

Advancing Animal Disease Traceability Roadmap for Hawaii

A Three-Year Plan

Submitted by:

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4/15/2021

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I. EXECUTIVE SUMMARY

Hawaii's role in the process of animal disease traceability is unique when compared with the U.S. continental states. Due to the location in the Pacific, transit times are more extended than interstate road trips, however, with increasing speed of tanker ships it has been found that disease agents can survive and find new hosts, a capability that was not there a generation ago. Hawaii is committed to supporting the efforts of USDA to mitigate the potentially devastating impact of a foreign animal disease event. The mission of the Animal Industry Division (Division) is to detect, diagnose, prevent and eradicate animal diseases of high consequence that impact animal and public health. Participation in the Animal Disease Traceability Program is designed to increase the state's capability in tracing diseased animals to their farm of origin and identify any potential cohorts. Hawaii has a diverse livestock industry although it is relatively small in comparison to other states.

Since traceability is a key component for protecting and limiting the costs to industry associated with an animal disease outbreak, a strong educational program needs to be a component of this program. The need for change must be understood and supported by all stakeholders to have a successful program. In this state we have been very successful in the eradication of several federal program diseases and have achieved a "Free" status with both Brucellosis and Tuberculosis. This often leads to complacency by producers as there has been a resulting decrease in testing and tagging requirements for animal movement. Maintaining a strong outreach program and regular field visits provides opportunities to remind producers to maintain diligence in protecting against disease incursions even if there is perceived reduced risk from infectious disease outbreaks.

Our current disease traceability process is still heavily reliant on searching through paper documents for international and interstate certificates of veterinary inspection (CVIs). In addition, the institutional knowledge of experienced employees with the Animal Disease Control section continues to be a valuable tool when searching through records. Recent changes in personnel have reinforced use of standardized procedures for initial investigative procedures and continued evolution of incorporating data applications that are connected through internet services and make the information more easily accessible by field personnel.

The Division continues to work on integrating the existing databases currently used by the animal disease control staff with available systems such as SCS. Our agency continues to input data into SCS moving towards a goal where use of the local databases becomes minimal and migrate all tasks to SCS with great accessibility for personnel on the other islands that are also performing inspection and tag distribution activities.

The Division relies heavily on federal cooperative funding to support the administrative functions, personnel and activities associated with the Animal Disease Traceability (ADT) regulatory requirements and policies.

II. CURRENT TRACEABILITY SITUATION

2.1 Who Are We?

The Animal Industry Division of the Hawaii Department of Agriculture is dedicated to the mission of detecting, diagnosing, controlling and eradicating diseases of animals that have high consequences that impact the economy, industry or public health.

Within the Division, livestock movement and disease control fall under the Animal Disease Control Branch and the Veterinary Laboratory. Within the Animal Disease Control Branch there are field group spread across three counties and the Receiving, Inspection and Compliance Section that operates at the main point of entry, the Daniel K. Inouye International Airport.

2.2 Where Are We Now?

The Division uses a variety of methods to track livestock movement that are tied to traditional paper based methods. The two primary forms used to track in-state movement are the Livestock Ownership/Movement form (DC-44) and the Permit to Ship (DC-8). Statutes authorize use of the Livestock Ownership/Movement Form to establish ownership for animals during transport when questioned by authorities to prevent rustling. The Permit to Ship is the permit issued for animals moving out of quarantine zones and for inter-island transport.

Livestock that enter the state are required to have individual identification. Unique individual official identification is required for import with the exception of horses. Horses are identified by color and markings as established on test charts. In addition to individual ID, swine are required to have a permit issued for entry.

Certificates of Veterinary Inspection (CVI) are submitted to the Division ahead of imported animals for review and provides an opportunity to guide producers through the importation process as well as educate them on post arrival inspection and testing requirements. The information is manually entered and stored in local databases. If information needs to be shared with field staff, email and fax are used to for communication.

