



Natural Resources Commission

Audit of emergency management capability in DPI and LLS

September 2018



Enquiries

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List of acronyms

AAR	After Action Review
AIIMS	Australasian Inter-service Incident Management System
AASFA	Agricultural and Animal Services Functional Area
AUSVETPLAN	Australian Veterinary Emergency Plan
CPPO	Chief Plant Protection Officer
CVO	Chief Veterinary Officer
DoI	Department of Industry
DoJ	Department of Justice
DPI	Department of Primary Industries
EADRA	Emergency Animal Disease Response Agreement
EEMC	Executive Emergency Management Committee
EPPRD	Emergency Plant Pest Response Deed
EM-train	Emergency Management online training database
EMU	Emergency Management Unit
FMD	Foot and Mouth Disease
FTE	Full-Time Equivalent
IMT	Incident Management Team
LCC	Local Control Centre
LHPA	Livestock Health and Pest Authority
LLS	Local Land Services
NEBRA	National Environmental Biosecurity Response Agreement
MBES	Manager of Biosecurity and Emergency Services
NDRRA	National Disaster Relief and Recovery Arrangements
RFS	Rural Fire Service
RRP	Rural Resilience Program
SCC	State Coordination Centre
SES	State Emergency Service
WebEOC	Web Based Emergency Operations Centre

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Table of Contents

1	Executive Summary	1
1.1	Recommendations	5
2	Background and methodology	8
3	Key strengths and capabilities in emergency responses	10
3.1	Key findings	10
3.2	Staff professionalism and experience	10
3.3	Enhanced visibility and community engagement	10
3.4	Strong engagement with other government agencies	11
3.5	Engagement with industry and non-government organisations	11
3.6	Emergency management reforms	12
4	Organisational roles, responsibilities and accountability	13
4.1	Key findings	13
4.2	Increase clarity of roles in overarching governance documents	13
4.3	Address specific areas of role confusion within each stage	15
4.4	Improving the DPI and LLS relationship	19
4.5	Enhance accountability for emergency management	20
4.6	Recommendations	21
5	Operational decision-making processes	22
5.1	Key findings	22
5.2	Enhance processes for activation and deactivation of emergency responses	22
5.3	Recommendations	28
6	Workforce capability planning and development	29
6.1	Key findings	29
6.2	Current status of workforce capability planning	29
6.3	Understanding resource gaps and ability to access resources	31
6.4	Learning and development	36
6.5	Recommendations	38
7	Improve business continuity planning and funding strategies	39
7.1	Key findings	39
7.2	Develop a clear strategy for funding emergency management	39
7.3	Improve business continuity planning	46
7.4	Facilitation of staff participation	47
7.5	Industrial relations issues affecting staff participation	48
7.6	Recommendations	50
8	Address key operational risks in emergency management	51
8.1	Key findings	51
8.2	Address areas of breakdown of command and control	51
8.3	Improve communication in emergency responses	53

8.4	Enhance focus on staff welfare and safety protocols	54
8.5	Improve procedures to guide staff in emergency responses	55
8.6	Improve information management and data systems	57
8.7	Improve operational guidance for recovery	59
8.8	Recommendations	61

Appendix 1 Audit Scope: Emergency Management Capability

Appendix 2 Recovery roles and responsibilities and clarity of funding available for recovery

Appendix 3 Decision-making in biosecurity responses

1 Executive Summary

The effective management of emergencies due to biosecurity threats and natural disasters is critical to the health and wealth of NSW's people and the health of the environment. Biosecurity emergencies pose a major risk to human health and to the state's economy, trade partnerships and natural resources. For example, it is estimated that a 12-month outbreak of foot and mouth disease could cost the Australian economy between \$10.3 billion and \$16.7 billion.¹ Natural disasters such as fires, floods and severe storms also present a significant risk. In 2016, inland floods cost the NSW agricultural sector an estimated \$827 million, due to extensive damage to crops, pasture and farm infrastructure.²

The Department of Primary Industries (DPI) is the combat agency responsible for control and coordination regarding the prevention of, preparedness for, response to, and recovery from, impacts and effects of any biosecurity emergency in NSW. Local Land Services (LLS) is the primary support agency to DPI for emergency management and has legislative responsibilities for the provision of emergency management services. To build on these agencies' recent emergency management reforms, the Minister for Primary Industries asked the Natural Resources Commission (the Commission) to audit DPI and LLS's emergency preparedness, response and recovery operations.

The Commission has completed this audit in accordance with the scope approved by the Minister and endorsed by both agencies (**Appendix 1**).

Overall, we found that DPI and LLS have achieved effective outcomes and demonstrated several strengths in delivering their emergency management functions. They have also commenced an emergency management reform program that, if fully implemented, is expected to address some key risks and capability gaps. However, to ensure the agencies have the level of capability and capacity required to rapidly respond and successfully manage future emergencies, further reforms are required.

DPI and LLS have achieved effective outcomes and demonstrated several strengths

The audit highlighted that both DPI and LLS have a core group of dedicated, capable staff they can deploy to deliver emergency response services, as well as structures to efficiently engage extra-jurisdictional resources and expertise when needed. Their own response staff have professional skills, and effectively draw on local networks and knowledge to understand the needs of landholders affected by an emergency event. This is a key strength, enabling effective responses. In the audit case studies we examined, response staff also demonstrated adaptability, flexibility, and the ability to work together to solve problems and remain resilient in a high-stress environment.

DPI and LLS have demonstrated a positive approach to working with industry and community organisations in emergency preparedness, response and recovery. External stakeholders interviewed for the audit commended their work in emergency recovery. These included other government agencies, community organisations and industry groups. Stakeholders viewed both agencies as high-performing organisations in recovery, and reported that they were effective in delivering post-disaster support and meeting the needs of regional communities.

¹ NSW [Biosecurity Strategy 2013-2021](#), page 9.

² NSW Department of Justice, [Regional Recovery Co-ordinator Report, September 2016 NSW Inland Flooding](#), page 16.

Our audit case studies – which focused on two recent biosecurity events and one natural disaster event³ – demonstrated that DPI and LLS have been successful in achieving outcomes in emergency response and recovery. As a result of their responses to these events, the biosecurity threats were contained and assistance was successfully provided to landholders. However, the cases studies were relatively small-scale events. The audit identified risks that could result in ineffective responses, particularly for large-scale emergencies or multiple medium-scale emergencies.

Completion of the current reform program

DPI and LLS have commenced a reform program that should address some key risks and capability gaps. In particular, we expect that the program, if fully implemented, will address identified operational issues related to data systems and intelligence, communications, staff training, and the adequacy of control centres.

The Commission fully supports the reform program, and its full and timely implementation. We note that while some progress has been made – including investments in the Government Radio Network, learning and development – implementation is still at an early stage.

It is too early in the reform process to determine its outcomes. The audit found that DPI and LLS need to ensure that the reforms fully address five key areas. We believe it is necessary to address the issues outlined below to ensure that DPI and LLS have a clear strategy and the necessary capability to respond to the range of emergency scenarios they may face in the future.

Several of the issues and risks identified have been identified in previous audits and After Action Reviews after major incidents. Staff interviewed by the Commission expressed fatigue and frustration that similar issues have been raised repeatedly and remain unaddressed. The Executive Emergency Management Committee has recently been given clear responsibility for enacting recommendations from reviews and audits. Progress in addressing action items should be routinely tracked and reported to relevant audit committees to ensure progress is being made.

Clarify organisational roles and responsibilities

The Commission found that a lack of clarity about DPI's and LLS's respective roles and responsibilities is a risk to the state's overall emergency preparedness and response capability. There is a lack of clarity about the agencies' specific roles and responsibilities in managing biosecurity emergencies under the Biosecurity (Animal and Plant) Emergency Sub Plan ('Biosecurity Sub Plan'), and delivering the functions set out in the Agricultural and Animal Services Functional Area (AASFA) Supporting Plan ('AASFA Supporting Plan'). Currently, too much of the detail about who will do what must be negotiated during an emergency response.

This lack of clarity has created organisational tensions between DPI and LLS. It has also affected their ability to plan their internal capacity for emergency management, and thus may result in under-resourcing of emergency responses. Providing greater clarity will enable each agency to understand its specific role and responsibilities and resource these responsibilities accordingly. It should also facilitate a shift from an 'us and them' culture to one of genuine partnership and 'delivery as one'.

³ The case studies examined were the response to red imported fire ants in Port Botany (2014), the response to the lupin anthracnose plant disease in the Riverina (2016), and the response to the Sir Ivan Fire in the Warrumbungle area (2017).

Roles in the recovery phase are also unclear. DPI and LLS take a flexible approach to assigning these roles and responsibilities in line with the NSW Recovery Plan. However, providing greater clarity would improve each agency's internal planning and budget allocation for recovery efforts. In particular, the role of the Department of Industry's (DoI's) Regional Directors' in recovery should be reinforced, given their strategic importance and value in coordinating recovery efforts. Their ability to engage with other State agencies and mobilise resources for agricultural services is highly beneficial.

Clarify operational decision-making procedures

The case studies identified a lack of clarity and consistency in the agencies' documented decision-making responsibilities, especially during the incident investigation phase of biosecurity emergencies. This results in staff confusion and contributes to delays in fully resourcing responses.

The decision-making authority and accountability for mobilising and de-mobilising resources, developing and approving response plans, and declaring biosecurity emergencies need to be clearly documented, particularly for fully state-funded responses. In addition, an incident management team needs to be deployed in the early stages of a response, to ensure these stages are sufficiently resourced and to enable a prompt and scalable response.

Develop and implement a risk-based workforce plan

We found that the absence of a risk-based workforce plan for emergency management is a significant risk to ensuring that DPI and LLS have sufficient capability to respond to critical biosecurity events and natural disasters. Previous audits have highlighted the need for the agencies to undertake detailed workforce planning, including for a major biosecurity event.⁴ DPI has initiated a workforce capability planning project as part of the existing reform program, and this should be completed to develop a joint workforce plan for both organisations as a matter of urgency.

The workforce plan should be based on the agreed level of risk that the organisations are willing to accept, as negotiated and approved at the highest level of DPI and LLS. It should also identify the capabilities and capacity needed across both DPI and LLS to meet the minimum requirements based on the risk appetite. Training targets should be reviewed to align with the agreed level of risk and the workforce plan, and agencies should be accountable for tracking and reporting on staff capability and capacity at regular intervals.

DPI and LLS staff we interviewed in the audit perceived that their agency's internal capability and capacity have declined over the last four years. We could not obtain sufficient data to confirm definitively whether this is the case. However, capability within specialised areas and highly trained positions relevant to emergency management has declined in recent years. This should be addressed by developing the workforce plan and training targets. DPI and LLS should also continue to leverage external resources and harness the workforce potential within the broader industry cluster.

⁴ Industry, Skills and Regional Development: Review of the Emergency Management Function in DPI (2016); Foot and Mouth Disease (FMD) Capacity & Capability Assessment, November 2017.

Improve business continuity planning and funding strategies

DPI and LLS should improve business continuity planning and funding strategies to enable ready access to resources needed to rapidly respond to potential emergencies, and carry out the response and recovery activities necessary. Business continuity planning should reinforce that emergency management is a core service of both agencies. DPI's Biosecurity and Food Safety branch has recently completed a business continuity plan for its branch. LLS should complete statewide and regional business continuity plans in consultation with DPI, identifying what core services each region or branch must continue to provide in the event of an emergency. This should enable increased staff mobility to responses.

In addition, DPI and LLS need to improve their overall strategy for funding emergency management across both agencies. They have increased their funding for emergency prevention and preparedness since LLS was established in 2014. This funding is critical and should continue on a stable, ongoing basis. However, budgeting for emergency response and recovery is more difficult, as emergency needs are unpredictable, and requires a more strategic approach.

Once their respective roles and responsibilities for emergency responses and recovery are clarified, DPI and LLS need to ensure they have sufficient resources to fulfil them. They should consider the best funding approach to provide them with the flexibility to allocate resources to the area of need, in the time of need. For example, LLS and DPI should consider developing a contingency fund (or funds) that would allow quick access to resources for incident investigation and rapid deployment of incident control teams. To be effective, this should be able to be rolled over from year to year. Recent efforts to move towards risk-based funding allocation should be embraced and extended. There is also an opportunity to better leverage funds that are available under national arrangements as specified in the NSW Disaster Assistance Guidelines.

Address key operational risks in the implementation of emergency responses

Finally, our audit case studies identified a range of issues that, while they did not have a major impact in those small-scale emergency responses, could present significant risks in large-scale events. To address these issues, DPI and LLS need to take steps to ensure:

- consistent staff adherence to functional roles under the command and control structures
- improved information flow upwards and downwards, enhancing communication between staff and between control centres at each level
- consistent adherence to safety protocols and increased focus on staff welfare in responses
- improved staff access to robust data management systems for tracking responses
- consistent adherence to all documentation requirements and record keeping protocols.

1.1 Recommendations

Recommendation	Priority
<p>1 The Director General of DPI and Board of Chairs for LLS should agree on the specific responsibilities of each organisation in emergency preparedness, response and recovery, and negotiate an agreement that clarifies organisational roles and responsibilities, noting the need to be flexible and responsive in emergencies, including:</p> <ul style="list-style-type: none"> ▪ the organisation that is responsible for leading each type of response at each scale, and if this is variable, then the specific triggers for transferring the responsibility ▪ an indicative guideline on the expected level of LLS staff involvement across different types of biosecurity emergency responses (for example, emergency animal diseases, plant diseases, invasive species) and types of AASFA responses, and whether this is consistent across all types of responses ▪ an indicative guideline on the role of DPI and LLS in the recovery phase. The agreement should clarify, in particular, the role of DPI Agriculture and the DPI Rural Resilience Program. 	High
<p>2 DPI and DoI should agree, in consultation with LLS, on revising the role of DoI's Regional Directors in emergency management, principally focused on coordinating recovery.</p>	Medium
<p>3 DPI, in consultation with LLS, should update the Biosecurity Sub Plan, the AASFA Supporting Plan and other relevant policy documents to reflect updated agreements on the roles of each organisation for each phase of emergency response.</p>	Medium
<p>4 The Executive Emergency Management Committee should ensure that there are systematic processes and clear lines of accountability established for the implementation of the actions agreed through After Action Reviews and other audits of the emergency response functions. Actions agreed by the Committee should be resourced and communicated to staff in DPI and LLS to promote a culture of continuous improvement in emergency management.</p>	High
<p>5 DPI and LLS should jointly reinstate the LLS-DPI Business Plan for Emergency Management and re-establish monitoring, evaluation and reporting arrangements to retain accountability for emergency preparedness in LLS regions and across DPI.</p>	Medium
<p>6 DPI and LLS should review and clarify decision-making processes, procedures and delegated responsibilities for all stages of a biosecurity response and an AASFA response, and ensure all staff members are trained and understand the processes to address areas of uncertainty outlined in chapter 5.</p>	High

7	<p>DPI and LLS should develop and implement a combined workforce plan for risk-based emergency response to lift capability and capacity to the desired level. DPI should lead the development of the plan in consultation with LLS. Implementation of the plan should be mandated at the highest level and resourcing decisions should be based on:</p> <ul style="list-style-type: none"> ▪ detailed risk assessments including specific quantitative information on the impacts of biosecurity threats and other hazards. ▪ Agreement between the DPI Director General and the LLS Board of Chairs on risk appetite and an understanding of any gaps in funding to work within the agreed level of risk. ▪ established minimum capability standards for LLS regions (this should be implemented across LLS via a directive from the LLS Board, prosecuted by the LLS CEO) ▪ combined agency workforce data. Agencies should agree on data to be collected and common definitions for various emergency management roles, and data should be regularly reported to the executive and relevant audit committees to track the implementation of the workforce plan and monitor capacity changes. ▪ assessment of any inconsistencies in the application of industrial awards and consideration of the introduction of higher duties payments where appropriate ▪ detailed plans for the engagement of appropriate external human resources as needed. 	High
8	<p>DPI and LLS should improve the system and procedures for tracking and accessing the full range of trained staff within both agencies across the state during an emergency. Rostering responsibilities should be clearly defined and managed centrally.</p>	Medium
9	<p>DPI and LLS should further strengthen learning and development for emergency management to address opportunities identified in section 6.4.2.</p>	Medium
10	<p>DPI and LLS should establish clear agreements on funding arrangements to match the agreed organisational accountabilities through a Memorandum of Understanding, so that emergency responses are not delayed or under-resourced because of funding uncertainty.</p>	High
11	<p>DPI should clarify funding availability for emergency response and recovery, particularly for the incident definition phase and activation of the response. This should include the following:</p> <ul style="list-style-type: none"> ▪ for biosecurity emergencies, DPI in collaboration with NSW Treasury should establish a contingency fund to avoid delays and ensure there are sufficient resources for an incident management team allocated. ▪ DPI, as the AASFA Coordinator, should update the existing DPI Disaster Finance Guide to ensure it is consistent with the NSW Disaster Assistance Guidelines. This should be done in consultation with the Department of Justice. 	High
12	<p>LLS should develop statewide and regional business continuity plans that identify core services that must be delivered during emergency management activities, and facilitate access to appropriate staff resources.</p>	Medium

13	<p>LLS should undertake a review of its statewide funding allocation and internal resourcing of emergency management functions across each region to clarify whether:</p> <ul style="list-style-type: none"> ▪ each region’s budget allocations are sufficient, based on risk and capability needs, taking into consideration the need for all regions to support statewide responses ▪ a statewide funding approach, such as setting aside appropriate allocations for statewide management of response and recovery, would enhance LLS’s emergency management capability. 	High
14	<p>DPI and LLS should ensure that command and control management is implemented by:</p> <ul style="list-style-type: none"> ▪ ensuring that the AIIMS/BIMS⁵ principles are followed and are operating effectively during emergency responses ▪ improving two-way communications between the control centres and forward command posts so that problems are identified and rectified in a timely manner ▪ ensuring that response staff consistently document responses and adhere to all relevant processes, including the completion of After Action Reviews. 	High
15	<p>DPI and LLS should work with other combat agencies to give AASFA control centres access to the intelligence systems of other combat agencies, including the Rural Fire Service (RFS) ICON system, to improve AASFA staff members’ situational awareness.</p>	Medium
16	<p>DPI and LLS should improve access to counselling services for staff and landholders during emergency response and recovery events.</p>	High
17	<p>DPI processes and systems should be updated to ensure there are:</p> <ul style="list-style-type: none"> ▪ Standard Operating Procedures for AASFA relating to catastrophic fire conditions and other forecast major incidents ▪ policies and strategies for the timely management of new pest incursions and strengthened internal quality assurance processes for emergency response strategies ▪ improved procedural guidance for AASFA operations, including on animal welfare and treatment options, recording landholder permissions and responsibilities for fodder management in an emergency. 	Medium
18	<p>DPI and LLS should improve operational guidance for recovery by developing a best practice guide, building on AASFA experience, and improve and streamline the disaster impact assessment reporting process.</p>	Low

⁵ Australasian Inter-service Incident Management System and Biosecurity Incident Management System.

2 Background and methodology

The Commission has undertaken an independent performance audit of Department of Primary Industries (DPI) and Local Land Services' (LLS) emergency management capability.

DPI is the combat agency responsible for controlling and coordinating the prevention of, preparedness for, response to, and recovery from the impacts and effects of any biosecurity emergency in NSW.⁶ Biosecurity emergencies are caused by pests (including locusts), diseases and weeds that adversely impact on the economy, environment and community.

For natural disasters, the State Emergency Service (SES) and the Rural Fire Service (RFS) are the combat agencies for floods, fires, and major storms, and DPI is the coordinator of the NSW Agricultural and Animal Services Functional Area (AASFA) Supporting Plan.⁷ DPI coordinates AASFA resources for the prevention of, preparedness for, response to, and recovery from the impacts and effects of emergencies that affect primary producers and animal welfare, including floods, bush fires, storms, locust plagues, and marine pollution.⁸

LLS is the primary support agency to DPI for emergency management and has legislative responsibilities for the provision of emergency management services. LLS is the principal supporting agency within AASFA, and under this Supporting Plan, 'enhance(s) the capacity of all landholders to plan and prepare for, respond to, and recover from emergencies and provide(s) resources to organise and coordinate emergency management activities including field operations, incident management and recovery activities'.⁹

Audit methodology

The audit has been carried out consistent with the audit scope approved by the Minister for Primary Industries on 15 January 2018, and endorsed by both DPI and LLS (**Appendix 1**). Each stage of the audit is outlined below.

- In stage one, 30 audit interviews were held. We received and analysed over 450 survey responses from LLS and DPI staff. We also consulted with other Australian jurisdictions.
- In stage two, 10 workshops and 31 interviews were held, with 81 people participating. Participants included staff at DPI, LLS and Department of Industry (DoI); other government agencies; landholders impacted by emergencies; industry representatives; and community organisations
- In stage three, 24 interviews were held with a total of 31 participants. These included Regional Recovery Coordinators; staff across DPI, LLS and DoI; the Rural Resilience Authority; industry organisations; and community organisations.

The Commission also engaged experts in biosecurity and emergency response to assist in the audit analysis. The experts engaged by the Commission were: Dr. Ron Glanville and Dr. Ian Douglas from Biosecurity Advisory Services, and Andrew Gissing from Risk Frontiers.

