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National Lumpy Skin Disease Action Plan Progress Report 10 February to April 2025

Biosecurity Animal Division

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Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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Introduction

The National Lumpy Skin Disease (LSD) Action Plan (the Action Plan) was released on 13 October 2022 and sets out national priorities for actions to strengthen Australia's preparedness for an incursion of LSD. It was developed in partnership with governments, industries and other stakeholders. It is envisaged that the Action Plan will be implemented over a period of at least three years.

Of the 27 activities in the Action Plan, 5 have been completed, and 22 are underway and on track. This report provides an overview of each activity's status, priority and next steps. A prioritisation matrix is provided below.

Table 1 Prioritisation matrix

Criteria	High priority (one or more of the following)	Medium priority (one or more of the following)	Low priority (all of the following)
Urgency	Activity is highly time critical.	Activity is less time critical.	Activity is not time critical.
Importance of project	Activity has a high impact on Australia's preparedness for LSD.	Activity has a moderate impact on Australia's preparedness for LSD.	Activity has a lower level of impact on Australia's preparedness for LSD.
Risks to program delivery if not achieved	If not achieved, activity would have a high impact on the success of the program of work or has a high level of dependencies with other activities.	If not achieved, activity would have a moderate impact on the success of the program of work or has some level of dependencies with other activities.	If not achieved, activity would have a low impact on the success of the program of work and has limited dependencies with other projects.

Note: Activities have been prioritised based on urgency and importance of the project and the risks to the success of the National LSD Action Plan program if the project is not delivered successfully.

Objective 1: International engagement

Table O1 Strengthen collaboration and engagement within the region to strategically address the risks of LSD.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
1.1. Support Indonesia's LSD response	<p>Lead</p> <p>Department of Agriculture, Fisheries and Forestry (DAFF), Department of Foreign Affairs and Trade (DFAT)</p> <p>Collaborators</p> <p>Meat & Livestock Australia (MLA), the Australian Centre for Disease Preparedness (ACDP), overseas partners</p>	<p>This activity aims to ensure Indonesia receives ongoing financial and technical support for their LSD outbreak response to help control and contain the spread of the disease in alignment with the needs identified by the Indonesian Government.</p>	On track	<p>High priority</p> <p>Support for distribution of vaccines and equipment</p> <ul style="list-style-type: none"> DAFF is working to progress the Indonesian Beef Cattle Industry Association's (GAPUSPINDO) request for additional FMD and LSD vaccines for use in smallholder farmers in buffer zones around feedlots through a \$169,000 grant awarded to LiveCorp to deliver the requested vaccines. In 2022, DAFF provided a grant of \$1.2 million to fund the Australian Livestock Export Corporation Ltd (LiveCorp) project to partially reimburse the cost of foot-and-mouth disease (FMD) and LSD vaccination in buffer zones surrounding feedlots and facilities across Indonesia and support the welfare of smallholders within these communities. <p>In April 2025, an additional \$220,000 was provided to LiveCorp to allow for an extension of their biosecurity engagement work with the Indonesian Provincial governments.</p> <ul style="list-style-type: none"> Since 2022, the Australian Government has provided 1,435,000 LSD vaccines to the Indonesian government, as well as syringes and needles. In 2022, DFAT purchased personal protective equipment and disinfectant for the Indonesian response. <p>Laboratory capacity</p> <ul style="list-style-type: none"> DAFF has provided \$1.7 million to the ACDP to deliver diagnostics and capacity building support to Indonesian government laboratories. The primary objective of the Regional Emerging Disease Support (REDS) program is to assist with the implementation and delivery of external quality assurance (QA) programs for LSD and FMD. The REDS program activities have been extended through to 30 June 2026 with additional scope and funding to include activities with relevant laboratories from the Indonesian Quarantine Authority (IQA). A REDS 3-day site visit and workshop was held at Balai Besar Uji Standar Karantina Hewan, Ikan Dan Tumbuhan (BBUSKHIT), the central quarantine laboratory in Jakarta, from 25-28 November 2024. The workshop was preceded by 4 virtual meetings providing training in the preparation and quality assessment of positive control material for laboratory diagnostics for long-term monitoring of assay validity, using LSD polymerase chain reaction (PCR) as the focus. The virtual sessions and workshop were attended by relevant staff from BBUSKHIT and Tanjung Priok. Batches of control material were prepared during the workshop, 	<p>Support for distribution of vaccines and equipment</p> <ul style="list-style-type: none"> The Australian Government is working with Indonesian Ministry of Agriculture (MoA) on further support as requested. <p>Laboratory capacity</p> <ul style="list-style-type: none"> Data analysis and report preparation for round 1 of the LSD PCR and ELISA PT programs are advancing well. Reports are due for publication in 2025. At BBUSKHIT's request, ACDP-PT team is conducting an interlaboratory comparison of LSD PCR between ACDP and several IQA laboratories (BBUSKHIT, BBKHIT DKI Jakarta, BKHIT Lampung, BBKHIT Sumatra). Result submissions are due in 2025, and coded reports will be shared with participants within 8 weeks. Assist DIC Wates with change management to ensure continuity and sustainability of the LSD external QA programs. DAFF will continue to support laboratory cooperation and capacity building for Indonesian laboratory staff through several activities such as laboratory placements, technical exchanges and participation in the REDS project.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
				<p>passing QA testing. Templates were provided to participants to enable data processing and monitoring of QA-positive control and assay performance.</p> <ul style="list-style-type: none"> The Indonesian Disease Investigation Centre (DIC) Wates conducted the first round of proficiency testing (PT) for LSD PCR and enzyme linked immunosorbent assay (ELISA) in December 2024 for the DIC network. <p>Technical assistance</p> <ul style="list-style-type: none"> In 2022, DFAT provided \$2.2 million for technical assistance for a range of support activities including disease surveillance and epidemiology, field services and biosecurity surveillance, emergency management and operations, support for national/sub-national project teams, monitoring and evaluation. Until the end of 2024, Australia Indonesia Health Security Partnership (AIHSP) partners were working directly with the Indonesian Ministry of Agriculture (MoA) to strengthen health security systems and build One Health capabilities. This included providing technical expertise, governance support and strategic planning to supporting Indonesia's disease control and surveillance efforts. <p>Other technical and advisory support</p> <ul style="list-style-type: none"> In 2023, 10 Indonesian quarantine officers were trained through the DAFF-funded Biosecurity Training Centre (BTC) at Charles Sturt University (Activity 1.2). As of April 2025, a further 120 officers have been trained in country following a train-the-trainer model. \$1.4 million was provided to support a collaborative project with the Food and Agriculture Organization of the United Nations (FAO) Indonesia office to deliver quarantine and emergency animal disease (EAD) response and control efforts in Indonesia. From July 2023 to March 2024, a DAFF officer was seconded to FAO to support this project (Activity 1.3). The program concluded at the end of 2024. In November 2024, DAFF awarded MLA a \$300,000 grant towards the delivery of the Indonesia Biosecurity Support Program. The program supports industry partnerships between Australia and Indonesia to strengthen Indonesia's capability to address EADs. In 2025, DAFF provided a further \$300,000 to extend this program. 	
1.2. Build LSD preparedness, technical and diagnostic capability and surveillance in near neighbouring countries	Lead DAFF Collaborators Overseas partners, DFAT, Agriculture Victoria (AgVic)	This activity seeks to build on existing relationships with Papua New Guinea (PNG)'s National Agriculture Quarantine	On track	<p>High priority</p> <ul style="list-style-type: none"> DAFF has funded LSD testing capacity in Timor-Leste, with both PCR nucleic acid and ELISA test capability now established in-country through ACDP. DAFF, Nossal Institute and NAQIA have finalised a rapid risk assessment for LSD for PNG, to focus awareness and surveillance activities. NAQIA has developed LSD and FMD preparedness work plans and DAFF is supporting a number of activities. An advanced LSD/FMD field diagnostic testing, sampling skills and vaccination workshop was delivered in conjunction with an FMD scenario exercise in June 2023. During the workshop, LSD awareness materials were launched with support 	<ul style="list-style-type: none"> The development of a vaccination plan for LSD for PNG, including cold chain arrangements for EAD vaccines, is being supported by DAFF. Through the DFAT-funded PNG Biosecurity Twinning Program, DAFF will partner with PNG's NAQIA to deliver activities to

