would not be faced with a large number of new information collection costs all at once. Although the majority of database costs occur in the start-up phase, the costs of adding functionality for other datasets in the future (e.g. additional data to meet new emerging needs, other species) is reduced.

WILL THE PROPOSED NAIT SYSTEM BE WORTH THE INVESTMENT? – COST BENEFIT ANALYSIS

A specific cost benefit analysis was conducted to determine if NAIT can be justified in economic terms. The potential costs and benefits were identified and, where possible, quantified.

The cost benefit analysis includes the capital and operating costs of NAIT as well as the costs of the rural property register (FarmsOnLine) which will be used in conjunction with NAIT. The analysis estimates the additional costs and benefits associated with NAIT compared to status quo, for the dairy, beef cattle and deer sectors and associated industries over a 20 year period beginning July 2008.

The indicative cost benefit analysis was completed by MAF and reviewed by the New Zealand Institute of Economic Research. NAIT was estimated to reduce the effects of a major exotic disease outbreak by 2 to 10 percent and avoid a loss in premium markets of between 1.25 to 3 percent of current export value. The analysis showed that there is a high positive net benefit to cost ratio of 1.86 to 2.50 from implementing NAIT. This was worth a Net Present Value (NPV) of an estimated \$301 to \$524 million.

The principal areas of cost and benefits in the analysis are:

- **On-farm:** costs of RFID ear-tags and readers; possibility of benefits for farm operations from improved drafting of stock and other on-farm activities (\$507 million NPV);
- **Processing plant, stock yards, carriers:** costs of buying and using RFID readers to capture animal tag information; possibility of benefits from improved accuracy of records (\$17 million NPV);
- **Biosecurity:** predicted reduction in the cost of biosecurity response activities (tracing and managing at-risk properties, animal slaughter, disruption to farm production); reduction in time between the advent of an exotic disease outbreak and the restoration of market access (\$17 to \$87 million NPV based on foot-and-mouth disease type event);
- **Market assurance:** customer assurance about the source of foodstuffs contributes to continued access to premium value markets (\$108 to \$259 million NPV).

The values were derived from conservative assumptions about market assurance and biosecurity. Not only is there an overall net benefit, but each of the on-farm and processor and intermediary sectors are also estimated to achieve benefits in excess of costs.

In addition, NAIT is seen to have potential positive benefits around management of biosecurity pests and diseases of livestock already established in New Zealand. These benefits were not, however, specifically quantified in the cost benefit analysis.

The cost benefit analysis is sensitive to the benefits received by farmers. If farmers were to receive zero benefits on-farm from NAIT, there would need to be an increase in market assurance benefits from 2 percent to 3.7 percent to achieve a zero NPV.

HOW HAVE DEVELOPMENTS OVERSEAS INFORMED NAIT?

The use of official animal identification and tracing schemes is growing globally, covering a range of livestock and other domesticated animals. Bernard Vallet, Director-General of the OIE, recently called for animal identification and product traceability to be progressively implemented worldwide. The first OIE international conference, to discuss the benefits of animal identification and traceability for animal health, disease control, food safety and quality, will be held in Buenos Aires in March 2009.

The animal identification and traceability systems that exist today in other countries have largely been developed in response to serious animal health problems that have occurred. Examples include bovine spongiform encephalopathy (BSE) in the United Kingdom, Europe and Canada, and foot-and-mouth disease (FMD) in South America. European countries have already established animal identification and traceability systems for individual cattle and the European Union is now considering how to improve, expand and integrate these systems among its member states. EU regulations will soon require the individual identification of sheep, goats and horses across the EU^{14,15,16}. Improvements in identification and tracing has also been required by legislation in the EU to provide information for agriculture support payments¹⁷.

By contrast, New Zealand has been more proactive in defining its needs and approaches to developing a single, national animal identification system. The approach to system design reflects what has been learnt from the international experience of implementing animal identification schemes. Lessons learnt include:

Working in partnership – New Zealand’s approach to involve the Crown and industry is very important. It reflects the strong regulatory approach with industry support that has become a key success factor for Australia and Canada. By comparison, the United States is going down an entirely industry-led route with some federal funding, whereas the United Kingdom’s system is wholly government funded and controlled.

Technological Solutions – Adoption of RFID as the driving technology for individual animal identification is a common approach internationally. For example, countries of the EU will shortly be required to electronically identify sheep and goats¹⁴. NAIT proposes to set RFID and other technology requirements in standards rather than in regulation, providing for greater flexibility than that found in other jurisdictions. In the future, NAIT will consider other alternative technologies if they are better able to meet the needs of the NAIT partners and are accepted internationally.

The proposed NAIT system will not rely on government subsidies to encourage technology uptake as has been the case in Australia (tags and readers) and Canada (readers). By comparison, the EU has been slow to embrace RFID technologies altogether. EU regulations instead stipulate that cattle must be registered and movements are mostly recorded using paper-based animal passports. These processes are recognised as being inefficient and associated with data quality problems. The European

¹⁴A new Animal Health Strategy for the European Union (2007-2013) where “Prevention is better than cure”. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions COM (2007)

¹⁵ Council Regulation (EC) No 21/2004 of 17 December 2003 establishing a system for the identification and registration of ovine and caprine animals

¹⁶ http://europa.eu/eur-lex/en/consleg/pdf/1993/en_1993D0623_do_001.pdf

¹⁷ Vallat. (2001). *Traceability of animals and animal products*. Rev. sci. tech. Off. int. Epiz. 20 (2), 359-361

Commission's Animal Health Strategy (September 2007) indicates a move towards the introduction of electronic procedures and seeks interoperability of the different national systems.