⁶ NSW Government, [NSW State Emergency Management Plan \(EMPLAN\)](#), page 39 (Annexure 3) (under the *NSW State Emergency Management Act 1989*), and NSW Government, [Biosecurity \(Animal and Plant\) Emergency Sub Plan: A sub plan of NSW State Emergency Management Plan](#), version 5, January 2017.

⁷ NSW Government, [NSW State Emergency Management Plan \(EMPLAN\)](#), page 40 (Annexure 4), and NSW Government, [Agricultural and Animal Services Functional Area \(AASFA\) Supporting Plan: A supporting plan of NSW State Emergency Management Plan](#), Version 2, January 2017 ('AASFA Supporting Plan').

⁸ "Emergency" is defined in the *NSW Emergency and Rescue Management Act 1989* (Section 4) as: "an actual or imminent occurrence (such as fire, flood, storm, earthquake, explosion, terrorist act, accident, epidemic or warlike action) which: (a) endangers, or threatens to endanger, the safety or health of persons or animals in the State, or (b) destroys or damages, or threatens to destroy or damage, property in the State, being an emergency which requires a significant and co-ordinated response."

⁹ NSW Government, AASFA Supporting Plan, January 2017, Sections 21 and 22.

The Commission ranked the audit recommendations according to the following risk criteria:

Priority rating definitions	
High	A high risk area that requires immediate attention, as the action is a core element of emergency response capability and has not been sufficiently addressed to date. Actions that require immediate attention may also be projects that will be implemented over a longer duration.
Medium	A moderate risk area that requires attention, as the action is an important element of emergency response capability and has not been sufficiently addressed to date.
Low	Moderate risk area that requires attention, and action has already been commenced by DPI and/or LLS to address this risk area, but should be reinforced. Alternatively it is a low risk area that requires attention to improve overall capability.

3 Key strengths and capabilities in emergency responses

3.1 Key findings

Key findings

- DPI and LLS have a core group of highly professional, dedicated staff engaged in emergency management.
- Emergency response efforts have had a positive impact on raising the profile and visibility of DPI and LLS in the broader community.
- DPI and LLS have strong partnerships with other government departments (RFS, SES and local government); good cooperation with other jurisdictions (Queensland and the Commonwealth) and strong industry partnerships (NSW Farmers Association, Pulse Australia, and the nursery industry) that assisted in the efficient and effective delivery of emergency responses.
- DPI and LLS have initiated emergency management reforms, to address key capability gaps and risks associated with delivering their emergency management functions.

3.2 Staff professionalism and experience

A key strength of DPI and LLS is the commitment and professionalism of a core group of staff engaged in emergency management. DPI and LLS staff demonstrated an ability to draw on local networks and knowledge, and understand the needs of landholders impacted to quickly respond. In particular, landholders interviewed by the Commission expressed a high level of appreciation to AASFA staff for their professional and efficient support after the Sir Ivan fire. The response staff in all case studies reviewed demonstrated an ability to adapt and be flexible, work together to solve problems, and remain resilient in a high-stress environment.

DPI and LLS both have a broad resource base and diverse set of professional skillsets to draw on in an emergency response and in recovery. In the Sir Ivan fire and red imported fire ants (RIFA) responses, staff were mobilised from a broad range of LLS regions, and staff had a range of professional skills they could draw from in the emergency response (for example, biosecurity, land services and administration). DPI staff were also drawn from a range of branches, including Agriculture, Biosecurity and Food Safety, and Fisheries. Response staff in each of the responses drew on their professional experience and capabilities from their regular work, as well as the training they received in emergency response. For example, LLS staff field experience was effectively used in the Sir Ivan fire response (including safe handling of fire arms and aerial surveillance).

Supported by these dedicated and experienced staff, DPI and LLS achieved successful outcomes in the three case studies reviewed. While the Commission identified several areas of potential risk in assessing the case studies, it is commendable that DPI and LLS worked through issues to achieve effective outcomes. The recommendations in this audit seek to identify how DPI and LLS can build on their strong foundation and reduce operational risks for future responses.

3.3 Enhanced visibility and community engagement

Stakeholders and staff interviewed indicated that recent emergency response efforts have had a positive impact in raising the profile of DPI and LLS in the broader community. DPI and LLS' visible response to biosecurity emergencies, provided an opportunity to promote the importance of biosecurity as a shared responsibility in line with the NSW Biosecurity Strategy 2013–2021. DPI reported that it and LLS received positive feedback from the broader community about the swift response to the RIFA outbreak. The RIFA response enabled DPI to

promote the important role that the community plays in detecting pests. Similarly, the lupin anthracnose response opened doors for DPI and LLS dialogue with the broader community about biosecurity and the new biosecurity legislation (*NSW Biosecurity Act 2015*).

In the Sir Ivan fire response, landholders reported to the Commission that DPI and LLS were among the higher-performing agencies in the emergency response. The transition to the recovery phase enabled DPI and LLS to work closely with the communities impacted by the fire. Throughout this process, DPI and LLS gained stronger landholder connections, which has helped improve their service delivery to landholders.

3.4 Strong engagement with other government agencies

DPI and LLS are perceived by other government agencies as strong-performing agencies in emergency management, and have demonstrated good on-ground cooperation. The case studies reviewed demonstrated NSW has the structures in place to efficiently engage extra-jurisdictional resources as needed. For example, in the RIFA response, expertise was drawn from Queensland, which had a depth of experience in controlling RIFA. The fact that Queensland's biosecurity agency was brought to the outbreak quickly demonstrates well-functioning relationships between the various state and Commonwealth players. The ability to link to, and develop, these networks is critical to maintain for future success.

The case studies also demonstrated DPI's capabilities in commanding and coordinating other government agencies (additional to LLS) as the biosecurity emergency combat agency. In the RIFA response, DPI used resources from RFS and SES, which both provided response staff and volunteers. The RFS staff interviewed by the Commission reported positively on their cooperation with DPI in the RIFA response. National Parks and Wildlife Service staff also received training from DPI and undertook surveillance of the area that fell within their jurisdiction.

Local government reported positively on the role of DPI and LLS in delivering the AASFA services in the Sir Ivan fire response. Local government stakeholders noted that the AASFA liaison officer was present in the Local Emergency Operations Centre promptly after the fire was contained and that AASFA rapidly established an emergency hotline for agricultural support.

3.5 Engagement with industry and non-government organisations

DPI and LLS have demonstrated a positive overall approach to working with industry in emergency management. DPI and LLS aimed to have minimal disruption to industry and the local community in handling biosecurity emergencies. For example in the RIFA response, significant efforts were made to keep disruption to industry (particularly the Port facility operations) at a minimal level.

The lupin anthracnose response demonstrated positive DPI and LLS engagement with industry. This included consultation with the NSW Farmers Association in formulating the response strategy, and cooperation with industry group, Pulse Australia, from the initial of detection of the anthracnose disease. Pulse Australia provided DPI with the baseline data (estimations of the number of lupin crops in the region) and contributed significant person-hours to the initial crop surveillance and disease detection before the Local Control Centre (LCC) was established.

In the Sir Ivan fire, the AASFA response staff from LLS efficiently contracted and coordinated private operators to fulfil part of the response action, such as digging burial pits. The AASFA response staff from LLS also participated in community outreach events, and shared information appropriately with other supporting agencies, such as BlazeAid.

3.6 Emergency management reforms

DPI and LLS have identified some of the key capability and capacity gaps across both organisations in delivery the emergency response functions. They have commenced an emergency management reform program, recognising the risks these gaps have on their ability to effectively respond to a major emergency or multiple smaller emergencies occurring in parallel. The priority reform projects have been identified through a series of previous audits and After Action Reviews (AARs). The DPI Director General's visit to the Sir Ivan fire response highlighted these issues and triggered investment in the current reforms.

The Commission believes that the reform program, if fully implemented, will address some of the key capability and capacity gaps, but that further reforms are necessary. Early achievements have been seen, including DPI's investment in DPI and LLS access to the Government Radio Network and improvements to the learning and development program.

Reform projects are expected to make further improvements if fully implemented. For example the following projects will be important for addressing key gaps:

- *Systems and intelligence project:* DPI has allocated \$2.5 million over three years to develop a case management system that is expected to address many of the identified on-ground issues in an emergency response associated with event recording, mapping and task-tracking. Once fully operational it will be web-based and used by DPI and LLS staff in their daily work as well as in emergency responses. This is expected to ensure that most DPI and LLS staff are familiar with the system before needing to participate in a response.
- *Adaptable control centres project:* DPI has allocated \$3.1 million over two years to build a dedicated State Coordination Centre (SCC) for DPI and LLS, upgrade local control centres, and deliver a mobile command facility fitted out for rapid response events.
- *Learning and development:* DPI has allocated \$4.2 million over three years to further upgrade the learning and development program for emergency management. This includes developing and delivering online and face-to-face training and exercises.

This initial three-year investment will accrue longer term benefits through capital investments and the development of learning and development systems. An ongoing focus on maintaining investment in capability and capacity will be critical to sustaining these reforms over the long term, including developing and sustaining a culture of preparedness and prompt response.

4 Organisational roles, responsibilities and accountability

4.1 Key findings

Key findings

- DPI and LLS have a range of plans and agreements that aim to outline organisational roles and responsibilities. They are undertaking a review of these through the current reform process, which provides an opportunity to address audit findings.
- Organisational roles and responsibilities and accountabilities in the Biosecurity Sub Plan and the AASFA Supporting Plan are insufficiently clear to ensure roles are understood and appropriately resourced. Too much detail is left to be negotiated during incidents.
- Governance arrangements do not clearly specify which agency is responsible for each phase of the emergency and at each scale for different types of emergencies (for example, natural disasters or biosecurity incidents).
- The lack of clear roles and responsibilities leads to tension between DPI and LLS and the potential for each agency to expect the other to fulfil certain roles. This can negatively impact emergency responses, and lead to reduced levels of preparedness.
- Roles in recovery are intentionally flexible; however, better clarification of roles and responsibilities would reduce internal tensions, assist in resource planning, and further enhance recovery operations.
- There is limited accountability for following up on After Action Reviews and audits, or monitoring and reporting against key capability criteria. The Executive Emergency Management Committee has recently been given responsibility for following up on After Action Reviews, which should aid in addressing this issue.

4.2 Increase clarity of roles in overarching governance documents

The overarching legislation and policy documents lack clarity in relation to what LLS and DPI are specifically responsible for in emergency management. This affects each organisation's ability to appropriately plan for and resource each stage of emergency management, and creates risks for efficient and rapid response. It also creates tension between DPI and LLS, and may result in under-resourcing if each agency expects the other to be responsible for certain tasks.

High level governance arrangements

The DPI-LLS Alliance Policy and Strategic Plan for Emergency Management describes the work of DPI and LLS as a 'shared responsibility'. It does not further define the respective responsibilities of DPI and LLS for the emergency phases (preparedness, prevention, response and recovery). There is a lack of clear agreement between the two organisations on the specific roles and responsibilities for each of the emergency phases, and for different types of emergencies. Table 1 outlines the high-level guidance on roles and responsibilities.

Some functions currently performed in practice are also inconsistent with the responsibilities described in the Biosecurity Sub Plan and the AASFA Supporting Plan. In particular, DoI's Regional Directors no longer perform a combat role as regional incident controllers in emergency responses, as prescribed in the AASFA Supporting Plan. Instead, the Regional Directors play an important strategic role in recovery (discussed below) and the AASFA

Supporting Plan should be updated to reflect their role in practice. The role as defined in the AASFA Supporting Plan overlaps with the Incident Controller and should be revised.

Table 1: Overarching accountabilities of DPI and LLS in emergency management

Department of Primary Industries (DPI)	
Biosecurity responses	DPI is the combat agency responsible for controlling and coordinating the prevention of, preparedness for, response to, and recovery from, impacts and effects of any biosecurity emergency in NSW. ¹⁰
Natural disasters	DPI coordinates AASFA resources for the prevention of, preparedness for, response to, and recovery from the impact and effects of emergencies that impact on primary producers and animal welfare, including floods, bush fires, storms, locust plagues, and marine pollution. ¹¹
NSW Biosecurity Act 2015	
The Secretary of DoI has the powers to declare a biosecurity emergency and establish measures to respond to that biosecurity emergency. The Secretary may make an emergency order only if the Secretary is satisfied, or reasonably suspects, that there is a current or imminent biosecurity risk that may have a significant biosecurity impact (Part 5, section 44). The Secretary has delegated this authority to the Director General of DPI and other staff in DPI (see section 5.2.1).	
Local Land Services (LLS)	
Biosecurity responses	LLS enhances the capacity of all landholders to plan and prepare for, respond to and recover from biosecurity emergencies. It also provides resources to organise and coordinate emergency management activities, including field operations, incident management and recovery activities. ¹²
Natural disasters	LLS is the principal supporting agency within AASFA. LLS enhances the capacity of all landholders to plan and prepare for, respond to and recover from emergencies. It also provides resources to organise and coordinate emergency management activities, including field operations, incident management and recovery activities. ¹³
NSW Local Land Services Act 2013	
Under Section 4(c), LLS is required to deliver “programs and advisory services associated with agricultural production, biosecurity, natural resource management and <i>emergency management</i> , including programs and advisory services associated with.... preparedness, response and recovery for animal pest and disease and plant pest and disease emergencies and other emergencies impacting on primary production or animal health and safety”.	
Under Section 12, the Secretary of DoI can assume responsibility for controlling the actions of LLS for the purposes of responding to an emergency, and require the Chair of LLS and its staff to comply with any directions that the Secretary issues to LLS staff. The Secretary can assume this responsibility if the Secretary is satisfied that governmental action is required to respond to an emergency that affects one or more specific regions or parts of regions, by order in writing given to the Chair of the LLS Board.	

¹⁰ NSW Government, [Biosecurity \(Animal and Plant\) Emergency Sub Plan: A sub plan of NSW State Emergency Management Plan](#), version 5, January 2017 (under the *NSW State Emergency Management Act 1989*).

¹¹ NSW Government, [Agricultural and Animal Services Functional Area \(AASFA\) Supporting Plan: A supporting plan of NSW State Emergency Management Plan](#), Version 2, January 2017 (under the *NSW State Emergency Management Act 1989*).

¹² NSW Government, [Biosecurity \(Animal and Plant\) Emergency Sub Plan: A sub plan of NSW State Emergency Management Plan](#), version 5, January 2017, page 9.

¹³ NSW Government, [Agricultural and Animal Services Functional Area \(AASFA\) Supporting Plan: A supporting plan of NSW State Emergency Management Plan](#), January 2017, Sections 21 and 22.

The results of the staff survey demonstrated a lack of consistency in staff members' understanding of the roles and responsibilities of DPI and LLS in emergency management. Approximately half of those surveyed reported that they have a clear understanding of the roles and accountabilities of DPI and LLS in a biosecurity emergency and a natural disaster (see Figure 1).¹⁴

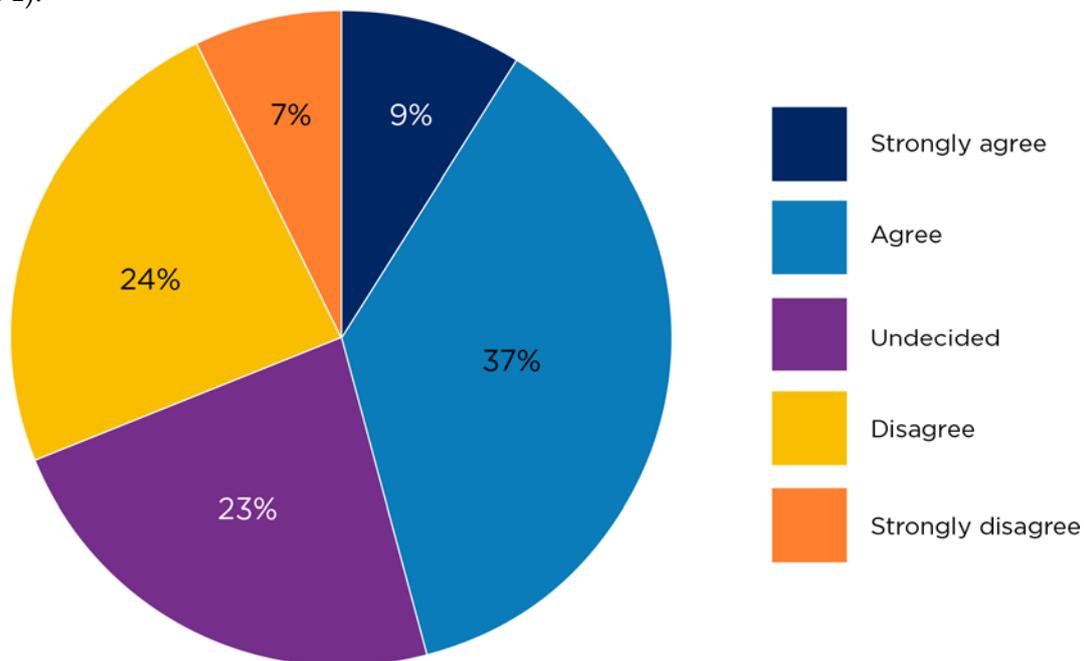


Figure 1. Clarity of staff members' understanding of the roles and accountabilities of DPI and LLS

The Commission is of the view that the Biosecurity Sub Plan and the AASFA Supporting Plan should be updated to ensure both organisations have improved clarity on the emergency management functions they are required to deliver. Agreement through a Memorandum of Understanding or through operational plans is less enforceable and provides less clarity than updates to the Sub Plan and Supporting Plan. Clarity in the higher level plans would align with the practice of other functional areas, such as Health Services, under the NSW Health Services Supporting Plan. Health Services has more specific detail in its emergency management supporting plan as to the roles and responsibilities of participating and supporting organisations.¹⁵ In particular, the Health Services Supporting Plan incorporates a detailed Concept of Operations, and describes the responsibilities within each phase of emergency management.

Specific roles should be agreed between the Director General of DPI and the Board of Chairs for LLS. As a matter of practicality, it may be more efficient for the Board of Chairs to allocate negotiation of the responsibilities (for example, to the CEO) and endorse the final agreement.

4.3 Address specific areas of role confusion within each stage

As a result of the lack of clarity in the overarching documents, there is high degree of uncertainty around the delivery of specific functions. In practice, the level of support provided by each organisation relies on good will and cooperation, and is negotiated on a case-by-case and region-by-region basis. This impacts on the ability to rapidly organise resources to ensure

¹⁴ In the response to the statement 'I have a clear understanding of the roles and accountabilities between DPI and LLS in a biosecurity emergency and a natural disaster', 45 percent of staff who agreed (including 8.75 percent 'strongly agreed' and 37 percent that 'agreed'), whereas 31 percent of staff either disagreed (24.3 percent) or strongly disagreed (6.56 percent) with the statement; a further 23 percent of staff were undecided.

¹⁵ [NSW Health Services \(HEALTHPLAN\) Supporting Plan](#), page 19.

incidents are addressed in the most timely way possible, and to ensure emergencies have sufficient staff managing them.

Good will and cooperation will continue to be a critical element of the DPI-LLS relationship. However, these are likely to be undermined over time if there continues to be no clear agreement between DPI and LLS on the division of labour:

- for specific emergency management functions for each type of emergency
- across the incident investigation phase
- in activating and de-activating the emergency response
- in recovery.

4.3.1 Emergency preparedness

There are a range of emergency preparedness functions that are currently being fulfilled by both DPI and LLS staff, including:

- developing regional emergency plans
- representing the AASFA on local emergency management committees
- undertaking annual disaster and biosecurity risk assessments
- developing regional concept of operations
- undertaking outreach to industry and landholders for emergency preparedness
- running local staff training exercises and scenarios.

This creates the risk of either duplication or under-resourcing of emergency preparedness if each agency defers to the other to take responsibility.

The lack of policy clarity on roles and responsibilities for emergency management, has led to significant variation in the extent to which regions are prepared. The functions that LLS and DPI staff in each region will agree to be responsible for in emergency management, vary depending on the extent to which managers have prioritised emergency management functions in their region. Some regions have developed regional emergency management plans and detailed concept of operations describing the roles and responsibilities of each organisation (and assigning individual staff to different functions in the emergency response). Some regions have created additional full-time roles dedicated to emergency management, whereas other regions have minimal levels of staff time allocated to emergency preparedness.

LLS' internal governance and unique regional structure adds to the complexity of the emergency preparedness arrangements, as LLS General Managers report primarily to their local boards. The LLS General Managers interviewed noted that local boards may not see emergency preparedness as a priority. Further, they may have concerns that regional resources invested in emergency preparedness could be used in other LLS regions to handle a response.

Variation across regions in the level of emergency management preparedness and operational flexibility should still be enabled and encouraged, but it should be informed by a statewide risk assessment. Minimum expectations and performance standards should be determined for emergency preparedness at a regional level. These should be established within a statewide framework, as part of a statewide workforce planning process based on the agreed risk appetite (see section 6.2).

4.3.2 Emergency response

The documentation on roles and responsibilities is, in some cases, inconsistent or incomplete and leaves decision-making and accountability unclear.

The DPI Emergency Management Concept of Operations for 2018–2019, updated in June 2018, states 'LLS will be responsible for coordinating local responses with NSW Department of Industry Regional Director support as required'.¹⁶ However, it also notes that 'NSW DPI and LLS staff are available across NSW to respond and if further resources are required the State emergency arrangements will be activated to seek support from other agencies'.¹⁷

It remains unclear whether DPI staff are expected to be involved in any local responses, such as plant disease responses, and emergency animal diseases. For natural disasters that have only local impacts, it is unclear in practice whether LLS would be expected to lead and manage the entire response without any DPI involvement. Triggers or decision-making processes for determining if a response is local or requires additional resources are not specified. DPI and LLS staff confirmed in interviews that such triggers are not clear, and that 'local' is not clearly defined, with different respondents taking this to mean different things. The Commission is of the view that consistent with their legislated responsibility as the combat agency, DPI should always be involved in biosecurity responses.