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
		and Inspection Authority (NAQIA) and Timor-Leste's Ministry of Agriculture and Fisheries (MAF) to improve their LSD preparedness, technical and diagnostic capability, and surveillance.		<p>from the DFAT-funded Pacific Horticultural and Agricultural Market Access Plus (PHAMA Plus) Program.</p> <ul style="list-style-type: none"> • PNG and Timor-Leste are part of the DAFF-funded LSD regional vaccine supply agreement (as detailed in activity 5.2.c), giving these countries rapid access to an initial supply of quality LSD vaccines for a disease response should this be required in the future. <p>DAFF has supported establishing a cool room in Dili which is currently housing priority animal disease vaccines. Interim cold-chain arrangements have also been established across 3 border municipalities in Timor-Leste.</p> <ul style="list-style-type: none"> • In June 2023, a DAFF veterinarian joined NAQIA in a survey of PNG's southern border (Western Province) to assess risk pathways for LSD and other priority animal diseases. • DAFF funded a Quarantine Capacity Building Project with Timor-Leste, in collaboration with the BTC. This project ran from January to July 2023. A 5-day in country needs assessments was conducted in January 2023 in Timor-Leste and in March 2023 in Indonesia to quantify the scope of work to be undertaken. A 10-day residential 'train the trainer' course was conducted for 10 quarantine officers from Timor-Leste at the BTC in April 2023, then during a follow-up workshop in Timor-Leste in July 2023 these officers trained their colleagues in recognising key animal diseases including LSD, and in recognising risk commodities at the border. • A DAFF-funded awareness campaign and surveillance activity for LSD and other diseases was conducted from March to July 2023 in 3 border municipalities of Timor-Leste. Awareness materials were used as the focus of a series of village meetings, followed by active surveillance for these diseases. Over 1000 cattle were sampled across 98 villages. • In 2023, DAFF funded the Northern Territory's (NT) Berrimah Veterinary Laboratory to establish abattoir and sentinel surveillance for LSD and other priority animal diseases in Timor-Leste, in collaboration with MAF. • In October 2023, DAFF conducted a scoping exercise to understand PNG's quarantine operations training needs. DAFF officers joined colleagues from PNG to tour the airport, port, mail centre and approved quarantine facilities in Port Moresby. A training program was developed to mitigate the risk of LSD and other priority diseases, and the first phase was delivered in Port Moresby in June 2024. The same training program was delivered in Timor-Leste in July 2024. • DFAT has been working with AgVic in Timor-Leste to improve laboratory capacity and disease surveillance efforts. An animal health surveillance system based on the EpiCollect platform has been deployed and is now in use which increases the diseases surveillance capacity for Timor-Leste. An animal disease testing laboratory was also installed in Dili in 2022 to increase the capacity to use modern molecular testing methodologies. 	enhance preparedness for LSD and other EADs, including Incident Management Team training (April 2025), identification of priority animal diseases and pathways to inform surveillance activities (mid-2025).

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
1.3. Strengthen relationships in Southeast Asia	Lead DAFF, DFAT Collaborators Relevant state and territory governments, overseas partners	This activity includes establishing an Office of the Chief Veterinary Officer presence in northern Australia, led by the Australian Deputy Chief Veterinary Officer (Deputy ACVO).	On track	High priority <ul style="list-style-type: none"> In November 2022, DAFF engaged with an Indonesian government delegation in Canberra on a range of topics highlighting Australian and Indonesian biosecurity cooperation. The meeting included senior parliamentarians and decision-makers on agriculture policies and laws from Indonesia's Commission IV, as well as key Indonesian stakeholders, including the Director General of Livestock and Animal Health in the Indonesian MoA. A DAFF officer was seconded to FAO and based in Indonesia from July 2023 to January 2024. This officer provided a ready conduit between Indonesian and Australian experts and helped to establish and strengthen relationships that have extended beyond the posting. The Office of the Chief Veterinary Officer has established a presence in northern Australia, led by the ACVO. In September 2024, DAFF hosted an IQA delegation visit to Australia, during which they viewed live cattle arrangements that demonstrated Australia's credible and robust export arrangements to Indonesia. The delegation of 8 IQA officials was led by the Head of IQA, Dr Sahat Panggabean. In January 2025, the ACVO met with Indonesian government counterparts in Jakarta to discuss ongoing and future opportunities for biosecurity collaboration between Australia and Indonesia. 	<ul style="list-style-type: none"> DAFF is continually seeking to build relationships in Southeast Asia, including promoting engagement around LSD and other important animal health issues.
1.4. Engage in international and regional fora	Lead DAFF Collaborators Overseas partners	This activity involves Australia's ongoing engagement and contribution to international and regional fora on LSD.	On track	Medium priority <ul style="list-style-type: none"> DAFF attended the 12th FAO/World Organisation for Animal Health (WOAH) Regional Steering Committee Meeting of the Global Framework for the progressive control of Transboundary Animal Diseases (GF-TADs) for Asia and the Pacific in February 2023. Australia's contributions to the GF-TADs Regional Strategy advocated that it captures diseases of significant concern to Australia including LSD and FMD. DAFF also advocated that the strategy focuses on addressing transboundary animal diseases at their source and boosts prevention and preparedness capabilities in LSD- and FMD-free countries at significant risk of an incursion e.g. Timor-Leste and PNG. On 19 December 2024, a DAFF officer participated in the 5th LSD Coordination Meeting for Southeast Asia. 	<ul style="list-style-type: none"> This is an ongoing activity with Australian representatives regularly attending meetings of intergovernmental organisations, focused on LSD control and elimination in the Asia Pacific region. Australian representatives will continue to engage in international and regional fora relating to the management, control and prevention of LSD.