The Importance of Spatial/location Data – Geographic information about individual premises is recognised as being of paramount importance to the successful operation of animal identification and traceability systems. The United Kingdom and Australia collect and manage livestock and property (including spatial information) separately, although the links between the two are maintained. This is because of the wider utility of the property information. A similar approach is suggested for New Zealand with NAIT linking to a new rural property register (FarmsOnLine). The New Zealand system will ensure constraints associated with property identification in the UK, and seen as a key failing in that system, will not be repeated.

Identifying individual animals – In addition to movement recording, the EU requires individual cattle to be registered soon after birth to provide a more accurate estimate of on-farm animal numbers. This is an important consideration for biosecurity activities. By comparison, the Australian National Livestock Identification System requires animals to be tagged prior to their movement from the farm of birth. It relies on saleyards and processing plants, rather than farmers, to capture RFID information. The Australian approach means that animals only appear on databases when they first move and arrive at a saleyard or processing plant. On-farm populations cannot be derived.

The NAIT system will involve on-farm registration, but will do so in a manner that balances the information requirements for biosecurity with the need to minimise the administrative burden placed on industry. The NAIT system is seen as an improvement on the Australian system because all animals will be captured on NAIT within a few months of birth, rather than being recorded only when they move from a property.

Replacing other data sources – over time NAIT is likely to become the preferred source of aggregate data. This has also been the experience overseas where national animal identification and tracing systems have been developed. Cattle identification and movement data from the British Cattle Tracing Service (CTS) has recently replaced official statistics previously obtained from the GB Annual Agricultural Survey.¹⁸

Other analyses have been done on the costs and benefits of animal identification, which confirm positive benefits. An American study of the benefits of managing a foreign cattle disease through having tracing of cattle at slaughter back to their last farm location gave a positive benefit over costs of 2.5 over 15 years.¹⁹

¹⁸ The RADAR Cattle Book 2006. *Descriptive Statistics about the Cattle Population in Great Britain*. (2006) Defra. available at <http://www.defra.gov.uk/animalh/diseases/vetsurveillance/species/cattle/dataset.htm>

¹⁹ W.T. Disney, J.W. Green, K.W. Forsythe, J.F. Wiemers & S. Weber. (2001) *Benefit-cost analysis of animal identification for disease prevention and control*. Rev. sci. tech. Off. int. Epiz. 20 (2), 385-405

Transitioning to NAIT

DESIGN, BUILD AND IMPLEMENTATION OF NAIT

The NAIT project is currently in the design phase, with work being undertaken to determine the operation, supporting governance arrangements and system requirements of NAIT. This document represents a key part of the design phase – informing participants of the NAIT proposal and seeking feedback on the concepts and design features.

Included in the design phase will be development of the implementation plan for the build and roll out of NAIT. The design of NAIT will be confirmed by the NAIT parties and by the Crown as a whole (funding and policy) before the build and implementation of NAIT is approved.

Prototype

The NAIT Governance Group is undertaking testing of aspects of the NAIT design through a Waikato-based pilot programme running from February to August 2008. This will test the movement of information between farms, saleyards and processors, and assist in defining the processing requirements and reporting needs of the parties.

Building NAIT

The core database systems, and the interfaces between NAIT, and the participants (including web-based interfaces for farmers), will be contracted out by way of a tendering process.

NAIT implementation

During the build phase of NAIT, most requirements will be rolled out in an initial sign-up phase (before regulations come into effect), including adoption of RFID (see below). The aim is have a fully operating system by 2010, tracing both RFID tags applied to animals and animal movements to achieve life-time traceability.

Interim governance of NAIT

The current NAIT Governance Group, operating under a memorandum of understanding, was established to cover the initiate and conceptual design phase of the project. Resources (financial and in-kind) have been provided by the NAIT partner organisations for this purpose.

Once the NAIT project is formally confirmed and dedicated funding streams for the project are established (starting July 2008), the existing governance arrangements will be reviewed and amended as needed to support the build phase of NAIT. The ongoing management of NAIT once the regulations are in place in 2011 is also likely to require a new governance structure (see page 24).

FarmsOnLine

The rural property register project governance arrangements are managed within the MAF governance framework for projects. The project manager will report to a Steering Group, which operates within the MAF Strategy Leadership Team IT sub-committee.

INITIAL SIGN-UP PHASE AND LEGISLATED INTRODUCTION

The NAIT partner organisations agree that the new arrangements will require a level of compulsion in order to be most effective. This reflects historical and international experience that any voluntary system to date has not provided the level of completeness or data quality required to manage the biosecurity, food safety and market access risks.

There are various ways in which full compliance can be achieved. The preferred approach is to encourage participants to meet NAIT requirements because they see benefits, or the administrative burden is kept small. NAIT will do this by:

- leveraging off existing information gathering arrangements so that NAIT information is mainly collected this way;
- making the additional information arrangements relatively simple, and user-friendly so that it is not difficult to comply with requirements;
- using existing incentives and providing a framework that parties can use to meet other data needs, so it is in their best and direct interest to have good quality information on NAIT;
- an education and communication programme that will influence complying behaviour;
- industry information requirements as a condition of supply in some instances; and
- regulating mandatory data requirements where necessary to require all parties to comply and providing penalties for those who do not (in conjunction with the above).