Exportation of livestock are accompanied by a CVI issued by the Animal Industry Division. These are paper based carbon forms with unique tracking numbers assigned to each form. Information is manually entered and stored in local databases. Appropriate copies are forwarded to the state of destination.

For disease investigations and surveillance testing, state animal health officials will assign a premises identification number (PIN) as needed and apply official identification which assists with follow up visits and are listed on official test charts.

Field veterinary staff are equipped with RFID readers to capture applied tags for disease surveillance purposes. The ease of capturing the ID numbers and input them electronically into test charts increases efficiency and reduces transcription errors.

Similar to the process undertaken during National Priority Trace tests, if the Hawaii State Veterinarian is notified of a tag number for the animal being investigated other activities are suspended to devote focused time on tracing the animal. The limiting factor is the quality of the information on the CVI and the speed in which that information can be

retrieved.

Over the last few years, our agency has been increasing use of SCS CoreOne to aggregate data. As a web-based application, information is accessible statewide which is more convenient than having data locally held with heavy reliance on Oahu based personnel to distribute information.

2.3 Strengths and Weaknesses

The strength of the animal disease traceability program is tied to the presence of experienced personnel within the Animal Disease Control Branch. These key individuals have established relationships with the limited number of transport companies that move the animals. Once the animals have entered, the relationships assist with finding where the animals may have gone once the quarantine or follow up activities have been completed. Use of established relationships in combination with Hawaii's relative small size helps efficiently trace animals that are involved with disease investigations. Due to small staff size, information can be shared and transmitted to field offices that would be involved in trace-outs from index farms and follow up testing.

Weakness that can impact our ability to locate animals in a timely fashion include having incomplete data regarding animal location or unreported ownership changes that may have occurred. In addition, a heavy reliance on the institutional knowledge of established and experience personnel without clear line of succession for operations. The established relationships of these individuals and their ability to communicate with established local producers factors heavily in the speed of identifying trace-outs during a disease outbreak. When continuity is interrupted due to unexpected personnel changes, re-establishing the level of trust takes time.

2.4 Opportunities and Threats

Three main opportunities have been identified during the next three operational years.

First, educate producers through continued dialogue and outreach events. The impact of COVID-19 has been a suspension of in-person meeting events which will have required pivoting to utilize virtual opportunities.

Second, implementation of premises identification assignment for disease investigations. Standard procedure is to assign a premises identification number when surveillance testing detects presumptive positive results for notifiable disease such as swine Brucellosis. In the event a result is confirmed positive, work can immediately begin to clean up the herd rather than waiting for a number to be assigned. This process also facilitates tracing-outs from the index herds. With identification of populations at risk, the quality of the response will be improved.

Finally, expand use of SCS CoreOne with enhancements that increase ability for producers to share information through electronic forms and direct transmission of data to the Division.

Threats are related to acceptance and wariness of the producers in participating in government regulatory activities. Cost associated with tag application and review of movement documents that may cause disruption of commerce can lead to reluctance in seeing the over-arching advantages in participating in the process. The new threat identified in the last two years, has been the impact of the COVID-19 pandemic on the

agency's ability to perform disease surveillance activities when public health lockdowns occurred. Travel shutdowns were especially difficult in a state with counties on different islands where air travel is essential. These changes have led to delays in routine surveillance activities and greatly impacted planned outreach events. Operations continue to address safety concerns for employees and producers with changes in procedures and policies based on public health guidance.

2.5 Inventory of Existing Infrastructure and Suitability Assessment

Currently our primary field staff consists of seven Veterinary Medical Officers and 7 Livestock Inspectors. The Veterinary Medical Officers are located across the state while the Livestock Inspectors are located on the island of Oahu.

Honolulu, on the island of Oahu, is the main port of entry into Hawaii however in recent years there has been increased livestock traffic permitted to arrive on the neighbor islands of Maui and Hawaii island. Staff located on those islands will meet them upon arrival to conduct inspection, review documentation and provide instruction on post arrival regulations. Each field office is equipped with tag readers to support animal identification efficiently.