Objective 2: Border biosecurity and trade

Table O2 Augment industry-government collaboration and communication on the border biosecurity risks of LSD to Australia and strategically address technical market access barriers.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
2.1. Review import policy and LSD risk pathways	Lead DAFF Collaborators Peak industry organisations	This activity will include undertaking robust science-based risk analyses for the import of products from LSD-affected countries to ensure the risk of LSD is managed and achieves Australia's appropriate level of protection.	On track	High priority <ul style="list-style-type: none"> The final report of the Import risk review for dairy products for human consumption was released in March 2025. The final report confirms that specific risk management measures are not required for LSD virus (LSDV), as evidence demonstrated that pasteurisation is effective at inactivating LSDV in milk. There will be a transition period for the implementation of the new biosecurity measures which is expected to be a minimum of 12 months. Trade in dairy products will continue under current arrangements while new health certificates are negotiated. In response to the spread of LSD in Southeast Asia, DAFF has reviewed import permits for products from LSD affected countries and suspended those of concern. Reviewing import policy is an ongoing priority and DAFF maintains contemporary science and risk-based import policies. A review of the risk of entry of LSD from non-regulated pathways has been undertaken (Activity 5.1.a). In December 2023, DAFF published the final review of Australia's current entry requirements for LSD in fresh beef (skeletal muscle) and beef products. The final review advises that certification of country freedom from LSD to cover importation of fresh beef derived exclusively from bovine skeletal muscle from approved countries is unnecessary on biosecurity grounds. Negotiation of revised health certificates continues. 	<ul style="list-style-type: none"> DAFF is actively considering its import policy settings for a range of commodities by regarding the available science and nature of the biosecurity risks.
2.2. Develop a strategic approach to minimising export trade disruptions	Lead DAFF Collaborators DFAT, the Australian Livestock Exporters' Council, LiveCorp, MLA, other industry groups, state	This activity will take a strategic approach to minimising disruptions to trade by analysing which export markets and products would be	On track	High priority <ul style="list-style-type: none"> In consultation with industry, and state and territory governments, DAFF finalised the LSD trade preparedness strategy. This strategy identifies priorities to mitigate trade losses that could result from an outbreak of LSD. DAFF is implementing the LSD trade preparedness strategy, which included a comprehensive review of current export certification across multiple commodities to identify certificates that do not align with internationally recognised scientific standards. DAFF, in consultation with industry, has identified key priorities for engagement to pre-emptively mitigate these trade risks, and has already progressed this work with several markets. 	<ul style="list-style-type: none"> DAFF continues to make positive progress in accordance with the identified priorities. This includes pre-emptively identifying certification where animal health statements could better align with science-based recommendations. This is an ongoing, high priority activity with regular consultation with key industry groups. DAFF is reviewing existing EAD materials to identify gaps for

	and territory governments	affected if there is an LSD incursion in Australia.		<ul style="list-style-type: none"> • Whilst trading partner reactions cannot be anticipated in the event of an LSD incursion, to date approximately \$700 million worth of exports previously at risk could now continue without disruption. • Consultation with jurisdictions, industry and AHA is continuing to clarify and promote consistency in national zoning approaches to minimise disruptions to international trade in the event of an EAD. In June 2024, DAFF led a dedicated workshop for industry stakeholders, AHA and participating jurisdictions covering zoning for trade in the event of EAD outbreaks. The aim of the workshop was for the Commonwealth, state and territory governments and industry to develop a shared understanding of the concept of zoning for disease control and trade, and a common approach for the implementation of zoning following an EAD outbreak. • Trade in live cattle exports was maintained to key regional export markets following temporary disruptions related to questions regarding Australia's LSD status in 2023. • As mentioned in Activity 1.1, DAFF has agreed on a laboratory cooperation and capacity building program for IQA laboratories and staff. The first component of this program, a visit by ACDP experts to the IQA central laboratory occurred in June 2024. 	<p>preparedness. This includes the preparation of communication 'toolkits' to ease burden if these diseases are detected in Australia.</p> <ul style="list-style-type: none"> • Following the workshop held by DAFF in June 2024, Victoria (Vic) supported by DAFF, will organise a workshop for jurisdictions to consider the operational challenges of implementing zoning for EADs in further detail. This workshop is currently planned for 2025. • DAFF is updating the Australia's freedom from lumpy skin disease dossier. It is expected this will be published by mid-2025.
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Objective 3: Diagnostic capability and capacity

Table O3 Ensure that Australia's national diagnostic network provides reliable LSD testing capability and capacity.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
3.1. Improve national and regional LSD diagnostic capability and capacity	Lead ACDP, Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR) Collaborators DAFF	National testing capability for LSD will be transferred from ACDP to all state and territory government laboratories through the existing LEADDR network. Regional testing capacity is also being supported by ACDP (Activity 1.2).	On track	High priority <ul style="list-style-type: none"> As of May 2025, the LEADDR network have successfully completed 4 PT rounds of LSDV PCR and 3 rounds of Capripox ELISA. In March 2023, a report on potential materials for network quality controls (NQC) of LSD testing (PCR) and a schedule for the roll-out of serological capabilities to LEADDR laboratories was supplied to DAFF. LSD positive serum for NQC and PT samples for serological testing (ELISA) has been sourced and prepared, for initial use. An import permit exists for the Innovative Diagnostics (ID) Screen® Capripox ELISA kit. ID Screen® Capripox ELISA kits have been sent to all LEADDR network laboratories participating in the serological testing. A series of laboratory workshops and practical exercises, named Exercise Waterhole, were held from September to November 2023, to assess the ability of Australia's laboratory network to respond to an outbreak of LSD while also responding to other animal disease threats. These exercises assessed the effectiveness of the information management systems currently in use in Australia and provided opportunities to identify areas for improvement in laboratory capacity and capability. Under a whole of government EAD preparedness program, Vic is strengthening its laboratory capacity for both rapid and sustained responses to disease outbreaks. In September 2023, the National eDNA Reference Centre completed a comprehensive literature review on the feasibility of environmental DNA/RNA (eDNA/RNA) testing of a number of viruses, including LSDV. A report highlighting the existing assays and suitability for testing the technology as a complimentary surveillance method was submitted to DAFF. A copy of the report can be obtained by contacting: scienceandresearch@aff.gov.au. The Northern Australia biosecurity sequencing project at Berrimah Veterinary Laboratory continues to build high-throughput sequencing capacity in northern Australia through several collaborative diagnostic and surveillance projects. 	<ul style="list-style-type: none"> PT within the LEADDR network for both Capripox PCR and ELISA has concluded. The ELISA report was disseminated to participants on 29 April 2025. The PCR PT report is currently in draft and will be shared with participants shortly. With LSD testing capability transferred to all state and territory governments, the sharing of the report will complete this activity.
3.2. Improve the diagnostic testing options at ACDP	Lead ACDP Collaborators DAFF	There are a range of diagnostic testing options available for LSD at ACDP. Despite this, the	On track	Medium priority <ul style="list-style-type: none"> Negative samples to support development of serological tests (ELISA) in Australian animals have been collected through DAFF's Northern Australia Quarantine Strategy (NAQS). A project at ACDP on LSDV whole genome sequencing database and workflow development has been finalised. ACDP now has access to robust and repeatable 	<ul style="list-style-type: none"> Further collection of negative samples through NAQS will occur to support development of serological tests (ELISA). ACDP will continue their participation in the