The requirement in the DPI Concept of Operations that LLS 'coordinate local responses' appears to have further confused roles rather than clarified them. The Biosecurity Sub Plan, AASFA Supporting Plan, and DPI Concept of Operations should clearly define which agency is responsible for what at each scale and for each type of emergency. Roles and responsibilities in the incident definition stage are particularly unclear. Specific concerns around decision-making processes in the incident definition and emergency response phases are discussed in detail in chapter 5.

There are mixed views amongst staff across the two organisations about the staff resourcing that each organisation should supply to responses. This presents some risks in terms of the potential to under-staff responses and potential delays in responding to emergencies. The Secretary (or their delegate) can command LLS staff in an emergency situation. However, this power has not historically been used, and it's preferable to have a clear understanding of resourcing expectations for each agency before an emergency occurs.

In the case studies reviewed, DPI predominantly filled the SCC positions in each response and LLS predominantly staffed the LCC and field positions. However, it was unclear in the responses whether DPI should also be expected to have a larger field operations role in responses and whether LLS staff (potentially from State Operations) should also be in the SCC, depending on the circumstances and the relevant staff skill sets. There would be benefit for both organisations for staff from each agency to sit in each centre, even if just as a learning opportunity to provide training and enhance understanding of each centres needs and operations.

4.3.3 Emergency recovery

External interviews indicate that AASFA's recovery service delivery is well regarded. This reflects the client-centric attitude of staff, who get in and support communities in whatever way needed. Interviews with internal staff in both agencies, and review of documentation indicate that further clarifying respective roles and responsibilities in recovery, would enable enhanced preparation and skills development across both organisations.

¹⁶ DPI [Emergency Management Concept of Operations 2018-2019](#), paragraph 26.

¹⁷ DPI [Emergency Management Concept of Operations 2018-2019](#), paragraph 20.

Recovery services are expected to be delivered by all agencies as part of their core business under the NSW Recovery Plan and DPC guidance.¹⁸ This provides for a flexible approach to recovery, with agencies being engaged as needed for a specific recovery. DPI’s Emergency Recovery Operations Guideline recognises this requirement and states that ‘managing recovery from bio-security and natural disaster emergencies is a whole of department responsibility to support individuals and communities in recovering from impacts’.¹⁹ Major recovery events would exceed the capacity of DPI and LLS to lead the recovery effort, and would require whole-of-government coordination.

The roles of DPI and LLS in recovery are not further defined in policy and guidance documents. In practice, both DPI and LLS have experience in working with landholders to recover through providing recovery advice, contributing to recovery committees and supporting post-disaster agricultural damage assessment process. **Appendix 2** provides a summary of the recovery activities delivered by LLS and DPI, and the level of clarity each organisation has as to whether it is their responsibility to provide this support. While the role of both LLS and DPI’s Emergency Management Unit (EMU) is somewhat clear, the role of some areas of DPI is less clear, including DPI Agriculture, DoI’s Regional Directors and the Rural Resilience Program (RRP) (see Table 2).

Table 2: Key functions in recovery services and the level of clarity of roles

Organisation	Responsibility and level of clarity on roles in recovery
LLS	LLS provides significant staff and resources to support agricultural recovery efforts, including for obtaining data for local damage assessment reporting, delivering on-ground agricultural advisory services, and participating in formal recovery committee structures. Most LLS staff consider recovery a key component of their business. However, some staff consider that their role in recovery is under-funded and can detract from other LLS services.
DoI Regional Directors	DoI’s Regional Directors have played a leading role in recovery efforts following major events such as the Sir Ivan fire, including by chairing the Regional Recovery Committee meetings for the agriculture sector. The Commission found that DoI’s Regional Directors have been central to the success of AASFA recovery efforts due to their strong understanding of regional community issues and established strategic relationships across industry and government. However, their involvement in recovery is based on goodwill and case-by-case negotiations between DPI’s EMU and the Department of Communication & Engagement within DoI. While terms of reference have been agreed for the role of Regional Directors in emergency management between DPI and DoI, the support that Regional Directors have for participating in recovery efforts depends on their manager’s discretion.
DPI Emergency Management Unit (EMU)	The EMU is responsible for coordinating recovery activities for AASFA and for ensuring the AASFA provides representatives on the relevant recovery committees. The EMU also coordinates damage assessment reporting and the administration of AASFA funding for disaster assistance.

¹⁸ Department of Premier and Cabinet Circular, C2011-35 Whole-of-Government cooperation in recovery operations to assist communities in the wake of an emergency.

¹⁹ Department of Primary Industries, [Emergency Recovery Operations Guide](#), page 1.

Organisation	Responsibility and level of clarity on roles in recovery
DPI Agriculture	The role of DPI Agriculture in recovery is unclear. DPI Agriculture has a large regionally based workforce (541 full-time equivalent (FTE) staff) with a mix of technical expertise that is relevant to AASFA recovery operations. While some staff may be constrained due to their positions being externally funded, there is an opportunity to better use DPI Agriculture staff in the provision of recovery advice.
DPI Rural Resilience Program (RRP)	The RRP provides welfare-focused recovery support services for landholders on an individual level. This addresses a previous gap in welfare support services in regional recovery, ensuring that there is a link between landholders and other recovery agencies. Funding for the RRP comes to an end in June 2019. Feedback provided by stakeholders across recovery agencies and roles indicated that the RRP addresses a key gap in the recovery phase and is valued by landholders.

The Commission suggests that DPI and LLS take the following actions to further enhance recovery operations:

- Reinforce and clarify the role of DoI's Regional Directors in recovery to ensure they can continue to provide this valuable role in recovery on behalf of the industry cluster.
- Reinforce and clarify the role of LLS as the primary provider of local recovery agricultural advisory services to land holders as part of core LLS business.
- Reinforce the role of the EMU in coordinating recovery efforts on behalf of AASFA.
- Identify and formalise the role of DPI Agriculture in recovery in providing technical advisory support to strengthen the advice that LLS provides to landholders.
- Support an ongoing role for the DPI RRP to provide welfare services that connect landholders to available support.

4.4 Improving the DPI and LLS relationship

Providing greater clarity on organisational roles and responsibilities will help to facilitate a shift from an 'us and them' culture to one of genuine partnership and 'delivery as one'.

In addition, the Commission believes that change management practices should be identified and implemented to promote DPI and LLS working in partnership and delivering as one organisation. These initiatives should be actively promoted by the executive leadership teams of both organisations, given the need to overcome barriers to staff participation in emergency management (see section 7.4). In particular, providing more opportunities for both organisations to work together in emergency preparedness, could help build a partnership culture, as this would help each organisation to understand its respective strengths and capabilities.

The principles of a good working partnership are: openness, trust and honesty, agreed shared goals and values and regular communication between partners.²⁰ Research demonstrates that when agencies are jointly responsible for service delivery, an effective partnership between them is critical to achieving outcomes and improving local service delivery.²¹ Change management initiatives should focus on building a partnership culture between DPI and LLS,

²⁰ Community Development and Health Network: [Partnership Working, Factsheet](#).

²¹ Community Change (2010) Working Together Effectively. A Basic guide to partnership working options and opportunities. Belfast DHSSPS NI (2012) Fit and Well.

and monitoring the effectiveness of the partnership and the level of cooperation and goodwill across all levels of both organisations.

4.5 Enhance accountability for emergency management

4.5.1 Improve follow up to After Action Reviews and audits

The Executive Emergency Management Committee (EEMC) is made up of relevant members of the NSW industry cluster executive and maintains oversight of emergency control for the industry cluster.²² The role of the EEMC and its responsibility for ensuring the implementation of audit recommendations and post-incident AARs needs to be reinforced by its Chair.

The emergency management reforms have triggered changes to the EEMC in the last 12 months and its terms of reference have been updated to clarify its role. The EEMC is now accountable for following up on the implementation of outstanding recommendations from previous audits and AARs. According to DPI's records in February 2018 (when the data was provided to the Commission), 65 actions from previous audits and AARs were listed as 'in progress' or yet to be implemented dating back to reviews from 2010.²³

The relevant governing boards and executive committees of LLS and DPI also need to incorporate the findings of the previous audits of emergency management and AARs into their corporate risk registers and ensure that agreed actions are followed up. For example the LLS Audit and Risk Committee should be accountable for the implementation of the LLS' agreed actions in response to relevant audits and AARs. AARs for several incidents repeated similar recommendations from previous reviews that have not been implemented.²⁴ Staff interviewed also indicated their fatigue with giving the same feedback on multiple occasions, without seeing any action being taken to address issues previously raised.

4.5.2 Enhance monitoring of emergency preparedness

The DPI-LLS Alliance Business Plan operated for a period in 2015 to 2017 as an accountability framework for emergency preparedness. It provided a mechanism for the DPI and LLS Emergency Management Steering Committee to set the minimum expectations for each LLS region and the DPI staff regarding preparedness. However, reporting on the Business Plan was put on hold given the challenges that some regions had with reporting on its indicators. As such, there is no effective mechanism for setting and tracking emergency preparedness metrics.

The monitoring, evaluation and reporting frameworks developed by experts and used in other states for emergency preparedness and capability monitoring could be adapted as a framework for NSW.²⁵ Regular monitoring and reporting of capability indicators promotes accountability and helps each organisation to understand their capability and capacity gaps. Furthermore, under the State Emergency Management Committee, DPI is accountable for demonstrating its

²² The EEMC's membership may be determined by the size and nature of the emergency and may include Director General, NSW DPI (Chair); Deputy Secretary, Skills and Economic Development; Deputy Secretary, Crown Lands and Water; Deputy Secretary, Corporate Service Partners; Deputy Director General, DPI Biosecurity & Food Safety; Deputy Director General, DPI Strategy & Policy; Deputy Director General, DPI Agriculture; Deputy Director General, DPI Fisheries; Deputy Director General, DPI Performance and Engagement; Executive Director, State Operations (LLS); Office of Small Business Commissioner; CEO, Forestry Corporation NSW (for emergencies that impact native and plantation forests); Director, Rural Assistance Authority; Director, Emergency Operations & Intelligence; and Program Coordinator, EM Reform – Executive Officer.

²³ DPI Emergency Management Unit, Emergency Management Review Summary V6, internal DPI document.

²⁴ Note that there is generally a review process by the executive to review and agree on which recommendations from the After Action Reviews will be implemented.

²⁵ One approach would be to adapt indicators developed by Dr. Ron Glanville in his capability matrix for biosecurity emergency response management, which have been utilised in Western Australia and Victoria.

level of preparedness in coordinating AASFA resources and responding to biosecurity emergencies. DPI must ultimately be able to show to this committee under the State Emergency Management Plan that the cluster is capable and prepared to respond. A clear reporting structure for the cluster on operational readiness will enable DPI to readily demonstrate the capability of the cluster to whole-of-government partners.

4.6 Recommendations

Recommendations

- 1 DPI and LLS need to agree at the CEO level on the specific responsibilities of each organisation in emergency preparedness, response and recovery, and negotiate an agreement that clarifies organisational roles and responsibilities, noting the need to be flexible and responsive in emergencies, including:
 - the organisation that is responsible for leading each type of response at each scale, and if this is variable, then the specific triggers for transferring the responsibility
 - an indicative guideline on the expected level of LLS staff involvement across different types of biosecurity emergency responses (for example, emergency animal diseases, plant diseases, invasive species and natural disasters) and whether this is consistent across all types of responses
 - an indicative guideline on the role of DPI and LLS in the recovery phase. The agreement should clarify, in particular, the role of DPI Agriculture and the DPI Rural Resilience Program.
- 2 DPI and DoI should agree, in consultation with LLS, on revising the role of DoI's Regional Directors in emergency management, principally focused on coordinating recovery.
- 3 DPI, in consultation with LLS, should update the Biosecurity Sub Plan, AASFA Supporting Plan and other relevant policy documents to reflect updated agreements on the roles of each organisation for each phase of emergency response.
- 4 The Executive Emergency Management Committee should ensure that there are systematic processes and accountabilities established for the implementation of the actions agreed through After Action Reviews and other audits of the emergency response functions.
- 5 DPI and LLS should jointly reinstate the LLS-DPI Business Plan for Emergency Management and re-establish monitoring, reporting and evaluation arrangements to retain accountability for emergency preparedness in LLS regions and across DPI.

5 Operational decision-making processes

5.1 Key findings

Key findings

- DPI and LLS recently initiated projects to consider governance reforms and review policies and procedures.
- Unclear decision-making can cause the initial stages of a response to be under-resourced, and may lead to a costly delay in response. This risk would be significant for larger or multiple events.
- Decision-making responsibilities throughout the incident definition phase are not sufficiently clear, including:
 - who among the many delegated officers has decision-making responsibility
 - responsibility for the development and approval of the response strategy
 - the processes to mobilise and demobilise staff and declare an emergency.
- The case studies indicate the need for a greater focus on the timely escalation and de-escalation of responses as required, including more rapid establishment of an incident management team. The lack of clarity around who is responsible for allocating resources results in potential delays and the need to negotiate on an incident-by-incident basis.
- DPI as the combat agency for biosecurity responses should always be involved in decisions made in regards to biosecurity responses, even at a local scale, as they are ultimately responsible for biosecurity responses.

5.2 Enhance processes for activation and deactivation of emergency responses

5.2.1 Clarify delegation and authority for decision-making

Effective emergency management starts with a robust decision-making process to authorise the initiation of an emergency response and create an appropriate resourcing plan. There needs to be a clear decision-making process within DPI for the steps to be taken in the incident definition phase and declaration of a biosecurity emergency. A clear decision-maker is required to direct staff in activating the investigation and diagnosis once a suspect threat is found, and to determine that an emergency situation exists. Having a pre-determined decision-maker will avoid delays in responding.

Under Section 44 (2) the NSW *Biosecurity Act 2015*, a biosecurity emergency can be declared if the Secretary (or delegate) under 'is satisfied, or reasonably suspects, that there is a current or imminent biosecurity risk that may have a significant biosecurity impact'. According to the Act, the Secretary has delegated the authority to declare an emergency to several senior managers within DPI's Biosecurity and Food Safety (BFS) Branch.²⁶ This includes:

- the Director General of DPI
- the Deputy Director General for BFS
- directors and group directors of BFS

²⁶ Biosecurity Act 2015, [Instrument of Delegation \(Secretary\) \(No 2\) 2017](#).

- the Chief Plant Protection Officer and the Deputy Chief Plant Protection Officer
- the Chief Veterinary Officer and the Deputy Chief Veterinary Officer.

The Commission has not been provided with policies or procedures that clarify which of the many authorised delegates is responsible for declaring various types of emergencies, or what the decision-making process is. Interviews with DPI indicate that it varies depending upon the type of incident, but that generally the chief officer (e.g. the Chief Veterinary Officer, Chief Plant Protection Officer, or the Director of Invasive Species) has authority and responsibility during the incident definition stage, including for declaring whether or not there is an emergency and for developing a response plan.

However, it was also made clear that these officers and directors undertake these decisions in collaboration with other senior executive within DPI, such as the Deputy Director-General of BFS and the Director General, as deemed necessary. This is appropriate, but accountabilities and decision-making processes for incident definition and the declaration of emergencies should be clear within DPI policies and procedures and understood by all parties. Further, once an emergency is declared or a decision is made not to trigger an emergency response, decisions should be appropriately documented.

5.2.2 Clarify decision-making authority and responsibilities in a biosecurity response

A lack of consistency in decision-making processes across DPI biosecurity units (including Plant Health, Animal Health, Invasive Species) on how emergency responses are initiated and managed was observed. These differences are driven by an inconsistent understanding of roles, responsibilities and decision-making processes, across different units. Interviews indicate that for the LCC staff the differences in decision-making approaches and level of responsibility given to LLS regions creates operational uncertainty. This has affected their ability to efficiently establish the appropriate response. Further, the extent to which LLS is meant to be involved in making decision about different types of incidents at different scales is not clear.

The Commission has developed a flowchart of the basic steps and decision points in response to a biosecurity emergency according to the relevant documents (**Appendix 3**), which include:

- the NSW *Biosecurity Act 2015*
- the NSW *Biosecurity Regulation 2017*
- NSW *Biosecurity Act 2015, Instrument of delegation (Secretary) (No 2) 2017*
- PLANTPLAN and the Emergency Plant Pest Response Deed (EPPRD)
- AUSVETPLAN and the Emergency Animal Disease Response Agreement (EADRA)
- Biosecurity (Animal and Plant) Emergency Sub Plan: A sub plan of NSW State Emergency Management Plan, version 5, January 2017
- DPI Emergency Management Concept of Operations, 2018-19.

The flowchart in **Attachment 3** highlights points at which decision-making responsibilities appear to be unclear, according to the Commission's review of the relevant documentation.

The case studies revealed that the lack of clarity has significant consequences in practice. Table 3 highlights points of confusion through examination of the lupin anthracnose case study. The Commission acknowledges that this response was undertaken prior to the implementation of the NSW *Biosecurity Act 2015* (under the NSW *Plant Diseases Act 1924*) and initiation of

reforms. However, interview and documentation evidence outlined above indicates that the areas of confusion remain relevant under current arrangements.

Table 3: Case study – Lupin anthracnose response – clarity of decision-making processes

Decision-making process	Lupin anthracnose response – case study observations
Incident diagnosis	The management arrangements in investigating the suspect threat were unclear in the case study. During the period that DPI was determining the extent to which the anthracnose disease had spread within the lupin crops in the region, staff members were communicating conflicting messages to the growers impacted by the disease. It was unclear who the decision-maker was in managing these communications. Staff members reported a disconnection and communication break down between the work being done by the field staff investigating the extent of the potential threat and the work in the DPI head office.
Deciding that an incident is an emergency	It was not clear to the Commission what needed to be done before the delegate could determine if this plant disease required an emergency response. It was also not clear whether the decision could be made by the Chief Plant Protection Officer (CPPO) alone or if it required consultation with the other BFS Branch managers. It was also unclear whether the CPPO was authorised to declare an emergency response earlier – for example, prior to the completion of the cost-benefit analysis and the delimiting surveillance survey.
The decision to resource an incident control team	It was not clear to the Commission who had the authority to deploy staff to an incident control team, and whether this could be done during the investigation phase. A more rapid deployment of an incident management team would have benefited the response. It was also unclear whether the delegate who declared the emergency response had the decision-making powers to initiate an LCC, deploy staff resources and allocate operational funds outside their immediate area of responsibility to manage a response.
Formulation of the response plan	It was not clear whether there were particular protocols for deciding the need to engage particular technical staff (e.g. epidemiologists) in the formulation of the response plan and who is accountable for approving the response plans (the CPPO and/or Deputy Director General or Director General).
Determining compensation arrangements	Compensation arrangements were agreed for the growers who needed to destroy their crops, as part of the quarantine order. It was unclear to the Commission whether the Director General or another delegate had the decision-making authority to determine whether there would be compensation and the level of compensation to be provided.
The decision to stand down a response	In the lupin anthracnose response, it was not clear whether the Local Incident Controller had the authority to stand-down the response, which was done temporarily (for three days) and later reversed.
Accountability for the implementation of the response plan and surveillance	It is unclear to what extent the DPI executive management (DPI Director General or Deputy Director General of BFS) is required to monitor and oversee the response plan implementation – and remain accountable for the outcomes and the approval of response budgets – if the decision-making has been delegated to the authorised officer (such as the Chief Plant Protection Officer).

Given DPI's role as the biosecurity combat agency under the NSW State Emergency Management Plan, DPI should always be involved in decisions about biosecurity responses, even at a local scale, as they are ultimately responsible as the combat agency. Notification procedures should be clarified to ensure that DPI is always notified of a suspect pest or disease threat. DPI should be responsible for determining the level of biosecurity response required. Where it is determined that the response can be coordinated largely by LLS, DPI should remain in an oversight role. DPI should clearly identify who is responsible for determining whether the response to a biosecurity emergency is escalated from a local scale to a regional scale, or statewide, according to pre-agreed triggers or criteria.

The decision-making processes for declaring a biosecurity response should include both the chief technical officers (CPPO/Chief Veterinary Officer (CVO)/Director of Invasive Species) and the BFS Deputy Director General or DPI Director General, as there may be conflicting technical, economic and social issues to consider in determining the appropriate plan. Furthermore, decision-making powers for the response should rest with the delegate who has the appropriate financial delegation and can authorise resources from across the department.

5.2.3 Clarify decision-making authority and responsibilities in an AASFA response

For natural disasters, there should also be clear division of responsibilities between DPI and LLS in operationalising the AASFA responses. Analysis of key documents, including the NSW *State Emergency Management Act 1989*, EMPLAN, AASFA Supporting Plan and the DPI Emergency Management Concept of Operations indicated some outstanding issues regarding decision-making authority and processes. Outstanding issues that require resolution include clear definitions for local and regional, and a determination of the triggers for escalating an AASFA response from a local to regional level, and from regional to state level.²⁷ In determining these triggers, the following should be determined:

- the extent to which LLS regions should be responsible for managing AASFA responses to natural disasters within the region directly impacted and the extent to which DPI's EMU should be involved for local responses
- whether DPI or LLS is responsible for local and regional coordination, and whether DoI's Regional Directors should have a role in coordinating responses at a local or regional level
- as the scale and risk of the response escalates, the arrangements for obtaining the required support from other LLS regions and from the broader industry cluster.