There is sufficient bandwidth available at office locations, however, connectivity in the field can be limited due to areas of inadequate internet access in the state. There currently are limited funds available to increase IT infrastructure for needed storage space and support for an automated data capture system.

Paper documentation gathered from field operations are returned to the administrative office on Oahu for review, data transfer and archiving. At this time, data is transferred to existing local databases and uploaded to SCS CoreOne. As more private practitioners use eCVIs it is expected use of SCS CoreOne will continue due to the availability to field offices. Paper record destruction is governed by the Office of Information Practices with specific guidelines on retention.

III. VISION AND MISSION CONTEXT FOR ADVANCING TRACEABILITY

3.1 Vision Statement

Be able to identify a location involved in any disease situation within 48 hours of notice and move necessary resources into place in order to begin control of the matter.

3.2 Mission Statements

Mission statement for Animal Industry Division:

The Animal Industry Division is charged with safeguarding the State's livestock and poultry industries by controlling and preventing the entry and spread of pests and diseases; operating the rabies quarantine program; conducting investigations into violations of animal quarantine/importation statutes; and providing veterinary laboratory support for diagnosing animal diseases.

Mission Statement for Animal Disease Traceability Program:

The mission for animal disease traceability is that state animal health officials is to work collaboratively with all stakeholders to continually improve methods and policies that support animal disease traceability to reduce the economic and social impact of animal diseases of high consequence.

IV. TRACEABILITY REQUIREMENTS

4.1 Strategic Goals

To build upon and continue to develop and implement a State-wide animal disease traceability infrastructure that identifies animals and correlates that information with movement information to give confidence to producers and consumers through our ability to identify and mitigate animal disease outbreaks.

4.2 Programmatic Goals (Objectives)

- Over the next three years our goal is to increase the electronically collected data on ownership and movement of animals through a combination of manual data entry and automated data transfer from electronically generated sources such as eCVIs.
- Continue to integrate existing legacy database system information into USDA approved system, SCS CoreOne. Working towards the goal of ending use of legacy systems and use of approved systems that will enhance ability to share pertinent information staff statewide and other state animal health officials.
- Integrate surveillance and traceability data through CoreOne integration.
- Enhance CoreOne usability through creation of electronic forms to augment paper-based in-state movement forms currently in use. Use of electronic forms will directly communicate with SCS CoreOne systems and increase compliance by producers to notify the Division of livestock movements within the State.
- Provide education to accredited veterinarians on electronic gathering and reporting for movement and testing to facilitate animal movement.
- Attend association meetings as well as livestock events throughout the state as presenters or exhibitors to educate producers on the need for ADT and how this benefits the industry.

4.3 Animal Disease Traceability Performance Measures

It is our goal maintain the current ADT process which currently takes approximately 48 hours to complete. Having established, experienced personnel has been a key component to the success of the tracebacks performed.

The program is looking to ways to continually improve documented procedures to facilitate training of new employees when that becomes necessary.

4.4 Data Requirements

Hawaii is using standards which were created by the USDA under the NAIS system for determination of locations and there is no foreseeable change in this in the near future.

Official ID in Hawaii consists of NUES tags and 840 tags as well as registered tattoos when the complete registration number is recorded on the CVI and is accompanied by the registration paperwork. Registered brands will be used for animal identification for intrastate movement.

Currently tags are applied by accredited veterinarians, state veterinary or livestock staff, as well as producers that order their own 840 tags and scrapie tags.

Imported livestock are required to have official identification for entry into Hawaii.

4.5 Information Technology Plan

Over the next three years our goal is to increase the electronically collected data on ownership and movement of animals and synthesize existing data.