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
		development of new and improved diagnostic tests is important for detecting and managing an LSD incursion in alternative ways and progressing research.		<p>whole genome sequencing procedures for timely LSDV detection and characterisation.</p> <ul style="list-style-type: none"> • After securing the appropriate regulatory approvals, ACDP participated in an international Capripox (inactivated) PT round for serology and molecular diagnostic workflows in July 2023 with formal participation in the program in 2023 and 2024. • An immunohistochemistry (IHC) staining protocol to identify LSDV in tissues using rabbit antibodies was completed in 2023. This successfully highlighted LSDV in infected/positive control fixed tissue sections. The antibodies also successfully highlighted sheep pox and goat pox viruses in appropriate fixed samples. • A series of cell lines was also established for the production of monoclonal antibodies against the LSDV P32 antigen. One clone was identified as being better suited for IHC. A large batch of this antibody was then prepared and affinity purified for diagnostic use. This antibody has been successfully used to highlight LSDV in infected formalin-fixed, paraffin-embedded tissue sections as part of an IHC staining protocol. • Commercialisation of an indirect ELISA for detection of antibodies against LSDV is progressing. A beta version of the ELISA kit has been manufactured and received at ACDP. • Verification of virus isolation methods for LSDV using cell culture is continuing. A virus neutralisation test for LSDV has been implemented and is undergoing verification. • In 2024, ACDP utilised its international networks to obtain a recombinant, field relevant strain of LSDV to support ongoing preparedness activities. • A project at ACDP to assess several 'Differentiating Infected from Vaccinated Animals' (DIVA) assays to ensure emerging variant and recombinant wild-type strains of LSDV in animals can be effectively differentiated from the attenuated vaccine strain was completed in February 2025. Three DIVA PCR assays were evaluated. The Haegeman assay showed the best performance, effectively identifying both vaccine and wild-type strains, including recombinant LSDV. It is recommended as a complementary test to the pan-capripoxvirus assay for LSD diagnosis. 	<p>International Capripox PT rounds.</p> <ul style="list-style-type: none"> • A comparative evaluation with other in-house and commercial ELISAs using sera held at ACDP is due for completion in May 2025. • Further rounds of IHC, using the large batch of affinity purified monoclonal antibody, will be undertaken to optimise the detection of viral antigen in fixed tissues.
3.3. Explore point-of-care LSD testing	Lead ACDP, the Sub-Committee on Animal Health Laboratory Standards (SCAHLs) and the Animal Health	This activity will explore the development and use of novel point-of-care (POC) tests to screen for potential LSD cases during an	On track	<p>Medium priority</p> <ul style="list-style-type: none"> • The AHC POC testing task group was established in 2021 to examine national policy issues related to POC testing for both notifiable and endemic diseases. • DAFF engaged a consultant to support the AHC working group in 2022. A broad range of stakeholder consultation was undertaken covering technical, operational and policy issues relating to the use of POC testing in Australia for all animal diseases. Their final report, including recommendations, was submitted to AHC in January 2023. 	<ul style="list-style-type: none"> • Development of public facing POC test guidelines has commenced and further engagement with industry is planned. • The improved LAMP POC primer sets developed by Vic will be taken to India where they can be tested against numerous LSD

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
	Committee (AHC) Collaborators DAFF and state and territory governments	outbreak situation.		<ul style="list-style-type: none"> The AHC POC testing task group was reformed in August 2023 and completed its work and disbanded in February 2025. The task group comprised nominated representatives from the Commonwealth, all Australian jurisdictions, ACDP, AHA, Wildlife Health Australia (WHA), and James Cook University (JCU). At the March 2025 AHC face-to-face meeting, AHC endorsed guidelines that will support decision-makers to determine and approve the use of POC tests specifically for diseases and infections on the national lists of notifiable diseases of terrestrial animals and reportable diseases of aquatic animals. While the guidelines are currently for internal use by decision makers, there has been strong interest and support from industry for a public document. New South Wales (NSW) have developed capacity to undertake POC testing for LSDV in the event of an outbreak using portable PCR machines. Vic has developed several loop mediated isothermal amplification (LAMP) POC primer sets for a test directed against LSD. They have been trialled against clinical LSD samples in Shimla, India with success and the test has been further developed to increase its speed. On behalf of jurisdictional government and industry stakeholders, ACDP continues to undertake assessment of LSD POC diagnostics suitable for field deployment. Queensland's (Qld) has developed a portable PCR test combined with a lateral flow device which was verified by ACDP in early 2023 and is ready for in-field trials internationally. In 2024, SA acquired LAMP POC testing machines and work is continuing to explore potential use in the field during EAD responses. 	clinical samples stored at the Veterinary University at Palampur. External funding for this mission has been sourced and laboratory and field staff are scheduled to visit later in 2025.