A delegate who has responsibility for initiating an AASFA response when requested by the relevant combat agency or DPI's EMU should also be clearly identified within each LLS region. The overlapping boundaries of the DoI's regions, the emergency management regions under the EMPLAN, and the LLS regions add to the complexity of the decision-making process, given each of these regions are not neatly aligned (see figure 2). These overlapping boundaries can exacerbate the uncertainty in some areas around who is the decision-maker for a response.

²⁷ EMPLAN establishes definitions for local, regional and state emergencies. The AASFA Supporting Plan and DPI / LLS policies and procedures should reflect these established definitions of local, regional and state as EMPLAN acts as the overarching document to guide emergency management in NSW. Consistent use of terminology will build a consistent understanding among AASFA supporting agencies.

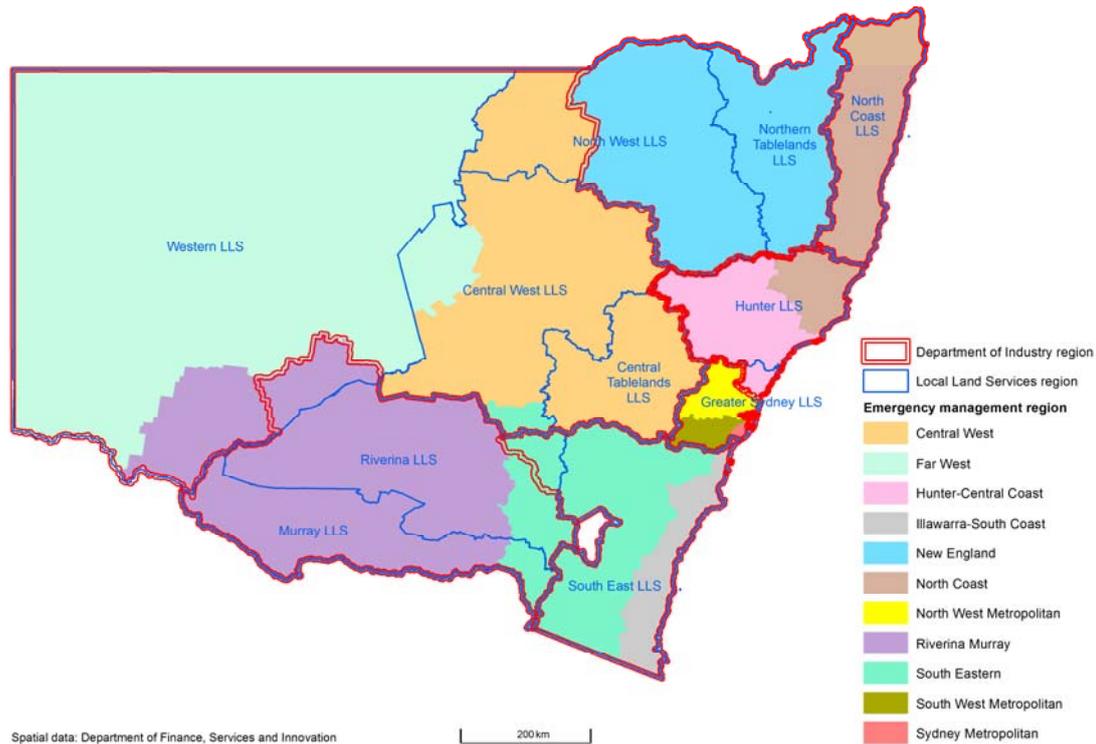


Figure 2. Boundaries of the NSW Emergency Management regions, NSW Local Land Services regions, and the NSW Department of Industry Regions

Section 8.5.1 discusses the need for standard operating procedures for forecast incidents, which will assist with identifying and appointing staff members in an Incident Management Team (IMT) for AASFA responses.

5.2.4 Clarify roles and responsibilities for resourcing responses

Role of the Executive Emergency Management Committee

The emergency management reforms have triggered changes to the EEMC, providing it with a clearer terms of reference that reflect its role in assessing and managing impacts to DPI and LLS business continuity.²⁸ Part of the role of the EEMC under its revised terms of reference is to ‘coordinate the Department’s resourcing of the response’.²⁹ Although the EEMC’s role is somewhat clearer, what is still not clear in practice is the extent of the EEMC’s role in determining the response priority and how it will be resourced.

²⁸ The EEMC’s membership may be determined by the size and nature of the emergency and may include: Director General, NSW DPI (Chair – because the most significant areas of responsibility lie with DPI); Deputy Secretary, Skills and Economic Development; Deputy Secretary, Crown Lands and Water; Deputy Secretary, Corporate Service Partners; Deputy Director General, DPI Biosecurity & Food Safety; Deputy Director General, DPI Strategy & Policy; Deputy Director General, DPI Agriculture; Deputy Director General, DPI Fisheries; Deputy Director General, DPI Performance and Engagement; Executive Director, State Operations (LLS); Office of Small Business Commissioner; CEO, Forestry Corporation NSW (for emergencies that impact native and plantation forests); Director, Rural Assistance Authority; Director, Emergency Operations & Intelligence; and Program Coordinator, EM Reform - Executive Officer.

²⁹ Terms of reference, Executive Emergency Management Committee, provided by DPI.

In an interview a DPI representative indicated that the EEMC is only meant to be involved in decisions about resourcing if resources outside DPI and LLS are needed. DPI's Emergency Management Concept of Operations (2018-19) simultaneously indicates for biosecurity animal and plant emergencies, the Chief Veterinary Officer or Chief Plant Protection Officer, respectively, will issue notifications and engage support as required.³⁰ In practice, it would appear that resourcing is actually determined through negotiation between the DPI unit managing the emergency response (e.g. the Chief Plant Protection Officers unit or the Emergency Management Unit) and/or the DPI Deputy Director General of BFS and LLS regional management. DPI and LLS should clarify how resourcing decisions will be agreed in an efficient manner and who has authority and accountability for determining resourcing.

Mobilising staff in emergencies

The level of discretion exercised, and the lack of clarity about who is responsible for mobilising staff for responses, have led to a concern among interviewed staff members that some responses have been under-staffed. In interviews there was a consistent view that the lupin anthracnose and Sir Ivan fire response were under-staffed.³¹ This view was supported by expert opinion.

Some commented staff members were getting stressed with no proper rostered rotation. Respondents further indicated that requests for staff should be made earlier and the seriousness of the emergency response should be emphasised to management and staff.

Responsibility for resourcing a response is assigned to various parties within the legislation, plans and procedures. This leads to confusion regarding how resources are accessed and directed, and results in incident-by-incident negotiation for resourcing. This can delay proper resourcing, particularly during the incident investigation stage for a biosecurity threat, and creates a risk to effective response. The processes and responsibilities for calling on necessary resources should be well established before incidents begin.

In the case study responses, the response managers had difficulties recruiting volunteer staff. For example, in the Sir Ivan fire response, the Incident Controller noted that it was difficult to obtain necessary staff and that resourcing was stretched due to multiple fires across the state. This was exacerbated as some LLS regions were reluctant to release staff for fear that other fires could occur within their own region, and a perception that DPI staff members were not prepared and ready to be deployed to the response. In the RIFA response, the staff involved reported on a lack of back-up resources after the initial response with managers not releasing staff. However, arrangements for accessing additional LLS staff members evolved as the response went on, with direct targeting of staff members (at short notice), followed by a more formal expression of interest process.

The ability of both organisations to draw on a broad range of staff resources within each organisation is critical to the sustainability of emergency management. The primary reason for the under-resourcing of emergency responses was perceived as the lack of agreement between DPI and LLS on organisational roles (see chapter 4). However, the limitations of the rostering system and barriers to staff participation (see section 7.4 below) were also factors.

³⁰ DPI Emergency Management Concept of Operations, 2018-19, page 1.

³¹ Staff participating in a response were asked whether they thought the number of human resources deployed were sufficient to support the emergency response; around a third of respondents did not agree that there were sufficient resources deployed. (Only 14 percent of staff either disagreed (11.5 percent) or strongly disagreed (2.5 percent); however, a further 24 percent of the respondents were undecided.)

5.3 Recommendations

Recommendations

- 6 DPI and LLS should review and clarify decision-making processes, procedures and delegated responsibilities for all stages of a biosecurity response and an AASFA response, and ensure all staff members are trained and understand the processes to address area of uncertainty outlined in chapter 5.

6 Workforce capability planning and development

6.1 Key findings

Key findings

- NSW is well-respected by other jurisdictions for having skilled and committed emergency response staff. A strength for NSW is having access to a large group of locally knowledgeable on-ground LLS staff.
- DPI and LLS have not agreed on a risk appetite across the two organisations and they do not currently have a risk-based workforce plan, identifying the capacity needed to address different emergency scenarios. Steps have been taken towards developing workforce plans, which should be completed as a matter of priority.
- Risk-appetite should be agreed at the highest level of both organisations and should set the basis for minimum capability and capacity requirements.
- DPI and LLS have limited ability to readily identify staff members who are trained and available for responses. The rostering approach is ad hoc and agencies tend to rely on the same people over and over, which can lead to fatigue and increase the potential for under-resourcing responses.
- Given the lack of a clear workforce plan it is not possible for the Commission to assess whether DPI and LLS have the desired capacity and capability to respond to a targeted level of risk. DPI and LLS have developed training targets, but these are not based on an assessment of risk-based need.
- Capability within specialised areas and highly trained positions relevant to emergency management in DPI and LLS has declined in recent years, and should be enhanced in line with the final workforce plan.
- The availability of training has substantially increased with the recent investment in reforming DPI's approach to learning and development for emergency management. Additional practical and scenario-based training focused on higher-level incident management team roles would further enhance staff capability.

6.2 Current status of workforce capability planning

6.2.1 Strengthen overall workforce capability planning

Workforce planning should be improved to ensure that capability and capacity gaps are identified and addressed. There has been no comprehensive, integrated workforce capability planning for emergency management across DPI and LLS. Only limited analysis of existing and required workforce resources, skills and availability has been undertaken across these agencies.

Completion of a workforce plan is an outstanding recommendation from a 2016 DPI internal audit, which recommended the development of a workforce strategy to map the existing and required levels of capability across the cluster.³² Improved logistics and workforce planning were also recommended in the 2017 independent review of NSW capability and capacity needed for response to foot and mouth disease.³³ This review noted that while planning

³² DPI's 2016 internal audit of emergency management included the following recommendation "Complete a Workforce Strategy for Emergency Management that maps the required capabilities and the existing level of that capability and capacity across the Cluster. This should link to a clear training and development plan for the Cluster."

³³ 'Recommendation 5. NSW DPI should initiate a corporate project to develop a detailed logistics and workforce resources plan for rapid establishment of a scalable FMD response.' Page 18, FMD Capacity & Capability Assessment, November 2017.

requirements are in place for responding to an emergency animal disease, the corporate elements are insufficient. In particular, there is a need to have personnel with appropriate procurement, human resources, financial and accounting experience to respond to a major biosecurity emergency.

DPI and LLS have taken some steps toward addressing workforce planning as part of the reform initiative. DPI's Biosecurity and Food Safety Branch has mapped roles and the minimum numbers of staff required to handle tier one, two and three, as defined in the Australasian Inter-service Incident Management System (AIIMS).³⁴ DPI, in consultation with LLS has commenced a project to develop a workforce capability plan based on risk.

Variable workforce planning has also taken place at the regional LLS level. Some LLS regions have completed incident management plans, as documented in several operational plans. However, these plans focus on addressing more routine scenarios, rather than larger-scale emergencies. Several LLS regions have also developed local emergency operations plans and identified a minimum requirement of 12 incident management team members within the region. In some cases, regions have also identified specific staff members who are qualified and experienced to take on certain functions in an emergency response. Planning at the individual regional level will be insufficient for large emergencies, which will involve LLS staff from across the state. State-level LLS workforce planning is needed to address statewide emergencies.

A comprehensive, risk-based joint workforce plan is necessary to ensure DPI and LLS have access to the required number of capable people to address agreed levels of risk, including a potential major biosecurity emergency. For major events, drawing on other external organisations will also be necessary, including from other government agencies in NSW and other states, and the private sector. The plan should clearly identify the resource level at which external assistance would be required.

Workforce planning must ultimately address the issues identified in this audit and other reviews, and the workforce plan should be completed as a matter of urgency. The plan should clearly identify the resourcing expectations for each organisation and provide minimum criteria for LLS regions in terms of emergency response capability and capacity. Resourcing within individual regions should be based on assessment of risk for that region, in conjunction with statewide requirements.

6.2.2 Align overall workforce planning objectives and risk-appetite

The workforce plan should include clear objectives informed by a risk assessment, and be based upon a risk appetite established and agreed to at the highest levels of each organisation. LLS and DPI have not yet established their workforce objectives to define the level of capability and capacity required for emergency management. This could be done by mapping out the possible quantitative agricultural impacts and the potential risks of various scenarios, such as a major emergency or multiple concurrent emergencies. This mapping should identify the extent and type of resources required to respond to different scenarios. DPI and LLS must then agree on the level of risk they need to be prepared to respond to, and the corresponding level of resourcing required.

³⁴ A tier one emergency is a local level incident resolved through the use of local or initial response resources only, a tier two emergency is local or regional response being managed primarily at a local level with some support being coordinated by the state within the agency level jurisdiction, and a tier three emergency is a state level emergency that requires maintenance of a statewide overview of various agencies' commitments and potential for external resourcing if required (see Australasian Inter-service Incident Management System).

Staff members from both DPI and LLS supported this approach in interviews. Stakeholders indicated that it will be necessary for the assessment to be undertaken at a state level and across LLS regions and that it should identify capability and capacity gaps, and opportunities to reduce duplication of effort. Other jurisdictions have undertaken such capability planning based on a risk assessment process and scenario planning for different levels of risk, which could be used as a guide.³⁵

Set risk-based targets

The targets for emergency management training set by DPI are not currently based on risk-based objectives regarding capacity to respond. DPI has established indicative overall targets for staff training and enhanced access to training to meet these targets through the reforms (see section 6.3.2). While positive, these targets appear to be based largely on past experience, rather than a strategic assessment of capacity needs.

Going forward, DPI and LLS emergency management objectives should be based on an accurate knowledge of the potential risks of biosecurity emergencies and natural disasters, and resourcing decisions should consider the agreed risk appetite. This will enable DPI and LLS make more informed decisions about funding and resources at all stages of emergency management.

6.3 Understanding resource gaps and ability to access resources

6.3.1 Improve monitoring of capability and capacity

The case studies indicate that DPI and LLS have limited ability to readily identify, and therefore access, staff in an emergency, particularly those people with appropriate training. DPI has recently taken steps to better monitor which people are capable and available to help manage emergencies, which should help address this issue. An online training management system (EM-train) has been introduced and is enabling better monitoring of, and access to, training records.³⁶ LLS indicated certain limitations of EM-train should be addressed, including a lack of quality assurance of data, and the inability to access data regarding other regions. They noted, for instance, that staff members could identify their location in a number of different ways in EM-train and may therefore not show up in a query for a particular LLS region, even if they were located there. Staff also indicated that records for employees who had left the organisation are often not updated, so they appear to be available when they are not.

DPI's monitoring system could be further enhanced by recording which staff members have been deployed in emergency responses, and their capabilities. A separate system from EM-train, known as Web Based Emergency Operations Centre (WebEOC), is currently used to track emergency responses. Reporting on staff capabilities and capacity is not yet automated and the data is not available for more detailed breakdowns, such as capacity and capability by region or department. The centralised system should enable a common understanding of who is available across the state, and what they can do. DPI should be able to readily report this information at the executive level, and access it in planning an emergency response.

Other Australian jurisdictions have more integrated systems for monitoring data on emergency response capability and capacity. This includes systems that integrate with incident management so that their logistics managers can manage staff deployments through the same system that tracks training data. Some other jurisdictions are also required to report to their

³⁵ Victoria is currently undertaking a risk assessment process to develop scenarios and understand the capabilities needed to respond to certain risks. This process is informing their workforce planning for emergency management.

³⁶ EM-train - <https://www.dpi.nsw.gov.au/climate-and-emergencies/emergency/management/training>

executive quarterly on their level of capability and capacity for emergency management. Progression towards risk-based capability targets over time is the key metric, and this should be monitored by the executive on an ongoing basis. Systems should be enhanced to allow this reporting to be easily done.

The inability to readily access data on trained and available staff has led to an inconsistent and ad hoc rostering process. Without a consistent, statewide process for rostering staff to responses, surveyed staff members reported that there was a tendency for the logistics officer to draw only on their networks. This can result in an unintended reliance on the same experienced staff members, a lack of opportunities for recently trained staff to participate in responses, and potential under-resourcing of responses.

The rostering approach could be improved by using a centralised system to track trained and available staff and by ensuring that the rostering manager consults the database of trained staff. The person responsible for rostering should consider opportunities to on-board new people rather than relying on the same people over and over. LLS should also consider enhancing its ability to readily access and share resources between LLS regions.

6.3.2 Current capability and capacity

The risk-based workforce capability planning process described in Section 6.2 would enable DPI and LLS to improve their understanding of the existing workforce capability gaps, including for the fulfillment of IMT functions in emergency responses.

While there was insufficient data to assess the overall workforce capability and capacity, DPI and LLS staff members consistently raised concerns regarding the declining levels of internal emergency response capability and capacity. Interviewees acknowledged past successes in responding to emergencies, which were attributed to the efforts of a few committed, skilled and experienced people who go above and beyond normal expectations during emergencies. While these experienced emergency response staff members are a significant asset for DPI and LLS, there is a key person risk and workplace health and safety concerns around potential fatigue.

There was a perception among survey respondents that the number of skilled and experienced emergency management staff members has declined due to organisational changes and staff turnover. These concerns have been identified in internal DPI and LLS reports, mirroring concerns in other Australian jurisdictions. The Commission's audit survey results also show that 63 percent of respondents consider that DPI and LLS need to lift the overall staff capacity for emergency response.

In order to provide an indicative assessment of DPI and LLS capability and capacity, the Commission consulted independent biosecurity and emergency management experts to determine the adequacy of the current number of IMT-trained staff in DPI and LLS. There is no agreed standard, nationally or internationally, that prescribes a threshold level of preparedness. The experts advised that:

- LLS and DPI appear to broadly meet a general guideline for the minimum number of key IMT members in Australian Inter-service Incident Management System (AIIMS) roles for a single response at the local level (Level 1), with sufficient capacity to cover ad hoc staff unavailability and to support parallel roles at the state level.³⁷ However, it is important to ensure that these trained individuals are still employed, and that they are not only trained but also available to participate.

³⁷ Assumes that one individual may be able to perform several roles, suggesting small incident size.

- For a larger and more serious Level 3 incident requiring multiple incident control centres, LLS and DPI would only have the trained staff to fill incident control centre positions for approximately one week. It was unclear from the documents reviewed if this is a deliberate decision based on risk appetite, or for other reasons, and whether a strategy is in place to fill these positions from external agencies.

Based on this expert opinion, there is a risk that the number of staff members with IMT-level training is insufficient and that further enhancement of IMT-level training is needed across LLS and DPI.

Broadening the base of staff members available to be involved in emergency responses would improve the overall level of capacity. Conceptually there is the ability to access to a large workforce across the industry cluster, with 3,848 staff full-time equivalent (FTE) staff members in the cluster in 2016-17.³⁸ Many of these staff have had basic emergency management training. This large workforce includes many who are likely to have some awareness and background in biosecurity, emergency management or natural resources management as part of their positions (see figure 3).