Any regulatory regime will not happen immediately and may involve:

- **Upgrading existing regulations or creating new regulations under the Biosecurity Act and/or Animal Products Act** – while these Acts encompass current animal identification schemes, their defined purposes do not encompass all the needs of NAIT and make no provision for replacing current systems.
- **Creating new regulations under the Animal Identification Act 1993** – a preliminary review of this Act (which has not ever been used) is that this would provide the necessary flexibility to cover some of the other purposes of NAIT but may not be sufficient for location/spatial data, and will still require amendment to meet NAIT purposes (such as setting up the governing body).
- **Reviewing Biosecurity Act and Animal Products Act** – small changes may be required around purpose and roles and responsibilities to encompass a single, multi-purpose identification scheme.
- **Creating new legislation** – this option is not preferred if existing legislation contains sufficient flexibility or can be modified to meet NAIT needs.
- **Reviewing Local Government Act 2002** – to enable access to property/ownership data outside of an emergency.

The proposed approach is to confirm the mandatory requirements and determine the appropriate legislative pathway to support NAIT during 2008, with the aim of progressing legislation change through the House of Representatives starting in 2009, and concluding with associated regulations making NAIT compliance a legal requirement by June/July 2011. While NAIT has been designed for cattle and deer in the first instance, further testing of the on-farm use of RFID for deer will be undertaken before RFID (and the mandatory timeline) for deer can be confirmed.

ADOPTION OF RFID

Only animals with an RFID tag that meets the NAIT-approved standard will be registered on NAIT. Animals with existing identification (herd-based bar coded tags) will not be recorded on NAIT (unless they are retrospectively tagged with NAIT tags). It is proposed that existing identification scheme administrators introduce the NAIT-compliant RFID tag as an optional secondary tag within current schemes. This will allow producers to begin tagging new animals with the assurance that the animals will be able to be recorded in NAIT.

The tag suppliers currently hold records that link the RFID identifier with the visual tag identifier. This information can be subsequently uploaded into NAIT when the databases are operational.

These transitional arrangements for the registration of animals have been agreed in principle by the current scheme administrators. Consideration is still being given to the capturing of animal movements and slaughter information for animals registered on NAIT during the sign-up phase (2009 to 2011).

Moving from herd-based to individual animals

The pathway for transition from a herd-based system to an individual animal-based system needs to be confirmed and includes consideration of how the AHB will manage historic records and the required changes to its Operational Plan.

Migration of animals tagged under existing schemes

Once the RFID device arrangements are mandatory, animals identified under existing tag requirements will be required to migrate to the new system by purchasing the new NAIT tags, applying them to their current animals and registering the animals on NAIT. Early warning on mandatory dates and requirements will be essential to reduce duplication of tagging costs to producers. Experience with exemptions for older animals as seen when the AHB tags were first introduced, however, indicates that a single uptake (i.e. no transitional exemptions) approach is preferred. Low uptake of RFID initially means that the databases will be less useful and the ongoing capability to read both bar-coded and RFID tags will be necessary.

RFID readers

It is not proposed to mandate the requirement for participants (farmers, transport operators, saleyards, processors and show organisers) to purchase readers.

To meet their obligations under NAIT, processors, saleyards and shows will, however, be required to read animal identifiers and upload data into NAIT so they will need to have access to readers for this purpose. Likewise, farm-to-farm movements will require readers to be available at both ends of a movement, unless recording identifications manually and submitting to NAIT.

There is opportunity for transport operators and stock and station agents to provide reading of tags as a service to farmers. It is anticipated that many farms will purchase readers (or share readers) because of the convenience. Depending on the distribution of readers across the system, and confirmation on tag retention rates, it may be possible to eventually replace the requirements for each animal to be tagged with both RFID and visual tags (double tag) with the single RFID tag.

NEW DATA STANDARDS

The preferred approach is for voluntary adoption of standards developed by NAIT by all parties until the NAIT governance body has a statutory mandate to set the standards.

Harmonisation of existing data

It is anticipated that a high level of data cleansing is likely to align existing data with the new data standards. The preferred option is for existing scheme administrators and participants to migrate the existing data they hold into the new data standards, however, there is no formal agreement reached on this yet.

New data collection arrangements

Changes are necessary to mesh the stated purpose for collection of data with the purpose of NAIT to address Privacy Act considerations. Work will also be needed to communicate the new data standards, to accredit third-party service providers to supply data to NAIT and to upload information from the various sources to establish the NAIT database.

Animal Status Declaration forms

Industry strongly supports the integration of the existing paper-based ASD forms into the NAIT system so that the ASD form can be assisted or replaced by an on-line transaction. It is also likely that writing down the individual animal identifiers onto the ASD form will have an unacceptable error rate. The NAIT parties support the NAIT system having the inherent capability to hold all the datasets required in an ASD but some of the data recorded on ASD forms will not be held in the initial roll out of NAIT. As a transition measure a partially completed on-line form, downloading NAIT-held information such as farm details and individual animal identifiers, is proposed. This could be printed with the remaining details not available from NAIT then added by the person responsible for completing the ASD. The full ASD form content on-line is proposed in NAIT as a future capability. Paper-based ASDs for cattle and deer would only be replaced when there is sufficient confidence that the quality of the ASD-equivalent datasets held in NAIT is greater than the quality of data generated solely from the person(s) preparing the form manually.