Objective 4: Surveillance

Table O4 Optimise government and industry investment in LSD surveillance.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
4.1.a. Develop a national LSD surveillance strategy	Lead AHC, AHA Collaborators DAFF, CSIRO/ACDP, Australian Meat Industry Council, peak industry organisations	This activity aims to develop a national LSD surveillance strategy that will assist with detecting an LSD incursion as early as possible.	On track	Medium priority <ul style="list-style-type: none"> In August 2023, and in response to regional trade issues related to live animal exports DAFF published a report demonstrating Australia's freedom from LSD, which collated data on disease investigations for cattle with skin lesions, feral animal surveillance undertaken by NAQS, inspections at export abattoirs and pre-export inspection of cattle and buffalo prepared for export (Refer Activity 2.2). The National Veterinary Epidemiology and Surveillance Advisory group (NVESAG) is progressing the evaluation Australia's existing surveillance for LSD and delivery of a surveillance strategy. The outcome of this work will be to deliver recommendations for future surveillance system maintenance and enhancements. This is scheduled to be completed before the end of 2025. A progress update and workplan were delivered to AHC in January 2025 and presented to government and industry stakeholders at AHA Member's Engagement Week in March 2025. AHA participates in and contributes to the LSD Surveillance Strategy Working Group and the over-arching AHC NVESAG, both of which are led and chaired by DAFF. 	<ul style="list-style-type: none"> The NVESAG will provide a progress update to AHC in May 2025.
4.1.b. Develop a wild and free-roaming bovid surveillance strategy	Lead State and territory governments Collaborators NAQS, NT Cattlemen's Association, other industry groups	This activity aims to develop a surveillance strategy to identify the locations, numbers and population dynamics of wild and free roaming bovid populations.	On track	Medium priority <ul style="list-style-type: none"> Wild animal surveillance for a potential LSD incursion is already part of the NAQS program. Further surveillance is undertaken by state and territory governments, including through the National Significant Disease Investigation Program. NAQS targeted surveillance strategy includes routine LSD serology on feral bovids (cattle, buffalo, banteng). Since routine testing commenced March 2022, there have been 222 feral bovids tested from 20 surveys in the NT and Western Australia (WA). All tests have returned negative serological results. Exclusion testing also occurs on any bovid skin lesions and internal lesions, which are clinically suggestive of LSD. Of the 222 feral bovids tested for serological exposure to LSD, 113 animals with lesions were tested for LSDV using PCR. No PCR positives have been detected either. WHA is exploring the feasibility of developing a network to engage with feral animal managers on matters of wildlife health. Such a group may ultimately have value for this program, but work is still preliminary. 	<ul style="list-style-type: none"> As outlined in activity 4.1.a, the National Veterinary Epidemiology and Surveillance Advisory Group is considering current national LSD surveillance activities. NAQS will continue with LSD targeted surveillance in feral bovid populations, expanding surveillance into any feral cattle that may be inhabiting national parks in Qld.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
4.1.c. Review arthropod vector monitoring programs	Lead DAFF, state and territory governments Collaborators CSIRO, AHA	This activity will review Australia's current arthropod vector monitoring programs (including in near neighbouring countries) and investigate if there are opportunities or the need to adapt these programs to be relevant to LSDV surveillance.	On track	Medium priority <ul style="list-style-type: none"> Vic's collaborative research project with ACDP is continuing to evaluate vectors of importance for spread and maintenance of LSD within Vic. Work on this project commenced in June 2023 and is continuing as planned. DAFF contracted ACDP in 2024 for the assessment of buffalo fly as a potential vector for LSD in Australia. This project aimed to gain a greater understanding of the buffalo fly's ability to transmit LSD. The project was completed in April 2025, with results showing buffalo flies can acquire LSDV, and may act as short-term mechanical vectors in an Australian outbreak. These results should be interpreted cautiously as only low quantities of virus were recovered from fly mouth parts. 	<ul style="list-style-type: none"> In June 2024, the milestone report for Vic's collaborative research project with ACDP was accepted, with the project on target to be completed in December 2025.
4.2. Undertake training and awareness activities	Lead DAFF, state and territory governments	This activity seeks to develop training programs and raise awareness of the increased risk of LSD and other animal disease threats in the Australian livestock population.	On track	Medium priority <ul style="list-style-type: none"> The Northern Australia Coordination Network (NACN) was established with \$4.3 million in funding to bring together NT, Qld, WA and Commonwealth governments in partnership with key industries and local communities to improve Australia's surveillance and preparedness coordination in the north. All NACN partners are working together to deliver communications, training, awareness and surveillance activities across northern Australia to help further develop capability to protect Australia from EADs including LSD. NACN is supporting the Northern Australian Biosecurity Strategy Network (NABSnet) through the procurement of a veterinary advisor based in far north Qld to work alongside the existing NABSnet veterinary advisor, supporting private veterinarians performing significant disease investigations across northern Australia, which includes LSD exclusions. Regular presentations are given on NAQS surveillance, with a focus on current priority diseases. Audiences include producer groups, veterinarians, state and territory government stakeholders. Fee-for-service community animal health reporting activities occur through Indigenous Ranger groups. These include reporting to highlight unusual sickness in cattle or buffalo residing within First Nations controlled lands. 	<ul style="list-style-type: none"> Planning is underway for a NACN WA, NT and Qld cross-border LSD response exercise for 2025. The exercise will test cross-border arrangements for a hypothetical incursion of LSD into northern Australia. A workshop to explore novel solutions to enhance EAD surveillance in northern Australia and increase capability for early detection and reporting of priority animal diseases is

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
				<ul style="list-style-type: none"> • Topwatch! Public awareness material is distributed at agricultural shows, schools, producer forums and to rangers, with personnel available for any questions. Material such as calendars, brochures and factsheets highlight the risk of various diseases including LSD. • Regular engagement and discussion with NABSnet veterinarians encourage LSD exclusion and reporting. The network provides ongoing support for veterinarians in northern Australia via newsletters, contact through the NABSnet Veterinary Adviser, online resources and subsidies for significant disease investigations and EAD exclusions, and an annual masterclass, which was most recently held in Townsville in March 2025. <p>The NABSnet northern Australia Cattle Skin Survey was extended until June 2025, to provide evidence on what is typically causing skin lesions in cattle in northern Australia. Since the Skin Survey began in May 2023, there have been 91 submissions with over 174 samples submitted. All samples have tested negative for LSD and the most common histological diagnosis has been dermatitis likely due to insect hypersensitivity.</p> <ul style="list-style-type: none"> • In July 2024, the European Commission for the Control of Foot-and-Mouth Disease (EuFMD) delivered a webinar for Australian participants, on the European experience of LSD control, using vaccination as a control measure. • In February 2024, NSW Department of Primary Industries (NSW DPI) conducted an exercise based on LSD to test “just in time” training modules that were developed for surveillance and tracing response staff. An NSW multi-agency exercise to test existing disposal planning was held in February 2024 with the Engineering functional area leading the exercise and government staff participating. <p>NSW DPI and Local Land Services have been undertaking a targeted surveillance and engagement program in NSW saleyards since October 2022. This work focuses on examining cattle for signs consistent with LSD or FMD and undertaking confirmatory sampling. So far 651 inspections have been performed across 32 saleyards. The initial review of the data suggests that this surveillance over time could provide supporting evidence for absence of disease if an incursion were to occur elsewhere in Australia.</p> <p>NSW DPI released issue 7 of EAD Vet Wrap in February 2025 – a quarterly newsletter to keep veterinary professionals up to date with EAD preparedness activities and provide updates on what is happening in NSW and beyond. The next issue is expected in May 2025.</p> <ul style="list-style-type: none"> • Under its whole of government EAD preparedness program, Vic has been undertaking extensive work to raise awareness of biosecurity risks with livestock keepers and encouraging best practice measures to effectively manage these risks. Vic has held 158 biosecurity planning workshops targeted at mixed farming businesses and remote areas to assist with the development of 1,664 farm biosecurity plans, has held 297 awareness events for 272,121 producers and other stakeholders. There have been 3,026 enrolments in eLearning modules and 1,885 listens to the 12 podcasts to support the sector’s awareness of EAD events. • In 2023, Qld officers completed training to upskill in disease investigation procedures and techniques to increase capability and capacity for an EAD response. Training sessions are being conducted annually. In 2024, a pilot disease investigation workshop was delivered to 	<p>also being organised for 2025.</p> <ul style="list-style-type: none"> • All jurisdictions continue to deliver engagement and awareness activities, highlighting the risk of EADs like LSD. This ensures producers and other relevant stakeholders know who to contact when they encounter unusual signs of disease. • The 2025 EuFMD virtual real-time training course on FMD, LSD and sheep and goat pox will be delivered to another cohort of Australian veterinarians in June 2025. This online training course is designed to improve the capability of our front-line personnel to detect, report and respond to EADs. <p>DAFF is collaborating with EuFMD on the delivery of multiple EAD webinars as a “refresher” training event for virtual real-time training and real-time training alumni from June to August 2025.</p>