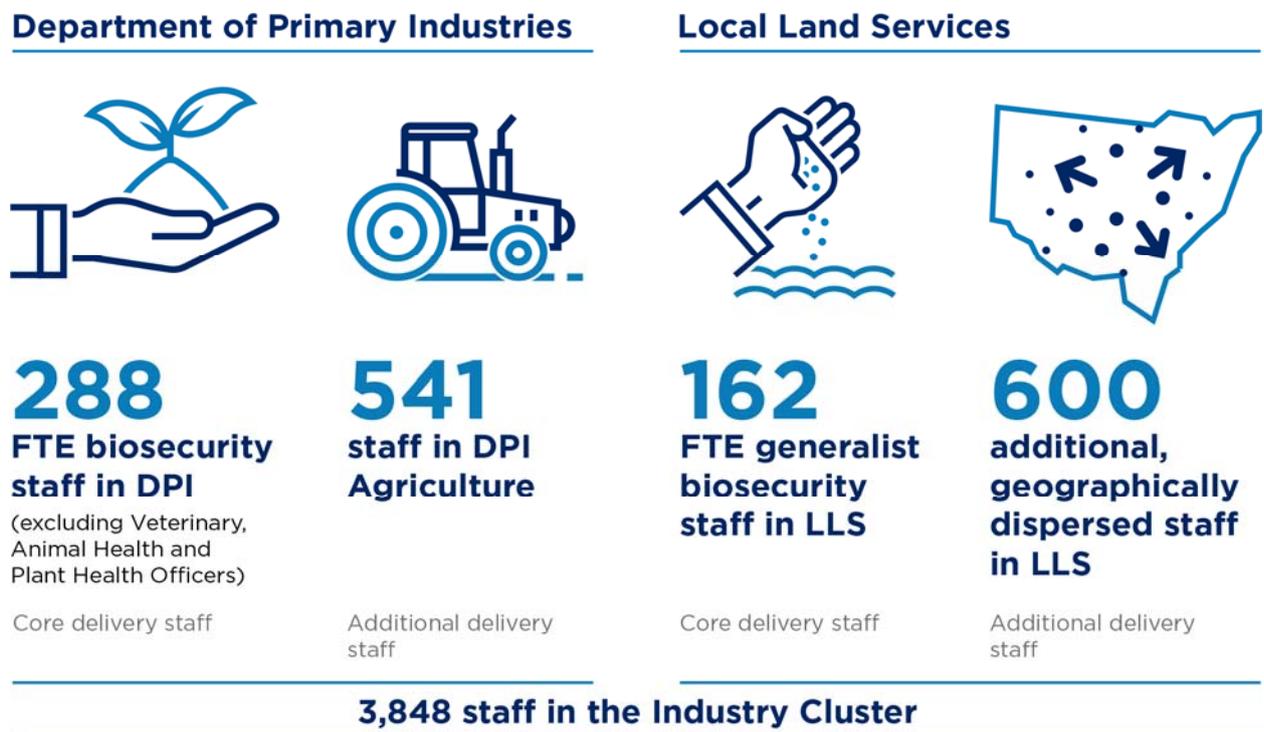
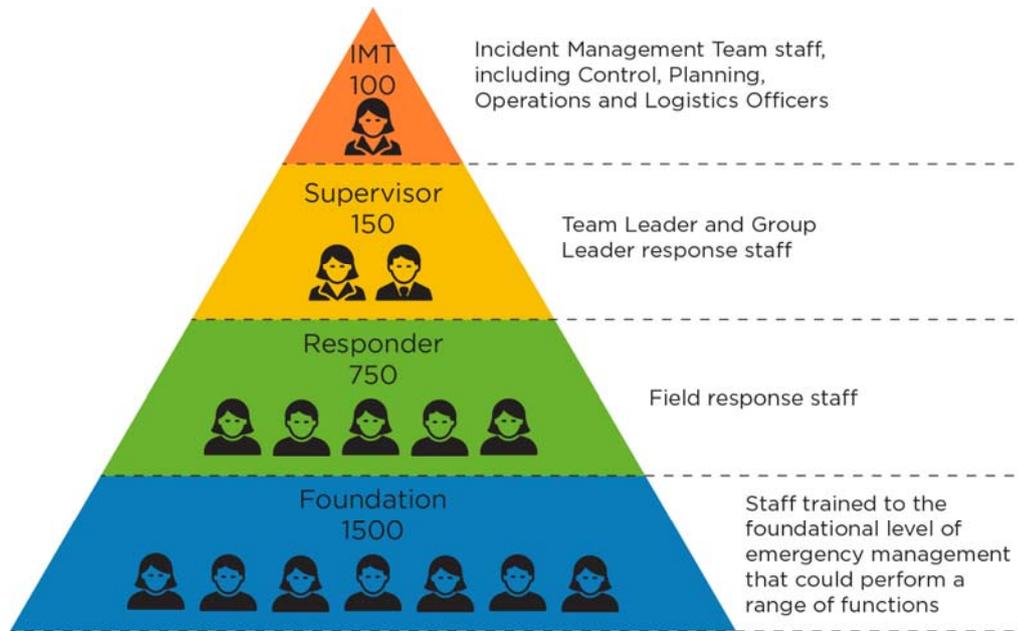


Figure 3. Workforce in DPI and LLS with potential roles in emergency management.³⁹

³⁸ Department of Industry Annual Report 2016-17, Appendix 9 – Human resources, p.56; this figure includes DPI staff and not LLS staff.

³⁹ The Commission has used the term ‘generalist biosecurity staff’ to refer to staff categorised as ‘other departmental biosecurity staff’ in the workforce data provided by DPI. LLS’ ‘generalist biosecurity staff’ includes biosecurity officers (formerly Livestock Health and Pest Authority (LHPA) rangers) including Senior Biosecurity Officers, Biosecurity Officers and Biosecurity Support Officers. The estimate of 600 additional LLS staff is based on LLS headcount of 797 staff reported in LLS Annual Report 2016-17 less 162 FTE captured in the general biosecurity role figure. Some of the 600 additional LLS staff positions are funded by external grant programs and that these staff may be unavailable to participate in emergency events due to funding requirements. The figure of 541 staff in DPI Agriculture is from the DPI document, Draft Program DNA, Agriculture, 9 August 2018. Data provided by Executive Assistant to the DPI Agriculture Deputy Director General.

The uptake of training courses has fallen behind training targets set by DPI as part of its reform program. The targets are to have approximately 250 adequately trained and mission ready people and access to around 1000 people for general assistance in a medium sized event.⁴⁰ Interviews revealed that if LLS is also included, DPI’s Emergency Management Unit anticipates around 2500 people across both organisations should have completed the foundational level training (see figure 4), in order to manage two medium-sized emergencies at any time (with 185 required for each control centre).⁴¹



Total of 2500 trained staff across all agencies (DPI, LLS and AASFA Participating and Supporting organisations).

Figure 4. DPI Emergency Management Unit’s training targets

6.3.3 Strengthening specialist expertise

The ability to access sufficient staff overall is one key aspect of emergency response capacity. However, also critical is the ability to access sufficient trained, technical expertise to develop response policies and strategies, as well as guide the overall response management.

DPI and LLS should take steps to address any gaps in specialist expertise in line with the results of the workforce planning process. While the Commission was not able to assess the overall adequacy of the workforce capability and capacity, we observed a decline in the number of specialist emergency management and biosecurity positions. The data provided by DPI and LLS shows there has been a decline in the number of specialist positions across the state, with year-on-year declines from 2013-14 to 2016-17 (see figure 5).⁴²

⁴⁰ DPI internal document, 2015, ‘Integrated Emergency Management’ – Biosecurity and Food Safety Branch Investment concept for the internal budget allocation for the emergency management reform funds.

⁴¹ This IMT structure of approximately 185 staff is in line with the AIIMS framework and consistent with other jurisdictions when planning for a medium sized biosecurity response. It includes an Incident Controller, 6 group leaders, 26 team leaders across, and 150 response team members, across the IMT functions (planning, operations, logistics, intelligence, public information and finance).

⁴² Note: the number of combined agency positions fell each year from 2013-14 to 2016-17; however, there were certain years where the number of DPI positions increased while the number of positions in LLS fell, and vice versa. Further, LLS provided mid-year staff data for 2017-18, which showed that an additional 5.5 FTE Veterinary Officer positions have been filled since 2016-17, and there are now marginally more Veterinary Officers in LLS than during the last three years’ of the former LHPA operations. (Note 2013-14 data has been attributed to LLS, rather than the former LHPAs, in this calculation.)

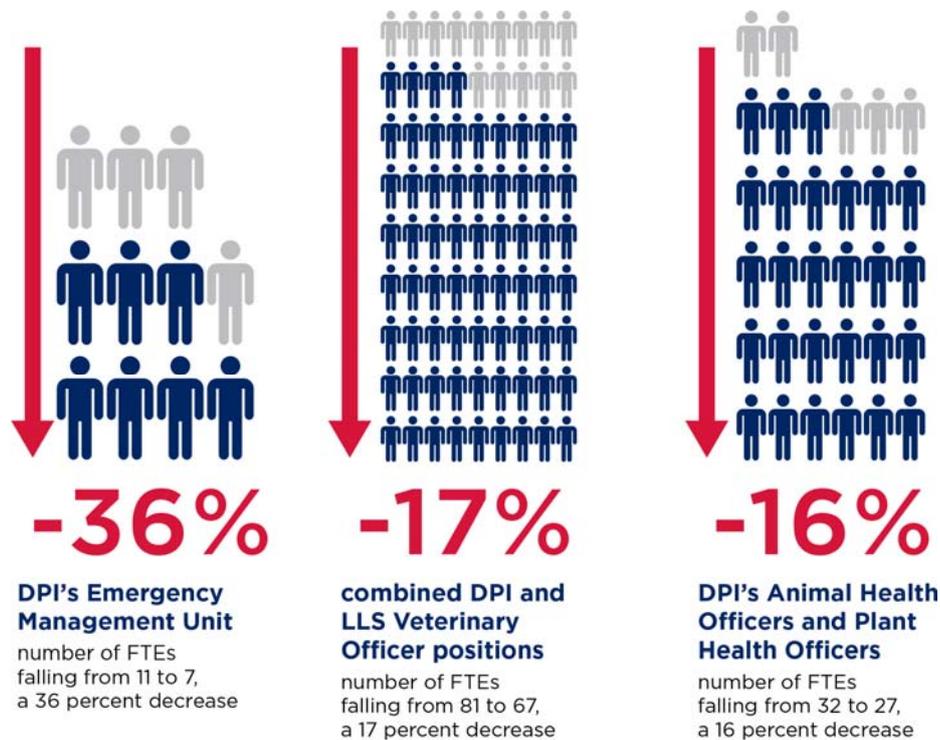


Figure 5. Declining capacity in DPI and LLS between 2013-14 and 2016-17.⁴³

While the number of combined agency veterinary officer positions fell each year from 2013-14 to 2016-17, there were certain years in which the number of DPI positions increased while the number of positions in LLS fell, and vice versa. In general, DPI positions have been declining over the last few years. However in LLS, the number of district veterinarian positions declined when the organisation was first established, but has since recovered to a level comparable with the number of district veterinarian positions in the former Livestock Health and Pest Authority.

Since this audit commenced, LLS has established dedicated emergency management positions in some regions. Other regions have retained the managers of biosecurity and emergency services (MBES). The MBES staff are also responsible for a range of other work priorities. The adequacy of these staffing approaches should be assessed against the agreed requirements in the final workforce plan.

6.3.4 Retaining access to resources beyond the industry cluster

DPI has demonstrated its ability to activate additional resources beyond the LLS and DPI alliance for emergency responses. DPI has partnerships with 32 participating organisations for the delivery of emergency management services. DPI should continue to ensure that these additional resources could be readily deployed for biosecurity emergencies and natural disasters.

As noted in chapter 3, the case studies demonstrated NSW has the structures in place to efficiently engage extra-jurisdictional resources as needed. For example, in the RIFA response, expertise was drawn from Queensland, which had a depth of experience with the eradication of the RIFA. The ability of DPI's systems to link to and develop these networks is critical to future success.

⁴³ Data provided by DPI on its EMU covered 2013-14 to 2016-17 only, however the Commission understands that approximately seven additional temporary, part-time staff have been recruited to learning and development roles in the EMU in 2017-18 as part of the reform agenda.

Building on these strengths, the workforce planning strategy should focus more closely on finding ways to ramp up additional capacity during a major biosecurity response. As noted in the independent foot and mouth disease capability and capacity assessment completed for DPI in 2017, a range of approaches could be used to mobilise additional resources. These include training private veterinarians, working with retired government veterinarians, engaging with universities and identifying other individuals who can act as early responders. The foot and mouth disease review specifically recommended that DPI consider a project aimed at creating a 'biosecurity reserve' of people and organisations available to respond to a foot and mouth disease outbreak.⁴⁴ This could be modelled along the lines of the successful New Zealand National Biosecurity Capability Network.⁴⁵

6.4 Learning and development

6.4.1 Build on recent improvements in learning and development

DPI has substantially improved access to training with recent reforms to its approach to learning and development for emergency management. In 2016-17 and 2017-18, DPI recruited additional staff members to deliver face-to-face training. DPI also deliberately shifted its training approach from competency-based training (through which selected staff members obtained Certificate 3 and Certificate 4 diplomas) towards function-based training. This enables a broader mix of staff to be trained in specific emergency management roles, such as planning, logistics, finance and control. Four online foundational training courses are available to all staff members, enabling participation in an emergency response as a field officer or in a basic capacity.

Participation in the IMT under the AIIMS and BIMS structures requires additional function-specific training. DPI has developed a course matrix for 23 function-specific training courses⁴⁶ and is gradually developing and rolling out these courses, which are delivered through a mix of online and face-to-face training. To be qualified for higher level functions in an emergency response, some DPI and LLS staff have had the opportunity to attend IMT courses organised by the Rural Fire Service, and participate in training opportunities through the National Biosecurity Response Team or Commonwealth programs.

In March 2018, jointly with Queensland's Department of Agriculture and Fisheries, DPI successfully implemented its first major cross-border emergency biosecurity exercise in several years, through Exercise Border Bridge. This scenario provided a training opportunity for many people from LLS and DPI who had not yet participated in an emergency response or received training.

6.4.2 Further enhance learning and development program

DPI's main training gap is ensuring that a sufficient number of staff members are trained to undertake higher-level roles. Experts indicate that the return on investment of training focused on key higher-level IMT roles will be much greater than that focused on the broader generalist workforce. The next priority for training should then be those in mid-level roles, such as supervisors and team leaders, as well as site supervisors.

Although DPI staff interviewed felt the online foundational training was a good and cost-effective way to reach more staff, they also indicated that more practical methods of learning were necessary. This was reinforced by the indication that many people currently receive their

⁴⁴ NSW FMD Capability and Capacity Assessment Report 2017, recommendation 11, page 24.

⁴⁵ <https://www.asurequality.com/our-services/pest-and-disease-management-solutions/national-biosecurity-capability-network-nbcn/>

⁴⁶ DPI, Emergency Management Course Matrix, 20 December 2017. There are a further three courses in the matrix organised by the NSW Office of Emergency Management, and a Design and Manage Exercise course.

first exposure to emergency management through participation in an actual emergency, rather than through a training scenario, which is not ideal.

Staff feedback through interviews and the Commission’s survey indicated mixed views on whether the training was fit for purpose. Several respondents indicated that the training needed to be more role-specific. Participants in the staff survey were asked whether DPI’s emergency management training programs were designed to meet their specific roles and responsibilities in emergency response’. Forty-five percent of respondents either agreed or strongly agreed, but 41 percent were undecided and 14 percent disagreed (see Figure 6).

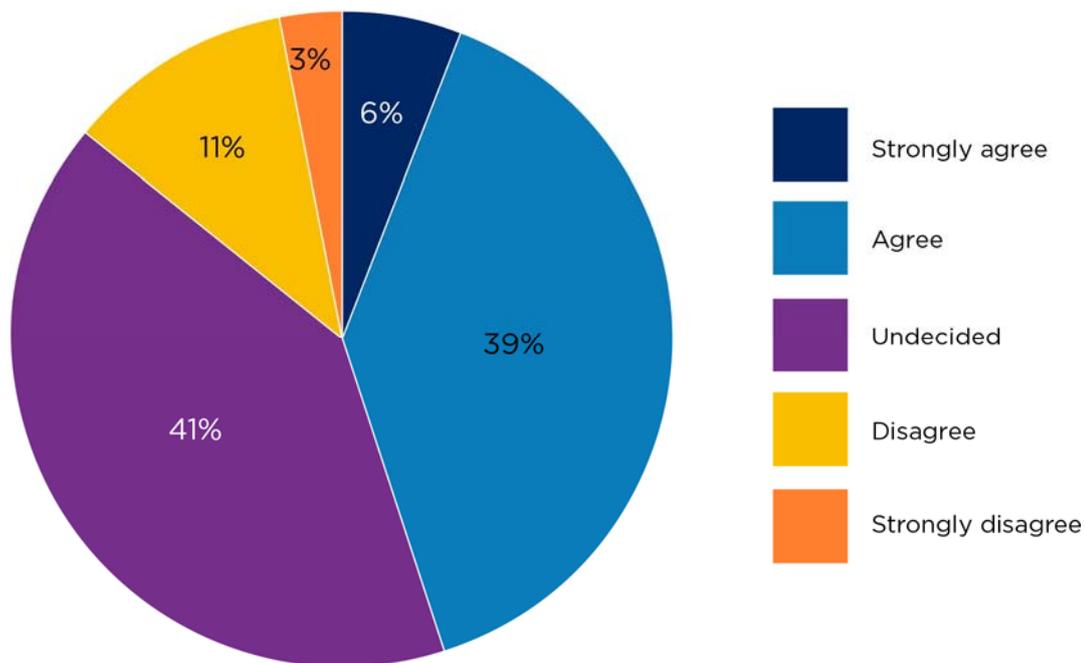


Figure 6. Staff views on whether training is fit for purpose

The Commission received consistent feedback that there should be a stronger focus on more face-to-face training and hypothetical training scenarios to enhance skills. To build training capability, experts recommend use of a ‘train the trainer’ model where staff could assist in providing face-to-face training. Some LLS regions send their staff out to emergency events in other regions as a training opportunity. This should be further encouraged. DPI is developing a ‘design and manage exercises’ course, to train DPI and LLS staff members to run more frequent exercises.

There are several opportunities for improving learning and development, as described below:

- The online introductory training on AIIMS should be provided to anyone who may be involved, with refresher training every two to three years. It could be incorporated into the mandatory induction training for all new DPI and LLS employees.
- A major state significant exercise (partial simulation or desktop exercise)⁴⁷ on a two-yearly basis, combined with frequent local exercises would be ideal. This would be run in collaboration with other agencies and jurisdictions. Larger-scale simulation exercises can be inefficient as they are complex and resource-intensive. Partial simulations and desktop exercises are more beneficial to exercise specific training tasks, such as writing a response plan. Small exercises can also be more easily undertaken by a larger number of people.

⁴⁷ Partial simulations test specific aspects of a response, but do not seek to test all aspects of a response. Exercises can be run across multiple regions or involving multiple regions in one exercise.

- Mentoring of less experienced staff during an emergency response would be beneficial.
- The introduction of 'just in time' training⁴⁸ and job cards for participants in an emergency response would help to quickly upskill staff in less specialised functions or where it is necessary to use untrained staff in a response (such as for logistical reasons).
- It would be beneficial to expand the IMT training jointly conducted with the Rural Fire Service (RFS), to include more on biosecurity emergencies.
- Participation of staff in interstate responses should also be encouraged, including by providing opportunities to be part of the National Biosecurity Response Team.

The reforms being made to learning and development for emergency management are expected to improve the capacity and capability of DPI and LLS. In the future, the key issue will become skills maintenance and training of new staff, which will require an ongoing investment. As such, an ongoing predictable budget for learning and development will be critical.

6.5 Recommendations

Recommendations

- 7 Develop and implement a combined DPI and LLS workforce plan for emergency response based on risk to lift capability and capacity to the desired level. DPI should lead the development of the plan in consultation with LLS. Implementation of the plan should be mandated at the highest level and resourcing decisions should be based on:
 - detailed risk assessments including specific quantitative information on the impacts of biosecurity threats and other hazards
 - agreement between the DPI Director General and LLS CEO on risk appetite and an understanding of any gaps in funding to work within the agreed level of risk
 - established minimum capability standards for LLS regions (this should be implemented across LLS via a directive from the LLS CEO)
 - combined agency workforce data. Agencies should agree on data to be collected and common definitions for various emergency management roles, and data should be regularly reported to the executive and relevant audit committees to the track implementation of the workforce plan and monitor capacity changes
 - assessment of any inconsistencies in the application of industrial awards and consideration of the introduction of higher duties payments where appropriate
 - detailed plans for the engagement of appropriate external human resources as needed.
- 8 DPI and LLS should improve the system and procedures for tracking and accessing the full range of trained staff within both agencies across the state during an emergency. Rostering responsibilities should be clearly defined and managed centrally.
- 9 Further strengthen learning and development for emergency management to address opportunities identified in section 6.4.2.

⁴⁸ Function-specific training provided to an emergency response team member immediately prior to being deployed to a control centre, or within the first few hours of a team member arriving onsite.

7 Improve business continuity planning and funding strategies

7.1 Key findings

Key findings

- DPI and LLS have increased their investment in emergency prevention and preparedness, since LLS was established in 2014. Maintaining investment in prevention and preparedness is essential for strong emergency response capability.
- Funding approaches for emergency management across DPI and LLS are largely non-strategic, although recent investment in reforms and some risk-based funding allocations demonstrate improvements in the strategic allocation of funds.
- DPI and LLS do not have a consistent level of business continuity planning identifying core services and opportunity-costs associated with deploying staff to emergency response and recovery. Interviews indicate a relatively consistent view across DPI and LLS that emergency responses and recovery are not considered core business functions that must be planned for and resourced appropriately.
- Funding availability and arrangements are particularly unclear during the incident definition stage and for biosecurity responses that are not part of a nationally cost-shared agreement. This can lead to a hesitation in allocating resources, which may delay response.
- There is an opportunity to better use available funds, and to consider alternative approaches to funding response and recovery to improved allocation of resources.
- There are barriers to staff participation in emergency management. These are primarily related to existing workloads and prioritisation of emergency response and recovery activities.

7.2 Develop a clear strategy for funding emergency management

7.2.1 Provide sustainable risk-based funding for emergency management

DPI and LLS should ensure that resources are allocated to the emergency management functions based on risk and clarified responsibilities. Both organisations need to be sufficiently resourced to meet their responsibilities in emergency prevention, preparedness, response and recovery. As DPI and LLS have not developed a workforce plan based on risk appetite, it is not possible for the Commission to assess whether funding is sufficient to meet expected capability.

Maintaining prevention and preparedness funding

Overall, DPI and LLS have increased their investment in emergency preparedness since LLS was established in 2013-14. DPI's budgets for biosecurity preparedness and prevention have increased recently (see figure 7).