CHANGED ROLES AND RESPONSIBILITIES

MAF (representing the Crown), system administrators, producers, meat processors, saleyards, transport operators, show administrators, tag suppliers, etc will all have new roles under the system. The various parties will have to register with NAIT in order to register their properties, animals, animal movements, uploading and downloading data from NAIT (see pages 18-21).

NAIT in the Future

As described elsewhere in this document, the approach to NAIT is to build functionality into databases, so that additional functionality can be added relatively easily over time, when needs justify inclusion of that information in NAIT. Information may also be held initially for industry needs only, but may be later mandated by the Crown or as a condition of supply if this becomes necessary. The governing body of NAIT will have responsibilities to oversee these decisions.

Not all of the built-in functionality will be rolled out in the first phase of NAIT implementation. Rather, the NAIT parties prefer an incremental approach so that the core information needs are protected and the quality of the data is maintained. Other functionality (such as described below) may be added subject to the development of a business case approved by the governing body of NAIT (Appendix Two).

Other species

It has always been the intention of the NAIT partner organisations (see page 11) to include other livestock species in the system. The proposed NAIT functionality protects this option. Each livestock sector will need to determine its own animal identification and traceability information needs and to implement them at an agreed point. A fundamental question will be whether individual or flock/herd identification will be required to better manage biosecurity, market access and other risks/opportunities in other livestock sectors. Decisions made around official schemes and information requirements for market access are also likely to set some of these timeframes.

The governance and funding arrangements for NAIT will need to evolve over time to reflect additional livestock sectors being brought under the NAIT framework. In the 2005 consultation document, indications of interest were received from the poultry, pig and sheep sectors. The equine industry may also have an interest now that passports for horses will be required by the EU and following equine influenza outbreak in Australia. This interest will further be explored starting with this document.

Imported animals

Live animals imported to New Zealand must be tagged and traced under the Biosecurity (Imported Animals, Embryo and Semen Information) Regulations. The NAIT parties have agreed in principle that these systems will be incorporated into NAIT in a subsequent roll out. Specific work on how this will be done has not yet started. In the meantime, NAIT will be built to have the functionality to record if an animal has been imported.

Hormone Growth Promotant tags

Animals treated with HGPs are not allowed to enter the food chain of some markets (e.g. the European Union). This represents some 70 000 treatments per annum in New Zealand and is supported by the requirements of the Animal Products (Hormonal Growth Promotant Specifications) Notice 2004. Opportunities exist for NAIT to incorporate these requirements. Specific work on this has started, and NAIT will have functionality to record HGP treatments.

Appendices

APPENDIX ONE: GLOSSARY

AHB	Animal Health Board Inc, the pest management agency for the Tb Strategy (see Bovine Tb). The AHB attends all NAIT TAG (see below) meetings as an observer.
Animal	Unless specifically referred otherwise all references to animals in this document refer to cattle and farmed deer.
Animal identification device	A physical device, usually an ear tag, tail tag or bolus that holds information that links an animal to an identification system by way of an identification number. Under NAIT, the primary tag will be an RFID ear tag (see RFID) with a secondary visual ear tag linked by identifiers to the RFID.
Animal identification	The combination of the identification and registration of an animal individually, with a unique identifier, or collectively by its epidemiological unit or group, with a unique group identifier (source - OIE).
Animal identification system	The inclusion and linking of components such as identification of establishment/ owners, the person(s) responsible for the animal(s), movements and other records with animal identification.
Animal traceability	The ability to follow an animal or group of animals during all stages of its life.
ASDs	Animal Status Declaration forms – requirements under the Biosecurity Act and Animal Products Act for the declaration of the status of cattle and deer in respect of Tb (and accompanying all movements of animals) and in respect of the status of specified animals (including cattle and deer) going to processing plants are outlined on ASD forms. ASDs support Tb management and market access requirements.
Biosecurity	The protection of New Zealand's economic, environmental, social/cultural and human health values from risk organisms (see biosecurity response below) and encompasses actions taken offshore, at and beyond the New Zealand border.
Biosecurity response	Actions taken immediately before, during or directly after a risk organism (an organism either already present in, or new to New Zealand that poses a potential biosecurity risk, and includes genetically modified organisms as defined in the Hazardous Substances and New Organisms Act) where management of the risks posed by that organism is considered appropriate. This includes investigation of suspect risk organisms, identification of the pest or disease (if possible), containment, and initial assessments of the organism's impacts and response options. A response may also be initiated with the impacts of the risk organism have increased, or new response options become available, that make a response feasible (source – MAFBNZ).
Bobby calves	Calves that are less than 30-days-old that are going directly from the property of birth to slaughter and are identified by a recognised commercial system. Calves going to other than a place of slaughter will be tagged using NAIT tags irrespective of age.
Bovine Tb/ Tb	The bacterium <i>Mycobacterium bovis</i> (bovine tuberculosis), a disease of cattle and deer that is present in New Zealand and subject to a national pest management strategy under the Biosecurity (National Bovine Tuberculosis Pest Management Strategy) Order 1998, currently aimed at reducing Tb-infection in cattle and deer herds to 0.2% by 2013.
BSE	Bovine spongiform encephalopathy (also called "mad cow disease") a transmissible disease of cattle, predominantly transmissible through infected feed.
DCANZ	Dairy Companies Association of New Zealand - a NAIT partner organisation representing the dairy industry along with DairyNZ (the industry good organisation that replaced Dairy Insight in November 2007). www.dcanz.com
DINZ	Deer Industry New Zealand – a NAIT partner organisation representing the deer industry. www.deernz.org
FMD	Foot-and-mouth disease, a highly contagious disease of cloven-hoofed animals including cattle, deer, sheep, goats and pigs. Has never occurred in New Zealand.
Freedom status	The status that reflects the absence of an organism (nationally, in an areal zone or within a target population of a host species (compartment)). For animal pathogens, it requires demonstration that all requirements in the OIE <i>Terrestrial Animal Health Code</i> for free status being met.
HGPs	Hormone Growth Promotants. Animals treated with HGP must be identified at slaughter so to exclude from the European Union.
MAF	Ministry of Agriculture and Forestry, including MAF Biosecurity New Zealand – a NAIT