- Integrate information gathered from eCVIs in StateVet.com and move them into SCS CoreOne.
- Aggregate official testing data within CoreOne to increase usefulness as an information resource.
- Increase functionality of CoreOne through introduction of an electronic form that collects the same data written on the DC-44, Certificate of Livestock Ownership/Movement. The form is required to be returned to the Division upon completion, however compliance is low due to the need for the form to be mailed back to the office. With use of an electronic form, it is expected compliance to improve greatly as producers will be able to submit the form from a smart device or computer.

4.6 Resource Requirements

The Hawaii Department of Agriculture shares IT personnel among all the Divisions. Continued federal support for CoreOne will assure that use of the system and migration of movement data continues to be uploaded to the system. Providing funds to further enhance the system and tailor input that closely resemble locally used forms or the ability to incorporate laboratory testing data would greatly enhance the functionality of the CoreOne system. The State does not have funding to support this type of integration.

4.7 Organizational Needs

4.7.1 Executive Support

Animal disease traceability is the cornerstone of a disease outbreak investigation and management. Strong support from existing Division administration exists because the presence of a traceability systems provides reliable information on disease situations, provides planning and management strategies which identify support services. This information is valuable when requesting funding and personnel support and determining when resources outside of the Division are necessary or if emergency declaration from the Governor is needed to open up other avenues of funding.

4.7.2 Coordination and Oversight Procedures

The Office of the State Veterinarian coordinates and oversees the current plan and will continue to do so going forward. The Division administrative office works in

close contact with the Animal Disease Control Branch that receives movement information and the Veterinary Laboratory that performs official testing and recordkeeping.

Staff are spread across a state of islands, generally, primary duties are often over seen by one individual, tasks are often shared so there is a continuity of duties should it be needed. Heavy reliance on voice and email communication to relay information is critical to daily operations.

4.7.3 Policy

Use of premises registration and official identification of livestock is mandatory during disease investigations. By statute, cattle, sheep and goats are required to have individual official identification for import. Swine imports must obtain a permit for entry and comply with traceability rules for interstate movement.

4.7.4 Staffing

Currently personnel share duties associated with animal disease traceability. Livestock Inspector and veterinary medical officers will perform duties such as tag distribution and inventory, data entry, and outreach. Staffing undergoes continuous matriculation which has been especially high due to impact of the COVID-19 pandemic on state budgets and ability to hire.

4.7.5 Budget Requirements

ADT support for equipment, travel, and supplies are funded by the cooperative agreement. Continued funding for these items have worked out with due to sharing of duties among existing personnel. Increases in funding would likely go to further IT development and if applicable, allowing for integration of in-state used movement forms with data collection. It is expected that state economic health will decrease in the next few years, and it is important for federal funding to be sustained at its current level. Without the additional funds it will be difficult to maintain ADT activities, especially in light of the economic impact of the COVID-19 pandemic.

Funding Requirements

The current grant is \$24,408. Hawaii is dependent on federal cooperative support to advance ADT. Increases or decreases to cooperative funding will proportionally impact the level of resources provided to support roadmap objectives.

In the next three years, there is plan to utilize funding to enhance use of SCS CoreOne through enhancement of features withing StateVet.com. Both applications are provided by TraceFirst. Funding will be used to create an electronic form of a document used to track instate movements. Availability of the form is contingent on a subscription fee to StateVet.com. Continued availability of ADT funds will ensure availability of the electronic form. The subscription fee is expected to be between \$9,000 – 10,000 annually. This will capture a significant portion of Hawaii's allocated funds.

While not required under the grant, partial cost sharing is achieved via Animal Industry budgeted dollars being applied to support field personnel, all of whom do support this program through outreach, tag distribution and participation in traceability exercises.

4.7.6 Outreach

4.7.6.1. *Accredited Veterinarians*

Animal Industry has presented outreach materials at the annual meeting for Hawaii Veterinary Medical Association. This has been valuable in assisting local practitioners with evolving availability of electronic CVIs.

Animal Disease Traceability is presented during in-state accreditation meetings for veterinarians that may be involved with disease investigations and evolving ability of electronic CVIs.