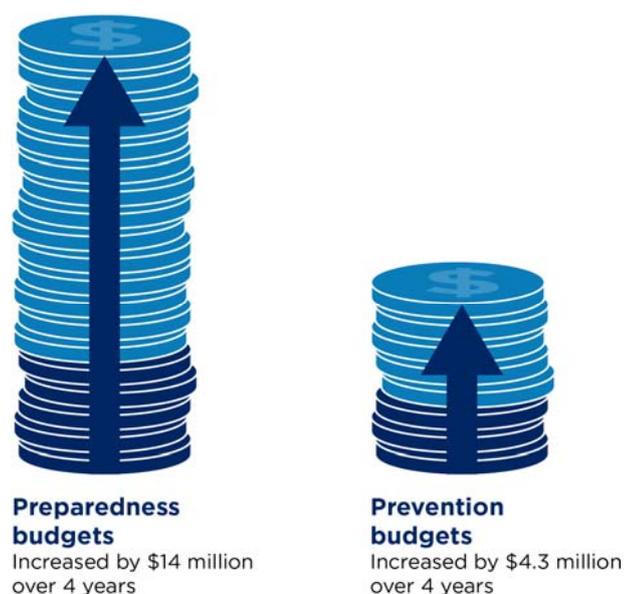


Figure 7. DPI's emergency management budget increase for preparedness and prevention⁴⁹

It is encouraging to see an increase in emergency preparedness and prevention budgets. A steady ongoing approach to funding emergency prevention and preparedness is necessary. The experts engaged in the audit noted that a common constraint across the Australian public sector in delivering emergency management functions is the cyclical nature of funding. As with biosecurity, research indicates that investment in preparedness programs lessens the increasing cost of natural disasters.⁵⁰ Sustained investment in preparedness is important as emergency responses to natural disasters are likely to increase year on year, as we progress towards 2050.⁵¹ Sustaining DPI and LLS investment in emergency reforms, and preparedness and prevention funding for both biosecurity and natural disaster responses is critical to DPI's and LLS's service delivery.

Targeting preparedness funding based on risk

A strategic allocation of resources for emergency preparedness would be driven by a statewide risk assessment and capability planning (as discussed in chapter 6). There are some examples of risk-based allocation of resources in NSW. For example, Greater Sydney LLS has received additional resources from DPI for the implementation of the Greater Sydney Peri Urban Biosecurity Program. The funding allocation to this program recognises that Sydney is the gateway to NSW and its peri urban areas are recognised as high biosecurity risks.⁵² However, the Commission understands that this funding is only secured through to 2019. Budget allocations should be based on a statewide assessment of high-risk areas for biosecurity and natural disasters.

⁴⁹ DPI's preparedness budgets has significantly increased from \$4.6 million in 2013-14 to \$18.6 million in 2016-17. DPI's prevention budget has also substantially increased from \$3.4 million in 2013-14 to \$7.7 million in 2016-17. In relation to pests and diseases, funding for preparedness includes arrangements to ensure that, should an outbreak occur, all those resources and services which are needed to address the outbreak can be efficiently mobilised and deployed. Funding for prevention includes regulatory and physical measures to ensure that outbreaks are prevented or their impacts mitigated, and includes pre-border, border and post-border activities. Data provided by DPI, as per National Biosecurity Investment Strategy.

⁵⁰ Deloitte, *Building Australia's resilience to natural disasters* (2017).

⁵¹ CSIRO and Bureau of Meteorology, *State of the Climate 2016*; and Deloitte, *Building Australia's resilience to natural disasters* (2017).

⁵² Factsheet and website Information on the NSW Government [Greater Sydney Peri Urban Biosecurity Program](#).

Lessons from recent experience

While experience over the last five years will not determine the level of future emergency events, the data available demonstrates that DPI and LLS should likely expect multiple disaster declarations to be made every year. A total of 47 natural disaster declarations have occurred since LLS was established.⁵³ The number of declared disasters has remained relatively consistent each year, ranging from 8 to 10 disasters per year. The size and location of declared natural disasters can vary greatly, and it is difficult to anticipate which LLS regions should expect to be involved in emergencies on a regular basis. However, some regions have significantly more exposure and experience with declared disasters than other regions (see Table 4).

Table 4: Declared disasters and staff response days, by LLS region (2014-2017)

LLS region	Staff days in response	Number of declarations	Years with declarations
Central Tablelands LLS	115	4	2014, 2017, 2018
Central West LLS	10	4	2014, 2016, 2017
Greater Sydney LLS	6	1	2018
Hunter LLS	720	3	2015, 2016, 2018
Murray LLS	19	3	2016, 2018
North Coast LLS	345	9	2014, 2015, 2016, 2017, 2018
North West LLS	435	4	2015, 2016, 2018
Northern Tablelands LLS	10	2	2014
Riverina LLS	195	8	2014, 2015, 2016
South East LLS	190	5	2015, 2016, 2017, 2018
Western LLS	5	2	2016, 2017
Other*	4360	2	2016, 2017

* Includes the statewide Inland Severe Weather Flooding event in September 2016 and the cross-region Dunedoo Fires (part of the Sir Ivan cluster) in February 2017.

Table 4 shows that the Hunter, North Coast and North West LLS have required over 300 staff response days in addressing natural disasters. Greater Sydney, Western, Northern Tablelands, Central West and Murray LLS have required fewer than 20 staff response days to address disasters. Note, there are limitations to this data. For instance, staff from some of these regions (particularly Northern Tablelands LLS) are likely to have participated in the large cross-region declarations (for example, the Sir Ivan fires). Similarly data on declared biosecurity emergencies (which was not obtained by the Commission) would not reflect the full staffing needs. For instance, Greater Sydney LLS spends considerable staff time responding to potential biosecurity threats that are not ultimately declared disasters.

7.2.2 Provide budget certainty for incident investigation and activation

The audit revealed that funding is particularly uncertain during the incident investigation stage. DPI and LLS should feel empowered to respond to emergencies through a greater degree of security and clarity in funding arrangements, particularly where these funds are sourced

⁵³ The majority of declarations have been for Agricultural Natural Disasters (55 percent), followed by Natural Disasters (23 percent), combined Agricultural Natural Disasters / Natural Disasters, and Category C disasters (21 percent). All declarations were for storms (49 percent), bushfires (43 percent) and floods (9 percent).

outside of national cost-sharing arrangements through state-based resources.⁵⁴ This is balanced by a need to have a clear de-escalation framework for standing down a response as needed, so that resources are used efficiently.

Readily available funding for incident investigation would enable a greater focus on the rapid escalation and de-escalation of emergency response, particularly the early activation of the incident control team. The timing of a response to a biosecurity emergency is critical, as the decision to delay eradication or containment efforts may allow a pest to spread sufficiently such that eradication is no longer possible. Similarly, any delays in establishing a sufficient AASFA response to natural disasters could have negative impacts for animal welfare and landholders.

Evidence from actions in the case studies and interviews with DPI and LLS demonstrated a hesitation to commit DPI resources to state-funded responses. In the lupin anthracnose response, activating the incident control team was delayed until the delimiting surveys were completed. Interviews indicate that this was partially due to DPI's hesitation to commit resources to the response. The costs of the response had to be absorbed by NSW as the lupin anthracnose disease is already established in Western Australia and was not eligible for national cost-sharing. DPI acknowledged that while in principle all responses (nationally cost-shared or not) are undertaken the same way, cost is more of a concern for state-funded responses and steps must be taken during incident investigation to determine how a response could be funded.

DPI should, in partnership with LLS, take a more proactive approach to ensuring that there are sufficient resources available for the incident definition phase and activation of the responses that are funded through state resources. Even for biosecurity threats listed under the relevant national deeds (EADRA⁵⁵, EPPRD⁵⁶ and NEBRA⁵⁷), it can take time for cost-sharing agreements to be formed. During this period of negotiation, there should be a clear funding authorisation process for the investigation and activation of the responses so that responses are not delayed.

In both Queensland and Victoria, the relevant biosecurity agency has agreed arrangements in place with the state Treasury for funding of unforeseen expenditure that results from an emergency response. NSW has similar arrangements for natural disasters. However, the *NSW Disaster Assistance Guidelines* relate only to natural disasters and do not include provisions for when additional funding can be provided for biosecurity emergencies that are of a magnitude that exceeds the capacity of DPI and LLS funds. This appears to be a key gap in NSW and should be addressed through DPI consultations with Treasury and the Office of Emergency Management, Department of Justice.

⁵⁴ Cost-sharing arrangements for biosecurity emergencies with other jurisdictions (states and the Commonwealth) and affected industries enables some certainty of funding for responses and empowerment to act.

⁵⁵ Emergency Animal Disease Response Agreement (EADRA) – a contractual arrangement that brings together the Australian, state and territory governments and livestock industry groups to collectively and significantly increase Australia's capacity to prepare for, and respond to, emergency animal disease (EAD) incursions; (Animal Health Australia website, EAD Response Agreement).

⁵⁶ Emergency Plant Pest Response Deed (EPPRD) – a formal, legally binding agreement between Plant Health Australia (PHA), the Australian, state and territory governments and plant industry signatories, covering the management and funding of responses to Emergency Plant Pest Incidents; (Plant Health Australia, Fact Sheet – The Emergency Plant Pest Response Deed, page 1).

⁵⁷ National Environmental Biosecurity Response Agreement (NEBRA) – NEBRA is an agreement between Australian, state and territory governments, however contributions may be sought from private beneficiaries. It establishes emergency response and cost sharing arrangements for nationally significant biosecurity incidents, including marine and freshwater incidents, that have high environmental and/or social amenity impacts, where a national response is for the public good (Guide to the National Environmental Biosecurity Response Agreement, Oct 2014, page 1).

Given the unpredictability of biosecurity emergencies and natural disasters, options should be considered for providing funding across longer periods of time to allow for times of high and low need across several years. A contingency fund has been used in other jurisdictions to set-aside resources for the incident definition phase of a response and management of the emergency response (see Box 1). Critically this fund is able to be rolled over in recognition of the uncertain nature and peaks and troughs of emergency response needs.

Box 1. Queensland's Exotic Pest and Disease fund

Biosecurity Queensland's budget includes an Exotic Pest and Disease Fund (EPDF) (\$0.8 million) to fund activities that are not funded by national cost sharing agreements.⁵⁸ The EPDF is used to pay overtime, incidental costs, travel and operational costs for a biosecurity emergency response, including during the incident definition phase.

The *Queensland Biosecurity Capability Review* (2015) found that this funding model performed adequately and did not create significant funding uncertainties. The review recommended that the annual allocation to the EPDF be increased to \$1.5 million, given that expenditure exceeded \$0.8 million in most years, and that there should be the ability to roll over unspent funds to subsequent years. The capability review provided other recommendations to improve the management of the EPDF, including to clearly distinguish between the immediate response phase and the main response phase for funding purposes.

When there are insufficient funds in the EPDF, funding for new responses is initially sourced internally from Department of Agriculture and Fisheries funds. However, at the end of the financial year a submission is made to Treasury to 'top-up' the EPDF in these circumstances, which normally occurs. For a large-scale response (for example, one that requires more than \$1 million), Biosecurity Queensland seeks additional budget from Treasury via the Department of Agriculture and Fisheries and a cabinet submission process.

7.2.3 Maximise use of available funding

A wide range of AASFA costs that DPI and LLS may occur during the response and recovery phases are eligible for reimbursement by the NSW Department of Justice, under the *NSW Disaster Assistance Guidelines* (consistent with the National Disaster Relief and Recovery Arrangements (NDRRA)).⁵⁹ In the context of AASFA responses, DPI maintains a procedure for reimbursing eligible expenses that applies across the industry cluster, including LLS.

A review, in consultation with the Department of Justice, of the relevant funding guidelines, to ensure they are consistent, would potentially enable DPI and LLS to more effectively use the available funds. The Commission's review of DPI's funding documentation showed some inconsistencies in identifying costs that are eligible for reimbursement during recovery (see **Appendix 2**). Some costs are eligible for reimbursement according to the *NSW Disaster Assistance Guidelines*, but are excluded from the DPI internal guidance document (*DPI Natural Disaster Finance Guide*).⁶⁰ There are varying levels of detail about some specific sub-costs (for

⁵⁸ *Queensland Biosecurity Capability Review* (2015), page 322

<http://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2016/5516T435.pdf>

⁵⁹ The NSW Disaster Assistance Guidelines are consistent with the National Disaster Relief and Recovery Arrangements, which provide a national financial safety net for states and territories to enable expenditure above certain financial thresholds to be reimbursed if certain criteria are met.

⁶⁰ Specific examples of discrepancies between the DPI Natural Disaster Finance Guide and the NSW Disaster Assistance Guidelines concern recovery centres and assistance for not-for-profit organisations to support large scale, out-of-area volunteer groups. In other cases, areas for assistance are consistent though described differently across the DPI Natural Disaster Finance Guide and the NSW Disaster Assistance Guidelines: for example, assistance to primary producers for emergency livestock fodder relief.

example, staff costs) that are eligible for reimbursement, including in the Memorandum of Understanding between the DPI and the Department of Justice on Natural Disaster Funding Arrangements.⁶¹

The inconsistencies in the funding documentation may be, at least in part, contributing to the variable understanding across DPI and LLS staff of the funding arrangements, as identified in interviews. There were differences in staff views on whether expenses incurred by AASFA in the recovery phase were eligible for reimbursement. Most AASFA stakeholders expressed a view that recovery expenses were not eligible for reimbursement. The DPI *Emergency Recovery Operations Guideline* supports this view held by staff and states that:

Recovery services, activities and extraordinary costs are not recoverable under State and Commonwealth arrangements. This means that in the first instance costs associated with recovery need to be covered by NSW Department of Industry.

On the other hand, the Office of Emergency Management in the Department of Justice, which manages the NSW Disaster Assistance Guidelines, advised the Commission that reimbursement is activity-based rather than dependent on the phase of the emergency, consistent with the NDRRA. For example, the NSW Disaster Assistance Guidelines state in relation to recovery centres:

Agency costs associated with the establishment of Recovery Centres and/or costs associated with keeping affected communities informed about recovery operations may be reimbursed. These may include employee related costs that are not currently paid (including payroll tax, overtime and backfilling), additional plant and equipment hire and necessary operating costs (page. 29).

There were some examples in the case studies reviewed of how the lack of clear understanding of the activity-based nature of funding impacted on the quality of the recovery services provided. An example was the postponement of a recovery meeting by a week after the Sir Ivan fire to avoid using the term 'recovery', which may have signalled that the response had ended and funding may no longer be available to support other activities. The result was that information supplied to landholders was about assistance that had likely already expired. Respondents indicated:

Recovery centres might be delayed in being set up because we are still doing response work. The emergency management rules should allow for recovery to overlap with response.

It's always an issue to run these [recovery] meetings as no one knows who will pay for them, provide travel to staff, catering etc. We can't deliver recovery meetings, but the meetings are great as we can address a lot of different issues during the meetings, like mental health and wellbeing for example.

In some instances, recovery activities were able to be funded via alternative or exceptional means under the NDRRA arrangements, though this was not the norm. Where disaster recovery costs may impact on the ability to conduct usual operations, the NSW Recovery Plan states:

Expenditure of funds by agencies during emergency response or recovery operations is to be met in the first instance by the agency from within their usual operating budgets (or their usual arrangements with NSW Treasury). NSW Treasury may provide additional funding if the expenditure is of a magnitude that prevents the agencies, or functional areas, from continuing

⁶¹ Memorandum of Understanding 2015-16, NSW Department of Justice and NSW Department of Primary Industries: Natural Disaster Funding Arrangements.

their usual operations for the remainder of the financial year. Departments cannot be guaranteed that funding will be provided.

For example, during the recovery for the Sir Ivan fires, the Office of Emergency Management was able to provide funding outside of existing budget allocations to fund the Rural Support Service that was operated by the DPI Rural Resilience Program. However, there were very few examples of the opportunity for additional funding being sought by DPI or LLS.

DPI and LLS should work with the NSW Office of Emergency Management in the Department of Justice to review the requirements for funding reimbursement under the NDRRA, and work together to identify how to best access available funds. DPI guidelines should be updated accordingly, and ongoing training and communication with the Office of Emergency Management should be undertaken to ensure that DPI remains up to date on available funding.

7.2.4 Opportunity to develop a strategic approach to recovery funding

LLS is the primary provider of recovery support on behalf of AASFA, and should consider how to strategically fund recovery costs that cannot be reimbursed by the *NSW Disaster Assistance Guidelines*. For example, a strategy is needed to address how LLS could best fund recovery workshops, one-on-one agricultural recovery advice, production of recovery guides or toolkits, and follow-up livestock assessments. At present, LLS does not have an internal budget allocation for disaster recovery and must reallocate funds from existing budgets on a case-by-case basis. LLS could consider establishing a statewide contingency budget for disaster recovery, which would have the benefit of providing certainty and assist with maintaining business continuity. A statewide budget would be preferable given that it is unlikely that every LLS region each year would need to resource disaster recovery (see section 7.2.1).

Providing LLS staff with certainty that there is a budget for recovery would likely improve the recovery process (see chapter 4). Currently recovery service costs are absorbed by each LLS region, and it is open to the region to determine whether or not the recovery services are a priority and how much of their existing budget they can reallocate towards recovery. Stakeholders believed that funding clarity would help to improve the recovery process. For instance, staff noted:

If I [LLS staff member] knew we had funding for recovery it would change the way we did recovery. Having some sort of budget and knowing it at the start will make the process smoother.

Recovery services are one of LLS' legislative responsibilities under its emergency management function. It is essential that is considered as a core service and resourced accordingly as part of the updated business continuity plans. Evidence collated in interviews demonstrated that most staff involved from LLS and DPI appeared not to view disaster recovery as an activity that was part of their business as usual. Many staff commented about how assistance during the recovery phase often came at a cost of reducing services delivery to rate payers' assistance in other areas, creating business continuity issues.

Often staff cannot meet their own deadlines, while working on the recovery phases, as their time and budgets can become diverted to the recovery effort. General day-to-day business can become compromised because of their recovery work."

The services we provide day to day were taken away; we couldn't do it. We struggled with business continuity, as the recovery lasted many months. Sometimes feedback we got was not pleasant, but how do we do the recovery support unless we are given the funding, so we continue the business as usual.

A more strategic approach to funding recovery as a core service in LLS through a statewide budget, alongside integration of recovery activities into business continuity planning, would be expected to enhance LLS’s provision of recovery services.

7.3 Improve business continuity planning

As emergency management is a core legislative function of both DPI and LLS, it should be considered to be part of the regular day-to-day operations for both organisations. Both organisations should plan for the eventuality that regular business disruption may be unavoidable for emergency responses and for the recovery phase. DPI and LLS management should focus on minimising these disruptions and managing the budget and program impacts to both organisations through business continuity planning.

DPI has recently developed a business continuity plan for the BFS Branch, which should improve its ability to assess staff who can be readily available for emergency response and enhance strategies for backfilling positions where necessary. The DPI Business Continuity Plan provides a strong framework for considering the critical tasks that should continue when the BFS Branch is involved in an emergency response. The DPI Business Continuity Plan specifies segregated functions of the BFS Branch and timeframes for the minimum-level functions that should be sustained. In future iterations of the plan, it will be important to consider the scale of the emergency response and acknowledge alternative approaches where the scale of the response may limit the ability of the BFS Branch to carry out the outlined functions. Examples may include a large-scale response to a foot and mouth disease outbreak where all other animal biosecurity services are discontinued during the response in recognition of the required staff commitment.

LLS should develop a clear plan for business continuity at both the state and regional levels. LLS does not have a statewide business continuity plan, and business continuity planning at the regional level varies considerably (see Table 5).

Table 5. Status of LLS business continuity planning for emergencies

LLS Region	Planning completed to facilitate emergency management preparedness and business continuity
Central Tablelands	Not completed
Central West	Not reported
Greater Sydney	In progress
Hunter	In progress
Murray	Completed
North Coast	In progress
North West	In progress
Northern Tablelands	In progress
Riverina	Completed
South East	Completed
Western	Not reported

Some LLS regions indicated that they have plans that indicate staff who cannot be allocated to emergency responses so that core services can continue, and outline approaches to managing staff allocation during a response. Other LLS regions indicated that no formal planning has occurred and decisions around staff allocation and core services to be maintained are developed when an emergency occurs. Some LLS General Managers acknowledged that continuity of service delivery has not yet been tested in relation to an extended emergency response. DPI and LLS should work together to ensure that business continuity planning aligns with the clarified roles and responsibilities and workforce plan developed.

7.4 Facilitation of staff participation

The perception of unmanageable business disruption and a lack of manager support featured highly in the staff survey as reasons for staff not being able to participate in emergency responses.

The staff survey was completed by over 450 staff from LLS and DPI (around 50 percent from each organisation). The survey identified a number of barriers to staff participation in emergency responses, as seen in Figure 8. The highest-rated barrier to staff participation was 'other work priorities' (22 percent of staff respondents who rated the question applicable). Taken together, 'other work priorities', 'lack of support from management' and 'lack of support from supervisor' account for 32 percent of respondents who identified key barriers, indicating that management support and work priorities are a significant barrier. The level of staff reporting the barriers of 'other work priorities that could not be delayed' and a 'lack of support from management' was reasonably consistent across both DPI and LLS, as well as across the various LLS regions.