M&WNZ	partner organisation. www.maf.govt.nz , www.biosecurity.govt.nz Meat & Wool New Zealand Ltd - a NAIT partner organisation representing the beef, sheep and fibre industry. www.meatandwoolnz.com
MIA	Meat Industry Association – a NAIT partnership organisation representing the meat processors. www.mia.co.nz
Movement	When an animal is moved from one location to another. A movement starts when the animal is dispatched from the sending property and continues until it arrives at the receiving property. A movement from a farm to a saleyard and onto a processor would comprise two movements. It does not include animals moved within the same contiguous boundaries of the same property, or to sub-locations of the same property within a 10 km radius, unless the person in charge of the animals changes.
NAIT	National Animal identification and Tracing. This also refers to the NAIT project (to establish NAIT), and the NAIT system, including database repository of the same name.
NAIT data	The common data held and managed by NAIT that is required by all parties (see page 12 and Appendix Two).
NAIT Governance Group	Senior management representatives from NAIT partner organisations working within an agreed Terms of Reference as outlined in the jointly signed Memorandum of Understanding dated 20 April 2007. The group has an independent chairman (Ian Corney).
NAIT Partner organisations	These are DCANZ, DairyNZ, DINZ, Federated Farmers of New Zealand Inc., M&WNZ, MIA, MAF and NZFSA as defined in the Memorandum of Understanding between the parties. Other organisations can become members of NAIT by application to the NAIT Governance Group.
NAIT standard	Standards that will be approved by the governing body to meet the performance requirements of NAIT. The first standard to be introduced will be for the NAIT tag to enable these tags to be purchased during the industry phase.
NAIT tag	An RFID tag, that conforms to the NAIT RFID standard. Under NAIT it will initially be introduced as a secondary tag into the official schemes currently approved under the Biosecurity Act. By 2013, the NAIT parties aim for sufficient infrastructure for reading tags to be available for the NAIT tag to meet multiple tagging purposes, removing the need for a two-tag official ID.
NAIT Technical Advisory Group	The Technical Advisory Group established to provide advice to the NAIT Governance Group and comprising representatives from all the NAIT partner organisations. While not a decision-making body, it acts as the de facto NAIT project team. AHB attend TAG meetings as an observer, but participates in all discussions.
NZFSA	New Zealand Food Safety Authority (previously a part of MAF but now a stand alone government agency responsible for food safety) - a NAIT partner organisation. www.nzfsa.govt.nz
OIE	The World Organisation for Animal Health is the intergovernmental organisation responsible for improving animal health worldwide. It is recognised as a reference organisation by the World Trade Organization, and produces the OIE <i>Terrestrial Animal Health Code</i> which sets out the obligations and requirements of its member countries (New Zealand is a member). Animal identification and traceability is one of the sections in this code. www.oie.int
Pest Management	Management of existing/ endemic pests to New Zealand, including animal pathogens and diseases such as Tb. This may be by way of a co-ordinated programme at national, regional or industry level, or left to individual persons to manage on-farm.
Property	Parcel or parcels of land that are associated with a single farming business that are within a 10 km distance from the main farm. These will be uniquely identified with a property location number (PLN). For livestock properties it will specifically refer to places where animals can be held or kept.
RFID	Radio frequency identification. See also http://en.wikipedia.org/wiki/RFID . Ear tags with an embedded RFID transponder chip containing, as a minimum, a uniquely numbered identifier, is becoming the preferred standard for individual animal identification.
Surveillance	The investigation of a given population or sub-population to detect the presence of a pathogenic agent or disease, the frequency and type of surveillance will be determined by the epidemiology of the pathogenic agent or disease, and the desired outputs (source – OIE).
Transition point	Also called resting point. A place where the journey is interrupted to rest, feed or water the animals, the animals may remain in the vehicle/ vessel or container, or be unloaded for these purposes (source- OIE).

APPENDIX TWO: NAIT DATA

The information (called the “NAIT” data) will be collected and held on NAIT are summarised in Table 3. The data sets are categorised as:

- **Initial implementation** – data that will be collected and held on NAIT in the first roll out of the NAIT system.
- **Future capability** – data that will not be collected and held on NAIT in the first roll out (Future capability). Instead, provision to include in the future would be built into the capability of the NAIT system. Inclusion of this information would be subject to approval by the governing body of NAIT when appropriate and supported by a business case that demonstrates:
 - NAIT as the most suitable system for the collection and maintenance of the information;
 - the proposed additional information/functions do not compromise existing NAIT functions; and
 - how this additional functionality would be funded by those wanting the information.