4.7.6.2. *Livestock Markets*

Hawaii does not have livestock markets.

4.7.6.3. *Industry as a Whole*

The Animal Industry Division executes a number of programs for disease surveillance and control that require on-farm visits. During execution of these programs, animals receive official identification. Additional outreach is done at industry association meetings such as the Hawaii Cattlemen's Council Annual meeting and working with Cooperative Extension Service to provide information on correct identification requirements and movement rules.

Cooperation with Extension Services has extended the reach of information material at 4H and county fairs and individual producers that may not move animals but may find themselves involved in disease investigation surveillance zones.

4.8. Monitoring and Reporting Interstate Movement Activity

The Animal Industry Division receives paper CVIs generated by practitioners for outbound livestock. A multi-carbon form is separated with one copy maintained with the Division and a second copy sent to the state of destination.

Documents received for inbound movement include official test charts and official CVIs that detail animals being moved. All livestock imports are reviewed prior to entry to mitigate any issues since the cost and time involved with travel to Hawaii is greater than within the continental US. Swine and poultry imports require a permit for movement and is issued to the importer prior to the animals' arrival.

Increased use of eCVIs by practitioners will drive the need to receive electronic documents directly and provide easier search methods. A challenge with use of postal mail and fax processes has been lost documents or lack of verification of receipt. With electronic documents operated by another entity, credibility of whether an official document was issued correctly at the correct time can be documented by state animal health officials. This added information is helpful when assisting

accredited veterinarians in understanding movement regulations before animals are being transported instead of having hold orders implemented while documentation is reviewed.

V. TRACEABILITY IMPLEMENTATION

5.1 Ranking of Priorities for Advancement

The first years of the program have had many successes, yet there is still room for improvement in the identification of animal movement in and out of the state as well as intrastate movement of animals. We know that the use of an electronic database for the interstate movement as well as the addition of a program and devices to collect data and shift field inspection from a paper process to electronic will give us increased speed and accuracy in tracing animals. This will help us to obtain the goal of locating an animal that has come into the state or moved again through the state in less than 48 hours. Our priorities are:

- Maintain current ability to collect animal health movement information and to make it electronically searchable as funded.
- Shift use of electronic information for entry Livestock Inspection from a paper process to electronic data collection using electronic data capture devices and programs to increase availability of electronically searching intra and interstate animal movement.
- Utilize cooperative resources to support data entry and staff to train electronic gathering officers on the equipment to gather movement information or performing data entry for field operations when that capability comes online.
- Provide outreach and education to veterinarians and livestock associations to advance ADT.
- Provide accurate quarterly reports and traceability exercises by implementing the above.

Measurements of success will include an increased number of eCVIs where paper verification is not necessary and automatic capture of that data into appropriate databases and use of electronic devices capable of communicating directly with databases for input of data.

5.2 Implementation of Objectives

Animal Industry Division advancing of ADT work over the next 3 years will proportionally have to adjust to annual federal cooperative resources received to support these roadmap objectives while balancing limitations caused by the COVID-19 pandemic.

Outreach objectives will be met primarily through contact with veterinarians and livestock groups and in cooperation with Cooperative Extension Service to increase reach to individual producers that may not move livestock but may find themselves part of a disease investigation. Increase use of virtual platforms and recorded information will be utilized as in-person events have

been significantly affected by the COVID-19 pandemic.

The Division will apply for funds replace non-repairable RFID readers and ensuring that field staff have an adequate number of RFID tags. To be capable to accommodate both UHF and low frequency technologies, the Division will seek out equipment that can read both types of tags. Increased use of tag capture devices and software to reduce data entry errors will be shared with staff that perform inspections at arrival. Use of CoreOne by staff will be enhanced by more easily uploading the captured data and can be immediately shared with administration staff. In addition, production of electronic forms to capture local movement will greatly increase the ability of staff to capture data in real-time and result in more efficient trace searches.