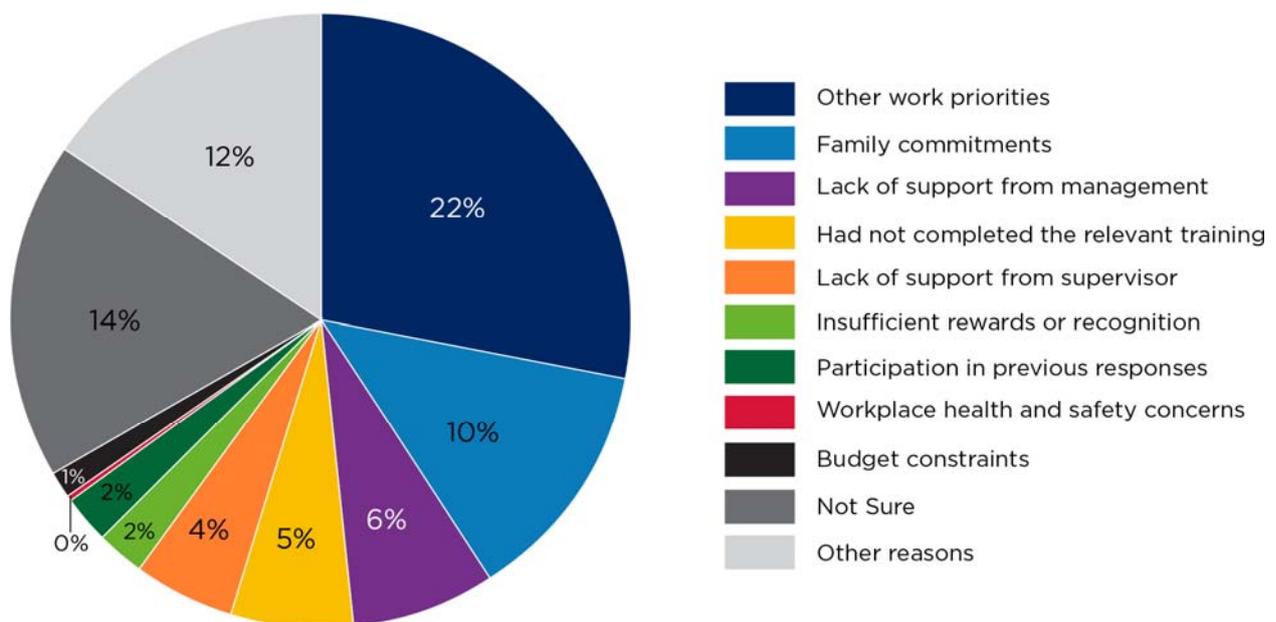


Figure 8. Barriers to staff participation in emergency management

The survey and interview results indicate that more work could be done amongst the executive management of DPI and LLS to promote a culture of ownership in regards to emergency response and recovery responsibilities. LLS General Managers and DPI Executive Managers should remain committed to delivering the emergency management functions of the industry cluster as core responsibilities. As already discussed greater clarity in roles and responsibilities will greatly help. However, improved business continuity planning is also needed to ensure

that staff are only held back from an emergency response or training where their role is critical to delivering essential services other than emergency response.

7.5 Industrial relations issues affecting staff participation

The results of the staff survey showed that only 30 percent of respondents believed that there are appropriate staff incentives and rewards for participating in emergency management, such as recognition by management, allowances and overtime pay (41 percent were undecided and 28 percent disagreed).⁶² Issues related to staff participation and incentives were frequently raised by DPI and LLS staff during interviews. Key concerns related to inconsistencies in the application of the industrial award provisions (payment of overtime and on-call arrangements) and a lack of opportunity to obtain higher duties payments during responses.

7.5.1 Payment of overtime

Staff are entitled to be paid overtime when they are directed to work under the industrial awards.⁶³ The industrial award provisions for overtime are equivalent across DPI and LLS.⁶⁴ In the case studies reviewed by the Commission, there were inconsistencies in the ways that overtime provisions were interpreted by managers. This was particularly the case for smaller emergency events where there is no national cost-sharing. In these situations, the workload was predominantly carried by a small group of core staff and funded out of internal budgets.

Expert biosecurity consultants engaged in this audit believed that overtime work was unavoidable in many cases due to the long travel distances involved, and that it is impractical and inefficient to not finish inspections – for example, crop surveillance – once started. However, there appears to be inconsistent approaches by managers as to when overtime can be paid to staff for these types of emergencies.

To facilitate more consistency in the way discretion is applied in relation to overtime, DPI and LLS should jointly develop operational guidance for managers in emergency responses. This guidance should clarify how overtime will be paid for different types of emergency events, taking into account operational realities and budgets, and ensuring compliance with the industrial awards. All staff should be made aware of the guidance.

7.5.2 On-call allowance

The industrial awards provide equivalent provisions across LLS and DPI for placing staff on call. The awards provide for an hourly on-call rate of \$0.94 payable to the staff member (a sector-wide rate). If an employee is called to work while on call, overtime provisions apply.

Procedures need to be implemented to ensure consistent payment of this on-call rate to DPI and LLS staff for emergency responses. In particular, operational guidance should be provided to managers that on-call arrangements should be used during higher-risk periods (for example, forecast catastrophic fire conditions).

The use of on-call provisions could have helped with staff readiness for the Sir Ivan fire response. In the lead-up to the fire, there were inconsistencies across different LLS regions in the level of readiness for the forecast fire conditions. On the one hand, Hunter LLS managers indicated that they had made staff aware of the conditions and placed staff on standby and that

⁶² Staff were asked to respond to the statement: 'There are appropriate staff incentives and rewards for participation in emergency management (e.g. recognition by management, allowances and/or overtime pay)'. (Question 8).

⁶³ The *Crown Employees (Public Service Conditions of Employment) Reviewed Award 2009* applies to DPI staff. The *Local Land Services Award 2013* applies to LLS staff.

⁶⁴ However, the majority of LLS staff work 38 hour per week compared with 35 hours per week for DPI staff.

DPI had deployed a liaison officer to the RFS State Operations Centre. On the other hand, staff from other LLS regions reported that although they were aware of forecast conditions, no arrangements had been made to place staff on standby or to ready operational facilities.

7.5.3 Higher duties

Queensland has established temporary emergency response positions, with associated position descriptions, which provide for appropriate remuneration according to the responsibilities of the position. Response staff who have lower classification substantive positions receive higher pay when appointed to these positions.⁶⁵ Staff interviewed indicated that this approach could be adopted as a new incentive to compensate DPI and LLS response staff for the additional cost incurred (for example, child care) when required to be away from their families or their farms while responding to emergencies. This would also reduce inequities that are sometimes apparent during responses, such as staff operating in similar roles being paid at different levels, or even staff supervising others who are on a higher pay scale.

The Commission has been advised by DoI Industrial Relations that it is technically feasible from an industrial relations and legal perspective to use this approach in NSW. However, there are a number of practical considerations that should first be considered, including whether emergency management position descriptions (and associated pay grades) would need to vary according to the size of a response. Consideration should also be given to the overall benefits and costs of this approach.

The Commission suggests that DPI and LLS consider introducing temporary emergency response positions for a trial period in instances where the duties undertaken are at a significantly higher level than the employee's routine duties. An Expression of Interest (EOI) process could be used outside of the response period to pre-assign staff to different response functions according to agreed levels. If this approach was successful in helping to attract more staff to emergency responses while retaining budget efficiency, it could be rolled out for all future emergency responses.

⁶⁵ The Commission sighted six example emergency response position descriptions from Queensland: Operations Manager; Planning Manager; Restricted Area Movement and Security Manager – Local; Controller – Local; Coordinator – Stage; and Infected Premises Site Supervisor – Local. We were advised that the key drivers in creating these positions were (1) recognition of the roles and responsibilities of the positions, (2) employment equity and (3) having HR and financial delegations attached to the positions.

7.6 Recommendations

Recommendations

- 10 DPI and LLS should establish clear agreements on funding arrangements to match the agreed organisational accountabilities through a Memorandum of Understanding, so that emergency responses are not delayed or under-resourced because of funding uncertainty.
- 11 DPI should clarify funding availability for emergency response and recovery, particularly for the incident definition phase and activation of the response. This should include the following:
 - for biosecurity emergencies, DPI, in collaboration with NSW Treasury, should establish a contingency fund to avoid delays and ensure there are sufficient resources for an incident management team allocated.
 - DPI as the AASFA Coordinator should update the existing DPI Disaster Finance Guide to ensure it is consistent with the NSW Disaster Assistance Guidelines. This should be done in consultation with the Department of Justice.
- 12 LLS should develop statewide and regional business continuity plans that identify core services that must be delivered during emergency management activities, and facilitates access to appropriate staff resources.
- 13 LLS should undertake a review of its statewide funding allocation and internal resourcing of emergency management functions across each region to clarify whether:
 - each region's budget allocations are sufficient, based on risk and capability needs, taking into consideration the need for all regions to support statewide responses
 - a statewide funding approach, such as setting aside appropriate allocations for statewide management of responses and recovery, would enhance LLS's emergency management capability.

8 Address key operational risks in emergency management

8.1 Key findings

Key findings

- The audit identified a number of operational risks. The planned emergency management reforms – including updating information management systems, rolling out additional learning and development modules, and undertaking procedural reviews – will assist in addressing these.
- The case studies highlighted the breakdown of command and control structures in several occasions. This presents a significant risk to successful emergency responses.
- Poor communication between the state and local control centres and forward command posts created a lack of clarity in decision making, and contributed to a breakdown of command and control.
- While DPI and LLS had a good overall safety record in the case studies, there was inconsistent adherence to safety procedures and consideration of staff welfare.
- A lack of data management systems and information-sharing capability was a common constraint faced in all three case studies reviewed. The ability to accurately track and share case management information is essential to delivering services successfully.
- The case studies highlighted areas where procedures are lacking or where they could be improved, including response to forecast conditions (for example, extreme fire danger), procedures for developing and approving biosecurity response plans, and guidance for treating or destroying animals and obtaining landholder permission.
- DPI and LLS have demonstrated strong performance in delivering recovery services. Staff indicated that capturing and sharing lessons learnt and a streamlined disaster assessment process would further enhance recovery operations.

As discussed in chapter 3, DPI and LLS were successful in achieving targeted outcomes in the actions taken to date for the three cases studies examined. However, the Commission identified several risks to the effective delivery of emergency management services in the case studies reviewed. While these were overcome in the case studies, some of them represent considerable risk to effective responses in the future. In multiple-event emergencies or large emergencies, the risks identified would be magnified and could undermine the capacity of DPI and LLS to effectively respond. For example, issues with record keeping and communication, while overcome on the relatively small scale of the case studies through approaches such as manual recording and sharing of information, would likely not be readily surmountable in a large event.

8.2 Address areas of breakdown of command and control

Evidence from the response case studies reviewed indicates that command and control structures were not uniformly adhered to. The AIIMS and BIMS structure provides a framework for emergency response management and the enactment of best practice command and control structures. Under a fully functional AIIMS and BIMS structure as outlined in EMPLAN, the following applies:

- The State Coordination Centre (SCC), in close collaboration with the Chief Technical Officer⁶⁶, should establish the objectives of the emergency response plan; strategically coordinate response actions; provide systems and processes to enable effective

⁶⁶ Either the Chief Veterinary Officer, Chief Plant Protection Officer or the Director of Invasive Species.

coordination of activities, including logistics support; and provide intra and interagency liaison, including public communications.

- The LCC should operationalise the strategic response and where required direct and maintain communications with the Forward Command Posts (FCPs).⁶⁷ The LCC should communicate regularly with the SCC regarding what is happening on the ground and any strategic or higher-level resourcing decisions that may be required.

Evidence of some level of breakdown of command and control was identified in examination of each of the three cases studies as outlined in Table 6 below.

Staff survey respondents also indicated that there was a break-down of command and control in some circumstances. Staff noted that there was some confusion between the roles of the SCC and LCC, particularly in the planning and operations functions. Staff commented that in some emergency responses, the LCC (predominantly staffed by LLS) had minimal support from the SCC. Some respondents noted that there was not a clear relationship between the functions across the SCC, LCC and FCP and little communication between the control centres at different levels, which resulted in a duplication of effort and reworking of tasks. Reinforcing clear roles and responsibilities should assist in improving adherence to command and control structures.

Table 6: Example case study evidence for breakdown of command and control

Case study	Evidence of command and control breakdown
Sir Ivan fire	<p>Staff indicated that the LCC did not consistently take direction from the SCC, as there was a perception that the LCC was 'owned' and operated under the LLS leadership rather than under the SCC.</p> <p>LCC did not provide sufficient planning direction to field operations under the FCPs, and the breakdown in communications between the LCC and the FCPs, meant that the FCPs were directing on-ground operations; this resulted in inconsistencies in operations between the two FCPs (in Merriwa and Dunedoo).</p> <p>The coordination of staff resourcing from outside the response region should be done by the SCC. However, in the Sir Ivan fire response, this task was taken on by the LCC. While this did not have any direct consequences for the delivery of the response, in a larger response operating across multiple LCCs, this may result in confusion among broader agencies and external stakeholders.</p>
Lupin anthracnose	<p>The compliance staff undertaking surveillance on the infected premises operated outside the LCC structure. This resulted in a lack of clarity and an inability to track compliance-related operations conducted as part of the surveillance.</p> <p>The LCC Incident Controller independently made the decision to stand down the LCC temporarily during a staff member's absence, demonstrating that the LCC was acting for a period without the oversight of the SCC. This decision was subsequently reversed.</p>
Red imported fire ants (RIFA)	<p>Feedback from some response staff indicated that at times the SCC operated beyond the scope of its role, by directly tasking surveillance activities as opposed to directing surveillance strategy. Evidence from other staff interviewed indicated that at other times, the LCC was given autonomy and operated without the advice and direction of the SCC. DPI noted that this was due to the level of experience of the incident controller in the LCC and that the incident controller function was performed by different personnel.</p>

⁶⁷ Forward Command Posts are classified as a divisional command under the AIIMS framework.

8.3 Improve communication in emergency responses

All three emergency management case studies reviewed demonstrate that communications between the SCC and LCC during emergency responses should be improved.

8.3.1 Communication from the State Coordination Centre

The part-time (virtual) operation of the SCC in the biosecurity responses reviewed poses risks. In recognition of the fact that demands on the SCC are variable across an emergency response, an alternative approach may be to have fewer dedicated staff members working on the response, with each staff member performing a number of SCC functions. For example, SCC staff in the lupin anthracnose response were at times unavailable to resolve important response issues being dealt with by the LCC, such as how to deal with landholder resistance to crop surveillance being undertaken in the response. Two-way communication between the SCC and LCC is critical to resolving response challenges in a timely manner. The SCC for the RIFA response operated on a part-time basis (even during high-intensity periods), initially located in Port Botany rather than the DPI headquarters. This may have led to confusion regarding the relative decision-making capacity and authority of the SCC and LCC during the RIFA response.

Internal briefings should ensure that staff are clear on the response objectives and actions, and enhance communication and understanding between the various levels of response. Interview and survey results from the audit indicate mixed views as to the quality of the internal emergency response communications. When asked about briefing processes and whether staff fully understood what they were trying to achieve during the emergency response, some survey respondents indicated that briefings were not regular enough and there was some confusion about the process, stating that briefing processes were an afterthought. Some staff commented that briefings were poorly conducted and most people had no real idea what was happening in the response. DPI and LLS should continue to work to enhance communication during responses to ensure all staff are suitably informed and understand their role.

8.3.2 Two-way information sharing

A managerial culture of openness and two-way information flow is important for emergency responses, so that problems are identified, investigated and rectified in a timely manner. On-ground operational staff interviewed noted that during the RIFA and lupin anthracnose responses, there was a perception that the SCC staff were disinterested in feedback provided by the LCC regarding the experiences of on-ground staff. This lack of SCC engagement may have discouraged adherence to command and control structures at the LCC level.

Directions given by the LCC should be informed by the intelligence gathered in field operations. However, in the Sir Ivan fire response, there was limited ability for the field staff to supply information upwards via the FCPs to the LCC, due to a breakdown in the telecommunications network. Without information, the LCC and in turn the SCC were not able to provide direction. Although briefing processes between control centres improved throughout the response, the field staff predominantly relied on their local networks and knowledge rather than any direction given by the LCC or SCC. While it was positive that priorities were being determined locally, based on local knowledge, there should have also been direction provided by the LCC at a strategic level. The FCPs were driving much of the operations from the ground up. Staff reported that there was little knowledge available to each of the FCPs about overall progress on delivering AASFA support to landholders between the two divisions (Dunedoo and Merriwa).

DPI and LLS should improve communication between levels of operation within a response. The need to share information openly both up and down should be reinforced. Briefing and debriefing sessions could be used for this purpose. Further, SCC senior staff should visit the LCC

occasionally to seek direct feedback. Opportunities to have LLS staff in the SCC and DPI staff in the LCC either as part of the response team or to shadow each other could greatly enhance each agency's understanding of the other's operations and concerns.

8.4 Enhance focus on staff welfare and safety protocols

A good track record of safety was observed in the three case studies reviewed, with only very minor injuries reported in the emergency responses.⁶⁸ However, lack of adherence to safety procedures in some instances was identified. The Commission also identified opportunities to improve the focus on staff welfare, particularly in responses to natural disasters where staff are required to oversee destruction of stock and assist landholders facing difficult circumstances.

A detailed assessment of work health and safety compliance is outside the scope of this audit. However, several safety and welfare issues were raised during the audit by DPI and LLS staff involved in the Sir Ivan fire response that the Commission feels it appropriate to highlight. DPI and LLS staff are required to adhere to DoI's work health and safety policy and procedures when organising and managing emergency management activities.⁶⁹ However, there can be practical challenges in adherence to safe workplace policies when resources are stretched and operating environments are challenging, such as during fires.

During the Sir Ivan fire, some staff noted that safety risk assessments⁷⁰ had not been undertaken, in particular for operations on the eastern side of the fire. A number of significant safety hazards existed at that time, including live power lines, firearms usage, dangerous trees and poor mobile phone coverage. The RFS was supposed to provide guidance and on-the-ground safety approval before staff could access the fire ground; however, some field staff reported that they accessed the fire ground without gaining pre-approval from the RFS.

In addition to physical risks, staff involved in the Sir Ivan fire response also raised concerns about emotional trauma experienced from fatigue and witnessing the destruction of large numbers of livestock. DoI provides staff with access to a range of mental health resources via its intranet site, including the Employee Assistance Program. It also provided a counsellor to assist staff involved in the Sir Ivan fire response. Nonetheless, some staff considered that the counsellor was not provided early enough.

Staff also indicated that they were often the primary fire recovery contact with impacted landholders and had to shoulder much of the human support required in the community. Though guidelines suggest that field teams refer traumatised landholders to the Welfare Services Functional Area, they did not have the information or fact sheets about the different support services available during their site visits.

The Commission understands that workshops are offered by the Rural Adversity Mental Health Program, a statewide program funded by the NSW Ministry of Health that aims to give staff the skills and knowledge to deal effectively with clients experiencing stress. These Rural Adversity Mental Health Program workshops may also assist staff in assisting aggrieved landholders in future emergency response and recovery situations. Additional opportunities to support the mental health of staff should be considered, including the potential to send counsellors with

⁶⁸ The only injuries recorded were blisters from boots during field surveillance in the lupin anthracnose response.

⁶⁹ Department of Primary Industries, Emergency management DPI/LLS Alliance Policy (INT 16/83065).

⁷⁰ Required to adhere to Department of Industry's work health and safety policy and procedures (see Department of Primary Industries, Emergency management DPI/LLS Alliance Policy (INT 16/83065)).

staff to site visits so that staff are not required to act in that capacity as well as undertake their usual work.

8.5 Improve procedures to guide staff in emergency responses

Emergency planning and preparedness attempts to bypass as much of the normal decision-making processes as possible by making many decisions in advance. This process is essential for effective preparedness so that a response can be implemented quickly and consistently according to good practice. Hence, where possible, policies, operating procedures and templates should be developed before response operations commence. The Commission identified several particular areas where improved operating procedures are needed or could enhance the current level of current service delivery, including:

- standard operation procedures for forecast incidents (for example, forecast fire danger)
- strategies for the timely management of unknown biosecurity threats and quality assurance processes for the implementation of biosecurity responses
- procedural guidance for AASFA responses on issues such as animal welfare and treatment options, and recording landholder permissions.

8.5.1 Standard operating procedures for forecast incidents

The Sir Ivan fire raised issues related to the development of standard operating procedures (SOPs) where a catastrophic fire danger rating is declared for parts of the state. In the case of the Sir Ivan fire, the AASFA responding agencies had no SOPs for:

- placing DPI and LLS staff on standby (on call)
- identifying staff with the relevant skill set and capabilities to operate in either a SCC or LCC role, or within the FCP and field teams
- identifying potential LCC and FCP locations
- communicating workplace health and safety requirements
- notifying of partners, such as the Engineering Services Functional Area.

Stakeholders interviewed identified that a reactive rather than a proactive response resulted in DPI and LLS being on the 'back foot' from the start of the AASFA response. The response capacity of DPI and LLS would be improved by using SOPs tailored to different forecast conditions that establish protocols and processes (and DPI and LLS practising these) to ensure that staff are ready and able to respond in a timely manner. A similar approach could be adopted for floods, whereby staff are placed on notice when the Bureau of Meteorology issues a flood watch for major flooding. Staff will also need to be reminded of the SOPs regularly.