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
				<p>cattle industry staff, promoting EAD awareness and reporting and is being adapted for delivery to local government. Biosecurity Qld has conducted 12 face-to-face and virtual response readiness training courses for staff, elected officials, and emerging leaders of agricultural peak industry bodies.</p> <p>Qld is conducting twice yearly EAD investigation training workshops for private veterinarians in collaboration with the University of Queensland (UQ) and JCU.</p> <ul style="list-style-type: none"> SA officers are undertaking training and awareness activities to a wide range of stakeholders including private veterinarians, abattoirs, livestock agents, producers, stock feed manufacturers and transporters. SA continues to engage in staff training utilising NSW "Just in time" training and EuFMD modules which also cover LSD. SA officers continue to visit saleyards across the state with enhanced awareness for LSD. <p>In early 2024, SA officers finished distribution of glovebox skin sampling kits and training of producers in remote areas of SA. This enables them to take samples that can be sent to a laboratory for testing.</p> <ul style="list-style-type: none"> In 2023, WA completed training for private practitioners including EAD awareness and sample submissions. In April 2024, WA commenced an EAD Veterinary reserve training program. To test the Australian Capital Territory's (ACT) biosecurity response capability 'Exercise Capital Standstill', an FMD exercise scenario involving multiple government directorates was run in May 2024. This exercise was beneficial to understanding the ACT's capacity to respond to a major EAD incident. In 2024, DAFF commissioned the University of Melbourne to develop a new online training module based on an outbreak of LSD in cattle. This training material was developed for veterinarians and veterinary students to support detection, investigation and reporting of EADs. 	

Objective 5: Preparedness and response

Table O5 Enhance the LSD preparedness and emergency response capacity and capability of industries and governments, and clearly define roles and responsibilities.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
5.1.a. Undertake risk mapping of the likelihood of entry, establishment and spread of LSD	Lead DAFF Collaborators State and territory governments, AHC, other partners	This activity aims to undertake risk mapping of geographical areas that may have a higher likelihood of entry, establishment and spread of LSD.	Completed	High priority <ul style="list-style-type: none"> DAFF commissioned a risk assessment examining the potential for an incursion through non-regulated pathways (such as windborne spread) by external consultants. This work will guide future modelling and vector studies and aid in targeting future surveillance activities. The risk assessment and modelling has been released on DAFF's website and published in the Journal of Preventative Veterinary Medicine. A summary of this risk assessment and modelling work was presented to industry representatives at a webinar on 4 May 2023. A recording of this presentation is available through the National Farmers Federation. 	Completed in May 2023
5.1.b. Develop epidemiological modelling systems for LSD	Lead DAFF Collaborators State and territory governments, AHC, other partners	This activity will focus on the development of systems for the epidemiological modelling of vector-transmitted disease outbreaks. The system will be used to integrate data from jurisdictional and national datasets.	On track	High priority <ul style="list-style-type: none"> An LSD epidemiological model was developed using the Australian Animal Disease Spread (AADIS) platform to assess areas in Australia where LSD may spread and compare different control strategies, including the use of vaccination. A report on the AADIS modelling is being finalised and a communication plan developed for its release. Release of the findings from the AADIS modelling work has been delayed due to competing priorities. UQ has made technical improvements to the development of a geospatial risk assessment model that includes a wind dispersion sub-model. The research team prepared a scientific manuscript which has been submitted to a peer reviewed journal and is currently under review. This model aims to support Australia's onshore and offshore surveillance and response plans by providing an evidence-based reference on probable LSDV entry points. 	<ul style="list-style-type: none"> DAFF will work with stakeholders to decide on how the AADIS model may be expanded to cover a greater range of control options.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
5.2.a. Develop a national LSD vaccination strategy	Lead AHC, AHA Collaborators CSIRO, Cattle Australia, the AHC Vaccine Expert Advisory Group (VEAG), other partners	This activity will establish a national LSD vaccine working group to develop a national LSD vaccination strategy, including options on how to best apply vaccination during a response and how to identify vaccinated animals.	On track	<p>High priority</p> <ul style="list-style-type: none"> A Vaccine Operational Task Group (VOTG) has been established under the Sub-Committee on Emergency Animal Disease (SCEAD) and is responsible for developing national recommendations for the use of vaccination during an outbreak. Membership of the national VOTG consists of all jurisdictions, the Commonwealth and AHA. <p>The VOTG meets regularly and has progressed the operational plans required for the storage and distribution of the approved LSD vaccine for the use in an outbreak.</p> <p>A report on the selection of a vaccination workforce and supplies needed was drafted in late 2024. Existing FMD Nationally Agreed Standard Operating Procedures have been developed into generic documents based on species.</p> <p>A document on the visual identifiers for FMD and LSD vaccinated cattle has been developed.</p> <p>An update from the group was presented to AHC at their face-to-face meeting in March 2025.</p> <ul style="list-style-type: none"> Jurisdictions have also been developing their own policies and LSD vaccination plans. These have been shared through the VOTG. 	<ul style="list-style-type: none"> The VOTG has been tasked with developing operational plans for using vaccination against other important livestock diseases but is prioritising LSD through to July 2025 when the group will be discontinued. Final recommendations from the group will be presented to SCEAD then to AHC by mid-2025. All VOTG tasks that can be completed have been or are nearing completion. Gaps have been identified to which further information is needed, including appropriate AADIS modelling to inform decision makers of likely scenarios and number of doses of vaccine required.
5.2.b. Access an LSD vaccine appropriate for use within Australia	Lead DAFF	Commercially available LSD vaccines will be evaluated to assess their suitability for emergency use in Australia.	Completed	<p>High priority</p> <ul style="list-style-type: none"> International suppliers of homologous LSD vaccines were contacted in 2022 to determine if they could produce a vaccine in compliance with quality standards that could be certified by a competent authority recognised by Australia. In 2023, a suitable vaccine was identified and the Australian Pesticides and Veterinary Medicines Authority (APVMA) issued a Consent to Import and Emergency Use Permit for the vaccine produced by MSD Animal Health. <p>In 2024, a DAFF import permit was issued for the MSD Animal Health LSD vaccine, to ensure the vaccine can be imported into Australia if it is ever needed.</p>	Completed in November 2024