The holding of some information on NAIT may be required to support the functionality of the system. An example of this is recording the time of animal movements. Provided NAIT records the sequence of animal movements (i.e. from property A to property B to property C, etc), recording the actual time of movements is likely to be unnecessary. The view of the parties, however, is that it is easier to build the capability in initial NAIT design and build, and switch on the requirements if needed, than to try and retrofit requirements later. Piloting of the NAIT system will also refine specific data requirements as will further work on the business processes supporting NAIT.

Table 3: Data items to be included in NAIT initial rollout and that could be included in future

Initial Implementation	Future Capability
<p>Locations</p> <ul style="list-style-type: none"> - 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 	<p>Locations</p> <ul style="list-style-type: none"> - 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 <p>* Required but may be sourced from MAF spatial database</p>
<p>Animals</p> <ul style="list-style-type: none"> - 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 	<p>Animals</p> <ul style="list-style-type: none"> - Carcase condition score i.e. below welfare code minimum - Carcase kill data - Gender
<p>People connected with a location</p> <ul style="list-style-type: none"> - 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) 	<p>Health treatments/veterinary medicines</p> <ul style="list-style-type: none"> - 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 <p>**MAF mandated requirements for statutory declarations derived from treatment records</p>
<p>People connected with animals</p> <ul style="list-style-type: none"> - 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) 	<p>Supplementary feed</p> <ul style="list-style-type: none"> - List of feed types included in the NAIT system - Manufacturer and/or supplier - Date and amount of product brought onto the location <p>Subject to Business Case being approved by NAIT</p>

Initial Implementation	Future Capability
<p>People connected with animals (continued)</p> <ul style="list-style-type: none"> - Animal movements and transportation - Date that movement commenced - Time that movement commenced* - Date that movement was completed - Time that movement was completed* - 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) <p>*Process mapping and system design will define if these are required</p>	
<p>Selected diseases and pathogens*</p> <ul style="list-style-type: none"> - 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 <p>* Subject to BNZ, Industry and scheme operators producing business case for inclusion on a specific disease by disease basis</p>	
<p>Electronic vendor application – ASD*</p> <ul style="list-style-type: none"> - 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? <p>*Compulsory check boxes – user must choose either Yes or No for each item</p>	

Questions and Answers

What is NAIT?

The National Animal Identification and Tracing project (NAIT) started in April 2006. Its purpose is to develop a universal livestock identification system, supported by a core registry of data that links people, property and animals.

Why develop a new system?

New Zealand's present official systems for animal identification are adequate. Changes are needed, however, to answer increasing demand for traceability from international and domestic consumers, to provide tracing of stock to cope with disease outbreaks and to provide other on and off- farm purposes.

The processing and exporting sectors are reporting ever-increasing demands for information, including animal-raising methods and health status. Systems for biosecurity (around bovine tuberculosis) and market access (e.g. hormone growth promotants, imported animals) currently operate separately. While each works effectively for its own purpose, it would be beneficial to have a single national farm and core animal data system for all traceability requirements.

Will it include all livestock?

Cattle and deer are the first focus because they are already included in mandatory animal identification schemes under the National Bovine Tuberculosis Pest Management Strategy. However, to manage biosecurity risks, it is important to create a system that enables the tracing of other species. The system will be designed to allow other livestock sectors to be added when and as appropriate.

Why aren't sheep included?

NAIT acknowledges the importance of sheep and other species in the traceability scheme. Sheep were not included in the initial focus because cattle and deer identification is already in place under existing mandatory identification requirements.

What requirements will be imposed by NAIT?

Farmers will need to:

- ensure all cattle and deer are tagged with a NAIT-approved tag;
- record all animals onto the NAIT database either themselves or through a third-party;
- notify NAIT of all farm-to-farm animal movements.

Processors will be required to record the receipt of all cattle and deer into their processing facilities, and provide the date of slaughter and other details for electronic transfer to the NAIT database. Farmers sending animals directly to slaughter will be able to leave recording of the animal and movement details on NAIT to approved processors.

Saleyards will need to record the receipt and dispatch of all cattle and deer and provide the date of transactions and other details (e.g. ownership transfer and individual animal ID) to the NAIT database. Farmers sending animals to, or purchasing animals at, NAIT-approved saleyards will be able to leave recording of the animal and movement details to the saleyard operator.

Transporters, drovers and anyone moving animals will be required to record transition points where animals are unloaded for consolidation with other mobs, for new transport arrangements, or when overnighing on a long haul.

Parties will still need to comply with existing regulations and schemes (e.g. for bovine Tb, hormone growth promotant treatments, imported animals, and in respect of Animal Status Declaration forms). Existing industry recording systems will continue largely as before.

I'm a small-block owner with one or just a few cattle - how will I be affected by NAIT?"

You will have the same NAIT obligations as for other owners/persons in charge of larger herds. It is anticipated that service providers (stock and station agents, transport operators, etc) may offer services that include the meeting of NAIT requirements. A group of small-block holders might also consider sharing equipment to meet NAIT requirements.

I'm a farmer - How will I get my information onto NAIT?