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
5.2.c. Investigate options for the timely supply of LSD vaccines	Lead DAFF, AHA Collaborators State and territory governments, peak industry organisations	This activity aims to investigate options to secure access to LSD vaccines in the event of an outbreak, including the possibility of investment in an LSD vaccine bank modelled on the Australian FMD Vaccine Bank.	On track	High priority <ul style="list-style-type: none"> In June 2023, DAFF entered into a Regional LSD Vaccine Supply Arrangement with an international LSD vaccine manufacturer, MSD Animal Health, to supply 300,000 doses of LSD vaccines to Australia or other regional countries if required. In October 2023, DAFF officers met with representatives from AHA to discuss the Regional LSD Vaccine Supply Arrangement and the possibility of a co-funded LSD vaccine supply arrangement for use in Australia in the event of an outbreak. In November 2023, DAFF presented on the Regional LSD Vaccine Supply Arrangement at the AHC Stakeholder Forum. In March 2024, DAFF presented on the same topic to government and industry stakeholders. 	<ul style="list-style-type: none"> DAFF will work with AHA to investigate options for the timely supply of LSD vaccine.
5.3. Review the national LSD response strategy	Lead AHA, AHC, DAFF, AUSVETPLAN Technical Review Group Collaborators Peak industry organisations	This activity aims to ensure the national LSD response strategy is fit-for-purpose and well aligned with the national LSD vaccination strategy.	On track	High priority <ul style="list-style-type: none"> Updates have been made to the AUSVETPLAN <i>response strategy: Lumpy skin disease</i> version 5.2 across several sections, including regarding the use of vaccination in a response. These updates are currently awaiting approval as version 5.3. In 2022, a joint government and industry exercise was developed by AHA to test components of the latest version of the AUSVETPLAN Response Strategy for LSD. Following the 2022 exercise (Exercise LSD2), the AUSVETPLAN <i>response strategy: Lumpy skin disease</i> underwent updates with AHC endorsing the updated manual in October 2023. A number of items identified in the exercise were determined to be out of scope of AUSVETPLAN and were referred to other responsible parties for completion. 	<ul style="list-style-type: none"> Once updates are approved, the AUSVETPLAN <i>response Strategy: Lumpy skin disease</i> version 5.3 will be published on the AHA website. Once the LSD vaccination strategy is developed, an alignment of benefits and outcomes will be undertaken.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
5.4. Prepare to manage exported livestock in transit and in preparation for export during an incursion	Lead DAFF Collaborators AHC, LiveCorp, MLA, live animal exporters	This activity involves the development of a framework for contingency plans (including preparedness, logistics, biosecurity and welfare) for Australian livestock consignments which are within the export process, including those that are loading or those that have departed but not yet arrived in their destination country.	On track	Medium priority <ul style="list-style-type: none"> DAFF is continuing to develop a policy framework for broader export livestock incident management procedures. These incidents include the detection of a disease such as LSD and FMD in Australia as they relate to livestock exports. DAFF is working with interested stakeholders to develop operating principles for managing livestock conveyances, including the possible return of vessels carrying livestock to Australia and other contingency arrangements. In December 2023, changes were made to the <i>Export Control (Animals) Rules 2021</i> to allow DAFF to require the moving or loading of livestock for export to stop in circumstances where the Director of Biosecurity reasonably suspects that an animal disease, infection or infestation is present in Australia. The changes are designed to prevent or significantly reduce the potential health and welfare impacts to livestock about to be, or in the process of being, loaded for export, and mitigate potential damage to Australia's reputation as a trusted trading nation more broadly. In late 2023, DAFF received \$8.8 million over 2 years to support the continuation of the livestock export trade, including funding to develop a national approach to manage livestock in transit and when they may need to return to Australia. 	<ul style="list-style-type: none"> DAFF will continue to engage with stakeholders to progress identified steps and update internal export livestock incident management procedures.
5.5. Investigate arthropod vector control options	Lead DAFF Collaborators State and territory governments	This activity will review Australia's current arthropod vector control options (including in near neighbouring countries) and investigate if there are opportunities to improve these or put in place plans to prevent the spread of disease.	On track	Medium priority <ul style="list-style-type: none"> A National Vector Management Advisory Group (NVMAG) was established under AHC, tasked with developing an LSD vector management plan in the event of an outbreak, and compiling a list of available chemical control products for LSD vectors. The LSD Vector Management Guide has been finalised and accepted by DAFF. This manual provides technical information to inform the development of operational plans for managing vector (insect) populations involved in transmitting LSDV. It is designed to be used as an evidence-based reference to assist Australian governments to develop tailored operational plans for vector management once the extent and nature of an outbreak is understood. The LSD Vector Management Guide has been endorsed by SCEAD and AHC in early 2025. NVMAG have completed their tasks and disbanded. 	<ul style="list-style-type: none"> The LSD Vector Management Guide is being prepared for publication on the DAFF website.

Objective 6: Awareness and communication

Table O6 Facilitate stronger engagement between governments and industry through a comprehensive and adaptable communication strategy for LSD.

Activity	Lead and key collaborators	Description	Status
6.1 Develop a comprehensive and sustained LSD communication plan to raise awareness and understanding of the disease, risk and preparedness activities	Lead The National Biosecurity Committee Engagement Network (NBCEN), peak industry organisations. Collaborators DAFF	This activity will develop a comprehensive and sustained LSD communication plan to raise awareness and understanding of the disease, risk and preparedness activities.	Completed in November 2023
6.2. Develop a communication plan for use during an LSD emergency response	Lead NBCEN	This activity will develop a communication plan that could be used during an incursion of LSD.	Completed in February 2024

Objective 7: Research and innovation

Table O7 Improve Australia's LSD preparedness and response through research priorities driven by industry and government needs, and ensure new knowledge is freely accessible.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
7.1. Set national priorities for LSD research, engagement and communication	Lead DAFF, the National Animal Biosecurity Research, Development and Extension (RD&E) Strategy (AHA), AHC	This activity will seek to bring together industry, government and other stakeholders to identify, prioritise and undertake important LSD-related research and preparedness activities.	On track	Low Priority <ul style="list-style-type: none"> A workshop is being planned by DAFF, to identify knowledge gaps and prioritise RD&E opportunities. 	<ul style="list-style-type: none"> This workshop is planned for June 2025.
7.2. Investigate new technology LSD vaccines	Lead ACDP, Elizabeth Macarthur Agricultural Institute (EMAI) Collaborators DAFF, state and territory governments, industry, MLA	This activity will seek research interest in developing alternative vaccine technologies that can be deployed both in Australia and internationally to control the further spread of LSD.	On track	Medium Priority <ul style="list-style-type: none"> DAFF conducted an open market discovery process, seeking responses from potential vaccine manufacturers about the possible development of novel LSD and other livestock vaccines and the potential for Australian-based vaccine production capability. In 2023, NSW, Qld and Commonwealth governments through MLA, invested in a \$4.95 million project to support research into messenger ribonucleic acid (mRNA) vaccines for livestock, including LSD. This project aims to deliver an mRNA LSD vaccine construct that has undergone in-vivo efficacy testing. mRNA vaccines have been shown to give high serological response and protection against challenge with Border disease virus in sheep. Progress has been made on mRNA dose and formulation optimisation. NSW government has invested a further \$8.8 million in this program with matching funds (60:40) from the MLA Donor Company. mRNA vaccine production capacity is being developed by the University of NSW RNA Institute and built into the NSW RNA pilot facility. Tiba Biotech made mRNA constructs effective at generating serological responses in mice-based antigens considered to be most likely to induce neutralising antibody responses against LSDV. As of November 2024, NSW DPI had tested 6 vaccine constructs in rabbits and cattle at EMAI. Collaborators at the Canadian Food Inspection Agency (CFIA) 	<ul style="list-style-type: none"> EMAI assessed vaccines that contain multiple antigens to identify superior immune responses. The best performing vaccines will be tested for efficacy in cattle in Germany. Ethics approval has been submitted for the efficacy studies. Initial payment has been made and challenge studies to follow FMD challenge experiment are expected in mid-2025. CFIA intend to test vaccine candidates in sheep which may inform cattle studies.

Activity	Lead and key collaborators	Description	Status	Priority progress update	Next steps
				<p>Winnipeg have shown virus neutralising antibodies from these animals. CFIA tested vaccines in sheep and demonstrated serological responses. Virus neutralising antibody responses in sheep and cattle suggested improved efficacy with combinations of antigens. One of the 6 antigens gave poor serological responses so it will not be used in vaccines but is present in infected cattle and is thus available to give DIVA capability.</p> <ul style="list-style-type: none"> Qld's government and UQ continue to work collaboratively to develop a prototype single-dose microencapsulated subunit vaccine for LSD with DIVA capabilities. 	
7.3. Develop modelling tools to support LSD preparedness and response	<p>Lead DAFF, Centre of Excellence for Biosecurity Risk Analysis (CEBRA)</p> <p>Collaborators State and territory governments</p>	This activity will seek investment in other modelling tools to hone Australia's LSD preparedness and response (in addition to epidemiological modelling tools developed under Activity 5.1.b).	On track	<p>Medium Priority</p> <ul style="list-style-type: none"> To strengthen national real-time modelling capabilities during an outbreak response, a stakeholder workshop was held in August 2022 to identify gaps and priorities for real-time modelling activities during an outbreak response, using LSD as the test case. Outputs from the workshop has guided the development of modelling tools and workflows to support decision making during an emergency response. A package of decision support tools for outbreak responses was developed in June 2024, including epidemiological analyses and an epidemiological forecasting model. A new follow-on project "Enhancing Models for Rapid Decision-Support in EAD Outbreaks" has begun to support the uptake and operationalisation of epidemiological models for decision-making during outbreak response. This project is funded by the Australian Research Data Commons. In December 2024, a workshop was held to support biosecurity emergency outbreak preparedness through the Enhancing Models for Rapid Decision-Support in EAD Outbreaks (HASTE) initiative. The workshop highlighted insights into modelling approaches for biosecurity decision-making and explored potential future work, such as additional in-person meetings on outbreak management and enhanced support for decision-makers. 	<ul style="list-style-type: none"> Follow-on work under the "Enhancing Models for Rapid Decision-Support in EAD Outbreaks" project is underway from 2024 to 2026.

Objective 8: Recovery

Table O8 Mitigate the economic and social effects of an outbreak of LSD by developing options for a recovery strategy.

Activity	Lead and key collaborators	Description	Status
8.1. Develop options for an LSD recovery strategy	Lead DAFF, in consultation with other Australian Government agencies as appropriate	This activity will develop options for a LSD recovery strategy in consultation with other Australian Public Service agencies as appropriate, to assist in overall preparedness in the event of an LSD outbreak.	Completed in November 2023

Glossary

Acronym	Definition
AADIS	Australian Animal Disease Spread
ACDP	Australian Centre for Disease Preparedness
ACT	Australian Capital Territory
ACVO	Australian Chief Veterinary Officer
AgVic	Agriculture Victoria
AHA	Animal Health Australia
AHC	Animal Health Committee
AIHSP	Australia Indonesia Health Security Partnership
APVMA	Australian Pesticides and Veterinary Medicines Authority
AUSVETPLAN	Australian Veterinary Emergency Plan
BBUSKHIT	Balai Besar Uji Standar Karantina Hewan, Ikan Dan Tumbuhan (central quarantine laboratory in Jakarta)
BTC	Biosecurity Training Centre
CFIA	Canadian Food Inspection Agency
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DAFF	Department of Agriculture, Fisheries and Forestry
DFAT	Department of Foreign Affairs and Trade
DIC	Indonesian Disease Investigation Centre
DIVA	Differentiating Infected from Vaccinated Animals
EAD	Emergency animal disease
ELISA	Enzyme-linked immunosorbent assay
EMAI	Elizabeth Macarthur Agricultural Institute
eDNA/RNA	Environmental deoxyribonucleic acid/ribonucleic acid
EuFMD	European Commission for the Control of Foot-and-Mouth Disease
FAO	Food and Agriculture Organisation of the United Nations
FMD	Foot-and-mouth disease
GF-TADs	Global Framework for the progressive control of Transboundary Animal Diseases
ID	Innovative Diagnostics
IHC	Immunohistochemistry
IQA	Indonesian Quarantine Agency
JCU	James Cook University
LAMP	Loop mediated isothermal amplification
LEADDR	Laboratories for Emergency Animal Disease Diagnosis and Response
LiveCorp	Australian Livestock Export Corporation
LSD	Lumpy skin disease
LSDV	Lumpy skin disease virus
MAF	Timor-Leste's Ministry of Agriculture and Fisheries
MLA	Meat & Livestock Australia
MoA	Indonesian Ministry of Agriculture

mRNA	Messenger ribonucleic acid
NABSnet	Northern Australian Biosecurity Strategy Network
NACN	Northern Australia Coordination Network
NAQIA	Papua New Guinea's National Agriculture Quarantine and inspection Authority
NAQS	The Department of Agriculture, Fisheries and Forestry's Northern Australian Quarantine Strategy
NBCEN	National Biosecurity Committee Engagement Network
NQCs	Network quality controls
NSW	New South Wales
NSW DPI	New South Wales Department of Primary Industries
NT	Northern Territory
NVESAG	National Veterinary Epidemiology and Surveillance Advisory Group
NVMAG	National Vector Management Advisory Group
PCR	Polymerase chain reaction
PNG	Papua New Guinea
POC	Point-of-care
PT	Proficiency testing
QA	Quality assurance
Qld	Queensland
RD&E	Research, Development and Extension
REDS	Regional Emerging Disease Support
SA	South Australia
SCAHLs	Sub-Committee on Animal Health Laboratory Standards
SCEAD	Sub-Committee on Emergency Animal Disease
SSBA	Security-Sensitive Biological Agent
UQ	University of Queensland
Vic	Victoria
VOTG	Vaccine Operational Task Group
WA	Western Australia
WHA	Wildlife Health Australia