You will be able to access NAIT on-line via a computer, via your approved third-party service provider, or by telephoning the NAIT helpdesk (there will be a small charge for this service).

Do all animals need to be tagged?

Under NAIT, only cattle and deer will be required to be tagged, at least initially. The current rules around the identification of animals for bovine Tb purposes, under the MINDA scheme, for imported animals and for HGP-treated animals will continue to apply. NAIT will set some additional new requirements:

- All cattle and deer will have to be tagged with a NAIT-approved tag (this tag can meet secondary tag requirements of current official schemes).
- The animals must be tagged within three months of their birth, or at the time of first contact (whichever comes first).
- The animals must be tagged prior to the animal's first movement regardless of age. The only planned exception is for calves less than 30-days-old going directly to slaughter.

Do I need to tag bobby calves?

The existing commercial schemes for payment purposes are considered adequate for traceability of calves less than 30-days-old going directly to slaughter. Such animals will not be recorded on NAIT (although provision to do so will be built into the system) as any biosecurity/infectious disease risk from these calves is minimal. However, for calves going to other properties and calves 30 days or older, RFID tagging and recording on NAIT will be required as for other cattle and deer.

What is RFID and where does it fit into this?

Radio frequency identification devices (or RFIDs) are electronic tags that emit radio signals that can be read by special readers, therefore eliminating the need for manual data entry. The RFID tags in use on NAIT contain only an identification number; any information about the animal will be stored on a database and linked to the animal's RFID identification number.

RFID is used in other countries with animal identification systems. The NAIT Governance Group is keen to ensure the NAIT system is based primarily on RFID tags for cattle and deer. To that end, RFID will be introduced via existing official animal

identification schemes and will become regulated for cattle by 2011 (with deer at that time or shortly after, once RFID for deer is fully field tested).

Can all information stay with the animal i.e. on an embedded microchip?

No. At this point, and with current technology, it is more efficient to record and modify data in a database than on individual tags. In addition, if information able to be recorded onto the tag there is a greater risk that the information could be tampered with.

My animals go directly-to-slaughter now. Will I be able to use a direct-to-slaughter tag?

With the exception of calves under 30 days-old going directly to slaughter, all cattle and deer will need to be individually tagged and recorded onto the NAIT database. Under the NAIT system we will want to know where all animals are at a given point of time, including the farm of origin. This is needed in the event of a biosecurity outbreak so that at-risk animals can be identified quickly. It will also enable us to provide assurance to markets that we have whole-of-life traceability. See also, “Do I need to tag bobby calves?”

Can I use tail tags?

No, not as official tags.

What happens to the tags when the animal dies/is slaughtered?

Most overseas animal identification systems use the unique identifiers only once to maintain the integrity of the system. The death or slaughter of all animals registered in NAIT must be recorded. Re-use of tags for some animal species may be considered as a future enhancement, but not in the first roll out of the system.

Will farmers and processors have any input into the system design?

Yes. Farmers and processors are currently represented on the project by their respective industry organisations, which participate in project development and all major decisions. This public document, *National Identification and Tracing – Enhancing New Zealand’s animal identification and tracing systems*, seeks feedback from all interested parties on the proposed system design.

How will identifying my animals limit the spread and impact of a disease outbreak?

Recording individual animals (through unique identification) and whole-of-life movements in a central database will mean an infected or suspect-infected animal and associated animals can be located faster during a biosecurity response. It will also help to identify animals associated with the infected animals. The faster and more effective the initial response, the quicker we will be able to limit the spread of the disease and demonstrate to trading partners that all potentially infected animals have been traced (preferably within 48 hours for diseases such as foot-and-mouth disease) – thus limiting the impact on trade.

What are the ‘on-farm’ benefits?

The on-farm benefits of technology utilising RFID include accurate recording of production details about individual animals and using this data on those animals to support management decisions. The uses may include regularly weighing animals to sell at optimum individual weight, tracking treatments, recording breeding information, and measuring milk production. RFID also supports automatic drafting out of animals that meet pre-defined conditions. To gain on farm benefits, farmers will need a further investment in technology (for example RFID readers and software).

What will you do to make sure my information is only used for the purpose for which it was gathered?

The system will operate with very strict rules governing who have access to the data and how it can be used. Access issues and the security of data have been a fundamental design consideration.

How will NAIT fit with other official identification schemes?

NAIT tags will be incorporated into other official identification schemes. As a result a two-tag scheme will initially operate. The aim is to move to a single tag for all official purposes by 2013.

Will there be a transition process between the current and new systems?

Yes. Implementation of the NAIT system is intended to be a staged process. The system will operate initially on a non-mandatory sign-up basis in order to bed down systems and processes it is regulated in mid-2011.

Will I still need to complete an Animal Status Declaration Form (ASD form) for farm-to-farm transfers and direct-to-slaughter movement of animals?

Yes, in the short term. However, the NAIT system will enable ASDs to be partially completed (using information held on NAIT) on-line, starting from the initial sign-up implementation of NAIT in 2009.

How long is all this going to take?

It will be late 2009 or early 2010 before a full movement database system can be deployed – and three years to put in place the supporting regulatory framework for full compliance to be achieved.

Tagging of cattle with NAIT-approved RFID can start under current schemes as soon as the device standard is signed off and existing scheme administrators have adjusted their schemes accordingly. The deer industry will follow once the RFID technology has been proven for deer in the field, and industry consultation has been completed. Deer and cattle farmers will be able to sign-up for the system at any stage once the NAIT databases and interfaces have been built.

The NAIT parties want to ensure that any new system causes as little disruption to industry as possible. Detailed planning has been undertaken. To ensure a smooth transition, implementation will only occur once the system is sufficiently developed and tested. The project is currently in the design phase. During this phase industry will be asked about its technical system requirements, and public consultation on the system will take place.

Why is the sign-up period so long?

While animals can start being tagged under existing schemes from mid-2008, the databases and interfaces to support NAIT, apart from the national RFID tag registry implemented in June 2008, will not be in place until early 2010. Changes to legislation will need to be proposed, drafted and taken through a Parliamentary Select Committee where public submissions will be sought and the issues debated. While this process could start in the first half of 2009 (following completion of design), unless dealt with ‘under urgency’ legislative change will take at least a year (estimated mid-2010). Supporting regulations would then be prepared (estimated six months) and a lead-in time for full compliance of six months (mid-2011).

How do we ensure NAIT stays up to date?

NAIT will only work if the information held on it remains reliable and as complete and current as possible. To maintain high-quality data, a number of features and requirements have been built into the NAIT design, including:

- using existing credible data sources to reduce additional administrative burden;
- making it a legal requirement for the submission of data within defined time periods;
- augmenting existing requirements of users, rather than replacing systems;
- providing a range of methods for uploading data;
- keeping the costs of uploading data low;
- use of technology to automate animal recording, thus reducing manual error;
- having functionality built into NAIT so it can be “switched on” quickly if needed;
- providing clear rules and standards for universal adoption, but with some flexibility so those rules can be changed as technology and circumstances change;
- having validation of data built into processes to manage data quality risks; and
- designing NAIT as an enabling system, to support other information needs.

For additional questions and answers please refer to www.nait.org.nz/resources.

Submissions

National Animal Identification and Tracing – Enhancing New Zealand’s animal identification and tracing systems

Office use only

Submission number	_____
Date received	_____

This form is included to assist you. Submissions in another format are welcome, as are any additional or general comments. You may also continue your response on a separate sheet where needed. So that you can be contacted for further information and clarification please provide the following details:

Name	_____
Organisation/Company	_____
Address	_____ _____
Phone	() _____
Fax	() _____
Email	_____

Privacy Act

In preparing the summary of submissions, the National Animal Identification and Tracing Governance Group may want to attribute specific statements to an individual or organisation. If you do not want to be identified in the report please indicate by completing the following:

I do not wish to be individually identified in the summary of submissions	_____ (Signed)
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The closing date for submissions is **Friday, 1 August 2008**. Please send your submission to:

National Animal Identification and Tracing
Susan Keenan
MAF Biosecurity New Zealand
PO Box 2526
Wellington

Please indicate your main areas of interest relevant to animal identification and traceability systems: (*tick one or more boxes as applicable*)

- | | |
|------------------------------------------------------------|-------------------------------------------------------------------------|
| <input type="checkbox"/> Cattle / Deer owner / Manager | <input type="checkbox"/> Other livestock sector (e.g. pigs, sheep, etc) |
| <input type="checkbox"/> Animal products processing sector | <input type="checkbox"/> Animal products exporting sector |
| <input type="checkbox"/> Stock and station agent | <input type="checkbox"/> ID system service provider |
| <input type="checkbox"/> Database service provider | <input type="checkbox"/> Industry association |
| <input type="checkbox"/> Other (please specify) | _____ |

Please answer the following as clearly as possible:

Do you have any information or suggestions that you feel NAIT should take into consideration when setting up this system?

What other data that is not discussed in this document do you feel should be collected?

What views do you have about the proposal to require the inclusion of deer on NAIT under regulations from 2011?

Have we achieved a pragmatic balance between the level of proposed compliance required to ensure NAIT meets biosecurity, market access and other regulated needs and NAIT being able to support other on-farm and off-farm information needs?

- Yes
- No
- Not sure

We have identified ways in which we propose to ensure that animal identification and movement information is recorded, including who is responsible. Does this approach make sense and what will this mean for participants?

What other rules and incentives can you suggest so we can ensure that the information on NAIT is kept accurate and up-to-date?

What are your preferred methods for raising industry funds to support the establishment and ongoing costs of the NAIT system?

- Cattle levy
 - Tag levy
 - Direct contributions
 - Movements levy
 - Other (please describe)
-
-

What may need further work to ensure a smooth transition between current systems and the new NAIT system?

The proposed transition to NAIT is by way of an initial non-mandatory sign-up phase, before the NAIT requirements are regulated by 2011. What is the likely interest in starting to register animals, record movements and other information before it becomes compulsory?

- Yes, I plan to register animals as soon as NAIT is available on-line
 - Yes, I plan to register animals and record movements using NAIT when available
 - Yes, I am interested in using full NAIT functionality, when available
 - No, I will wait until it becomes regulated and compulsory
 - Not applicable to me (I do not own or keep cattle or deer)
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In your opinion, is there anything else in the concept design that we may have overlooked and needs further consideration before we proceed with building NAIT?

If you are a farmer, are you likely to purchase RFID readers?

- Yes, for my own properties
 - Yes, if I can come to a sharing arrangement with other parties, e.g. other farmers
 - No, I will prefer to engage a service provider, e.g. stock agent or trucking company who can read my animals' RFID
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