8.5.2 Design and quality assurance processes for biosecurity response plans

Strategies for dealing with unknown biosecurity threats

Pest and disease control policies and strategies are predominantly established for most key biosecurity threats at a national level under the nationally agreed arrangements (under agreements managed by Plant Health Australia,⁷¹ Animal Health Australia⁷² or the Australian

⁷¹ Emergency Plant Pest Responses Deed (EPPRD):
<http://www.planthealthaustralia.com.au/biosecurity/emergency-plant-pest-response-deed/>.

⁷² Emergency Animal Disease Response Agreement (EADRA):
<https://www.animalhealthaustralia.com.au/what-we-do/emergency-animal-disease/development-emergency-aquatic-animal-disease-response-arrangements/>.

Government⁷³). For threats that are not covered by these arrangements, DPI should have an effective internal policy development process for developing and finalising the eradication or response strategy using risk assessment.

In the biosecurity response case studies reviewed, the design of the eradication or response strategy was reliant on readily available experts with experience in the particular disease or pest. For the lupin anthracnose response, this expertise was drawn from DPI Agriculture, the CPPPO and the Plant Health Committee. For the RIFA response, the expertise was drawn from the Queensland program to eradicate RIFA. It is a credit to DPI that it has good working relationships with relevant national committees and other jurisdictions that would support NSW in determining the response strategy for an unknown pest or disease. This approach could be further strengthened by developing DPI policy and strategies to deal with new pests for which it has no experience. It would be appropriate to have in place clear protocols and other processes as to how DPI's Chief Technical Officers (CVO, CPPPO and Director of Invasive Species) would establish of an offline, special purpose technical group and identify necessary experts nationally or internally.

Quality assurance of biosecurity response plans

The case studies revealed a lack of clearly documented DPI scientific processes for formulating the surveillance plans delivered under the biosecurity emergency responses. In the lupin anthracnose response case study, it was not clear how the surveillance strategy was developed given the limited baseline data (the number of lupin crops in the region was not clearly known). The Commission could not ascertain from the interviews or documents provided whether an epidemiologist or statistician was used in designing the surveillance plan or whether any internal quality assurance was done on the surveillance design.

8.5.3 Procedural guidance for AASFA responses

There were gaps in policy and guidelines identified in the Sir Ivan fire response. These related to animal welfare, the necessity to record landholder permissions, and managing fodder coordination.

Animal welfare: Concerns were raised by vets involved in the response regarding the lack of operational guidance on the assessment and subsequent treatment or destruction of animals. Under the AASFA Supporting Plan, the AASFA response staff are responsible for both the 'rescue, evacuation and emergency care for animals' and the 'assessment, humane destruction and disposal of affected animals'.⁷⁴ This Supporting Plan is silent as to whether response staff should treat animals when providing emergency care, although treating animals is not generally a role of either LLS or DPI. Some vets interviewed stated that there was a need to be able to treat stock animals, while others believed that treatment of animals was not the role of public vets, even in an emergency response. This issue was also raised in the Sir Ivan fire AAR, but the operational guidance is not yet available to staff.

Recording landholder permission: In the case of needing to seek signed waivers before destroying animals, there appeared to be unclear guidance as to the necessity and application of this process. In the Sir Ivan fire response, it was reported that in some instances livestock were destroyed even though relevant landholders were not available from which to seek permission, or that permission was given over the phone but not recorded by AASFA response staff.

⁷³ National Environmental Biosecurity Response Agreement (NEBRA): <https://www.coag.gov.au/about-coag/agreements/national-environmental-biosecurity-response-agreement-nebra>.

⁷⁴ Agriculture and Animal Services Functional Area Supporting Plan V2. REF OUT16/34481, page 6.

Managing fodder donations: AASFA took on the role of fodder coordination in the Sir Ivan fire response, despite uncertainty regarding whether this should be part of its role (see Figure 9). The AASFA Supporting Plan notes that AASFA should ‘coordinate support to primary producers, animal holding establishments and the community in emergencies’.⁷⁵ The Supporting Plan is not clear on whether this role includes coordinating emergency fodder that is donated. It was reported in the initial days after the fire that local organisations had taken on this role, before it was picked up by AASFA. Though overall a success, the coordination was undertaken in the absence of robust operational guidelines. As the fodder was distributed without normal biosecurity checks, there is a risk that biosecurity issues (for example, introduced weeds) may occur at a later time. Further, in some instances, it was suggested that criteria to prioritise fodder support to landholders was needed.

DPI has developed a policy on ‘Feed and fodder: requirements for fodder purchased from interstate’⁷⁶ which aims to manage the biosecurity risks associated with fodder transported from interstate. However, the new policy does not address the issue of whether DPI or LLS is responsible for the coordination of donated fodder during an emergency response.



Figure 9. Extensive fodder donations were received in response to the Sir Ivan fire (photo: Central Tablelands LLS).

8.6 Improve information management and data systems

8.6.1 Information and communications technology systems

Constraints in information and communications technology (ICT) systems for tracking responses was a common problem in the case studies. As noted in section 3.5, DPI is taking steps to address this gap by developing a biosecurity information system through the reforms. A detailed assessment of ICT systems was outside the scope of this audit. However, several staff highlighted the lack of capability in the ICT systems as a top-tier concern.

⁷⁵ Agriculture and Animal Services Functional Area Supporting Plan V2. REF OUT16/34481, page 6.

⁷⁶ DPI website, ‘[Feed and fodder: requirements for fodder purchased from interstate](#)’ (cited 28 September 2018).

A lack of a consistently used case management systems for recording and managing all information relevant to an emergency response was observed. This poses a significant risk to effectively managing a large response or multiple smaller responses in parallel, as staff revert to paper-based record keeping and local knowledge. For example, in the Sir Ivan fire response, it became difficult to record landholder requests for assistance and track their completion. Field staff described having to shade activities onto A3 hardcopy maps, make notes in logbooks and record tasks on whiteboards, instead of using an IT-based case management system. As a consequence, ad hoc systems in the form of spreadsheets needed to be deployed to track tasks completed, which took several days and created additional reporting burdens.

Malfunctions in some of the IT systems used also created risks. A misrecording of sample identifications in the lupin crop surveillance was caused by a malfunction in the software used and resulted in incorrect geo-referencing of samples. A manual process was undertaken to re-identify the samples collected and their statuses. This resulted in confusion and a possible misidentification of samples, which would be extremely problematic in a larger event.

8.6.2 Data access

Emergency response staff experienced problems with accessing the required maps and databases to inform their on-ground decision-making.

In the Sir Ivan fire, field response staff had a lack of situational awareness regarding the fire footprint and the extent of fire damage when visiting properties, and the potential risks from the fire damage. The Regional Director and DPI State Officer reported having access to the RFS ICON system, which has the fire footprint. The DPI State Liaison Officer suggested that there had been difficulties in integrating RFS mapping information into DPI and LLS systems, as the format of the maps is incompatible with DPI's software.⁷⁷ Ideally, once knowledge of the fire footprint was available from the RFS, this should have been easily overlaid with information about landholdings in an AASFA case management system to assist with AASFA prioritisation and decision-making. In the Sir Ivan fire, problems were also experienced in accessing the FARMS database (used to register livestock enterprises and record stock data), requiring staff to attend to landholders with limited information about their livestock holdings and a lack of contact numbers.

RIFA response staff also reported that data access was limited, whereby the livestream surveillance data was sent to the SCC, but could not be accessed by the LCC to inform the on-ground decision-making.

8.6.3 Document management and record keeping

The Commission observed a need for more consistent documentation of responses in the case studies. In the lupin anthracnose response, the destruction and disposal part of the response was carried out by individual farmers at the infected premises, but it was not documented in the Incident Action Plan or the situation reports. This should have been done for completeness. Furthermore, there was no documentation of compliance inspections being completed for the infected premises in the response documentation the Commission received from DPI. In the RIFA response, there was no AAR completed as required for all significant responses. Staff reported that it became a practical challenge to bring staff together for the AAR and there was not a clear point in time to undertake the review given that it was a lengthy and protracted

⁷⁷ Note DPI's intelligence and information systems team now has funding to develop a system that will be compatible and web-based. The system will be used by DPI and LLS in their daily work as well as in emergency responses.

response. Accurate documentation and adherence to plans and procedures are critical for ensuring that responses are appropriately carried out and followed up.

The improvements needed in DPI's record keeping systems will also be critical in a large emergency response, given the large volume of information involved. An independent review of NSW's Capability and Capacity Assessment for responding to foot and mouth disease commissioned by DPI in 2017 recommended that document management and record keeping processes be reviewed so that they are mission-ready for a large-scale emergency response.⁷⁸

8.7 Improve operational guidance for recovery

8.7.1 Best practice guide for recovery

DPI and LLS have acquired extensive experience in recovery from recent natural disasters, including the Sir Ivan fire, inland floods, and the East Coast Storm and Floods. There is an opportunity to better capture existing lessons and recovery material from recent fires, storms and floods into a pre-prepared information package that can be rolled out in future disasters. For example, a guide to recovery could be developed to collate a range of existing information products, such as workshop plans, recovery action plans, technical fact sheets, YouTube videos, concept of operations for transition from response to recovery, Agriculture Recovery Committee terms of reference, and flood readiness information for landholders.

LLS and DPI have an opportunity to work with landholders to invest in long-term resilience measures through their recovery work. Stakeholders interviewed in the audit believed it was vital to invest in disaster recovery as it was an opportunity to bring about change within farms and to build resilience. In the context of the recovery after the 2015 East Coast Storm and Floods, Hunter LLS developed a specific toolkit to engage with farmers in acknowledgement of the opportunity to enhance resilience for future events. An LLS staff member commented:

After floods, farmers fix fences, then look to water quality and pasture issues, symptoms to look out for in stock, property planning issues – are there opportunities to re-do farms after wipe-out from fire?

An external stakeholder also noted that resilience thinking was integral to the way DPI and LLS were delivering their recovery support – noting:

[We] had lengthy discussions about resilience, and it was impressive – they [DPI and LLS] were thinking about not just the here and now, and had been thinking about this and working with farmers about building resilience.

Building on the successes to date, preparation of a best practice guide to recovery would enable long-term resilience planning to be fully integrated into recovery design across all areas.

8.7.2 Streamline the damage assessment reporting process

The natural disaster assessment and declaration process is recognised by both DPI and LLS as cumbersome and complex. Current policies require the reporting and development of disaster reports within four weeks of an event, with smaller events to be complete in a week.⁷⁹

According to DoI policy, coordinating disaster assessment reports is the responsibility of the DPI EMU and DoI's Regional Directors, with assessors drawn from DoI, DPI and LLS. Disaster

⁷⁸ FMD Capability and Capacity Assessment, 2017, recommendation 4.

⁷⁹ Department of Industry (2016), Policy: Emergency management – Disaster assessment and declaration.

assessment reports are critical as they define whether an incident meets the criterion of a Natural Disaster declaration and trigger funding under the Australian Government's NDRRA or NSW's Agricultural Natural Disaster criterion.

DPI's Guide on Assessment and Reporting of Natural Disasters sets out the process used to compile disaster assessments. Interviews with DPI and LLS staff indicated that the formal processes outlined in DPI's policies and guidance notes were not reflective of current practice, with DPI's EMU typically adopting a coordination role in disaster reporting and LLS collecting disaster assessment information. In some cases, LLS was responsible for both collecting impact data and collating the disaster assessment report. The disparity between current policy and guidelines and on-ground delivery of disaster assessment reporting should be clarified to establish clear expectations among participating organisations.

Staff highlighted a number of current issues with methodologies used in disaster assessment, including:

- a lack of clarity in AASFA disaster assessment reporting templates compared with templates used by other agencies (for example, the RFS and SES) that leads to greater variation data collected by individuals
- difficulty in verifying data collected across different methodologies – for example, self-reporting hotlines versus on-ground assessment
- challenges in mapping out impact areas in floods compared to fires – for example, temporal issues identifying flood-affected areas
- the complexity and variability in the types of data collected across different sectors within agriculture, and the lack of baseline data in some agricultural sub-sectors
- a need to be sensitive of the mental health and expectations of landholders when collecting disaster assessment data
- the significant amount of staff time required to collect on-ground disaster assessment data.

Despite the significant amount of time required to collect disaster assessment data, DPI and LLS indicated that there was little confidence in the accuracy of the data collected.

As the coordinator of the disaster assessment reports, DPI's EMU has recognised these issues and is looking to other jurisdictions for guidance on adopting more streamlined and improved processes. DPI's EMU has highlighted that Queensland has recently updated its disaster assessment reporting. Changes implemented in Queensland have enabled a streamlined disaster assessment reporting process while ensuring that reporting meets NDRRA requirements for funding recovery activities. The Commission supports the investigation and adoption of best practice disaster assessment reporting methodologies and templates from other jurisdictions. The data assessment process guide should also clarify the responsibilities of DPI, LLS and DoI's Regional Directors in the process.

8.8 Recommendations

Recommendations

- 14 DPI and LLS should ensure that command and control management is implemented by:
 - ensuring that the AIIMS/BIMS⁸⁰ principles are followed and are operating effectively during emergency responses
 - improving two-way communications between the control centres and forward command posts so that problems are identified and rectified in a timely manner
 - ensuring that response staff consistently document responses and adhere to all relevant processes, including the completion of After Action Reviews.
- 15 DPI and LLS should work with other combat agencies to give AASFA control centres access to the intelligence systems, including the RFS ICON system, to improve AASFA staff members' situational awareness.
- 16 DPI and LLS should improve access to counselling services for staff and landholders during emergency response and recovery events.
- 17 DPI processes and systems should be updated to ensure there are:
 - standard operating procedures for AASFA relating to catastrophic fire conditions and other forecast major incidents
 - policies and strategies for the timely management of new pest incursions and strengthened internal quality assurance processes for emergency response strategies
 - improved procedural guidance for AASFA operations, including on animal welfare and treatment options, recording landholder permissions and responsibilities for fodder management in an emergency.
 - DPI and LLS should improve operational guidance for recovery by developing a best practice guide, building on AASFA experience, and improve and streamline the disaster impact assessment reporting process.

⁸⁰ Australasian Inter-service Incident Management System and Biosecurity Incident Management System

Appendix 1 - Audit Scope: Emergency Management Capability

In September 2017, the Minister for Primary Industries requested the NRC to scope an audit of the NSW emergency response capability, to be completed in collaboration with LLS and DPI. The NRC was advised that the audit "...must represent an end-to-end process perspective incorporating the on ground partnership of the two agencies".

To develop the audit scope the NRC spoke with key emergency management staff from LLS and DPI, and reviewed strategic documentation, policies and procedures to identify risk areas that impact on the on-ground delivery of the emergency management function.

Key risks and issues identified related to workforce capacity, capability and availability for emergency response, strategic direction setting and prioritisation of the emergency management function, and range of governance related issues, including clarity of roles and responsibilities.

To address these key risks and issues, the NRC has proposed the draft audit scope presented below, for discussion with LLS and DPI.

The NRC proposes conducting the audit in three stages:

- **stage one:** preparedness - assessment of workforce emergency response capability and capacity
- **stage two:** response - review of critical on-ground operations for emergency response
- **stage three:** recovery - review of recovery phase responsibilities and financing structures.

Each stage has a defined scope and focus that is outlined in the table below. It is intended that the stages will be completed as discrete parcels of work. A staged approach to delivery of NRC findings and recommendations will allow for a more timely adoption of key recommendations by LLS and DPI at the completion of each stage. The final report will be developed and provided to the Minister for Primary Industries at the completion of all audit stages. As part of the audit, the Commission may consider the history of emergency management in NSW, including changes that have occurred since the establishment of LLS in 2014.

Table A.1.1: Stage one: preparedness - assessment of workforce emergency response capability and capacity

Audit overview	Conduct an assessment of DPI and LLS organisational-wide workforce capability and capacity for emergency response.	
Audit questions	1	Has DPI and LLS clearly defined the staff capability needed to respond to emergencies at: (a) a regional scale; (b) a cross-regional scale; and (c) a statewide scale?
	2	What is the existing staffing capability of the DPI and LLS for emergency response at each of these scales?
	3	If the staffing capability is less than the desired level, what is needed to lift staff capability to LLS and DPI's desired level of emergency response capability?

Audit procedures	<p data-bbox="427 219 1283 253">Clarity on the capabilities required for emergencies at different scales</p> <ul data-bbox="427 271 1423 663" style="list-style-type: none"><li data-bbox="427 271 1423 398">▪ assess whether DPI and LLS have clearly articulated objectives/outcomes for staff roles and training in emergency response (e.g. to have enough trained and experienced staff to effectively respond to regional, cross-regional, statewide or multiple emergency events)<li data-bbox="427 416 1423 517">▪ review whether the desired outcomes (if identified) have been benchmarked by DPI/ LLS against other jurisdictions, industry experience and/or best practice frameworks for emergency response<li data-bbox="427 535 1423 663">▪ review whether DPI/LLS have determined the number of staff and type of roles/skills needed for an emergency response at different scales, including small, medium and large emergency responses (e.g. is there a workforce strategy or targets for staff roles and training?). <p data-bbox="427 680 1139 714">Clarity on existing staff capability to manage emergencies</p> <ul data-bbox="427 732 1423 1384" style="list-style-type: none"><li data-bbox="427 732 1423 833">▪ Assess whether trained staff consider that they have a clear understanding of the roles and responsibilities of DPI and LLS in emergency response. Are training programs designed to meet their specific roles and responsibilities?<li data-bbox="427 851 1423 978">▪ Review if DPI/LLS have processes in place for mapping of existing staff capacity across both organisations, including consideration of the number of staff, and their level of training and experience, in generalised and technical roles.<li data-bbox="427 996 1423 1160">▪ Review if DPI/LLS have processes in place to determine what expertise is needed to be maintained and/or built in key areas through either in-house and outsourced models, e.g. through organisation-wide workforce planning; addressing critical skills gaps; approaches to people management; learning and development systems; and organisational culture of learning.<li data-bbox="427 1178 1423 1279">▪ Review if training programs are currently available for LLS and DPI staff (introduction/e-learning, specialised training, emergency exercises), as well as the uptake of these programs by staff.<li data-bbox="427 1296 1423 1384">▪ Review staff availability and participation in recent emergency response events, and if any issues have been identified by DPI/LLS in the release of trained staff across regions/work areas. <p data-bbox="427 1402 1310 1435">Clarity on what is required to lift the staff capability to the desired level</p> <ul data-bbox="427 1453 1423 1809" style="list-style-type: none"><li data-bbox="427 1453 1423 1554">▪ Identify barriers to increased levels of staff training and participation in emergency response (this may involve a consideration of structure, culture and other practices needed to support transformation).<li data-bbox="427 1572 1423 1700">▪ Review the status of DPI/LLS' consideration of staff job descriptions and people management systems. Have they determined whether emergency management should be identified in the roles and responsibilities of staff in both organisations?<li data-bbox="427 1718 1423 1809">▪ Identify opportunities and approaches to meet statewide capacity goals for emergency response (as defined by DPI and LLS) and their likely resourcing implications.
Evidence collection methods	<ul data-bbox="427 1845 1161 1980" style="list-style-type: none"><li data-bbox="427 1845 715 1881">▪ document review<li data-bbox="427 1899 1114 1935">▪ data available through WebEOC and other systems<li data-bbox="427 1953 1161 1980">▪ discussions and interviews with LLS, DPI and DoI staff

	<ul style="list-style-type: none"> ▪ staff survey (tbc).
Reporting process	<ul style="list-style-type: none"> ▪ Draft findings and recommendations for Stage 1 will be provided to LLS and DPI for review. Draft recommendations may potentially be implemented at the completion of the audit stage. ▪ A final report will be submitted to the Minister at the completion of all stages (1- 3). The final report will include the results from all audit stages and will be delivered in September 2018.

Table A.1.2: Stage two: response - review of critical on-ground operations for emergency response

Audit overview	Review the effectiveness of critical on-ground operations for a recent natural disaster and biosecurity emergency response events
Audit questions	<ol style="list-style-type: none"> 1 Have established emergency response procedures been followed by DPI and LLS in recent natural disaster and biosecurity case studies? (Note: NRC will focus on the Sir Ivan Fire, red imported fire ants response in Botany Bay, and lupin anthracnose, but it will maintain a flexible approach and consider other information and responses, where relevant) 2 What has worked well and what are the potential areas of improvement in LLS and DPI’s emergency response operations, as identified through the case studies? 3 What were the gaps/constraints in emergency preparation that could have enabled the response to be delivered more effectively? 4 Based on the case study findings, what are the critical gaps and principles that can be applied by LLS and DPI to future incidents and/or larger scale emergency responses?
Audit procedures	<ul style="list-style-type: none"> ▪ Select a case study natural disaster and biosecurity emergency response event (e.g. Sir Ivan Fire, red imported fire ants in Botany Bay, and lupin anthracnose); linkages to the cumulative impacts of previous events (e.g. central west floods) will also be considered. ▪ For each case study, walk through/ storyboard the ‘end-to-end’ on-ground emergency response operations with the on-ground responders, as well as state-level coordinators. The walk through will consider the: <ul style="list-style-type: none"> - steps involved in the initial detection and mobilisation of first responders - establishment of the desired outcomes for the response - allocation and clarity of roles and responsibilities to LLS, DPI and DoI (Regional Directors) staff - establishment of the Local Control Centre(s) by the on-ground responders - coordination between the Local Control Centre and State Control Centre

	<ul style="list-style-type: none">- expansion of the scale of the response (including obtaining and coordinating additional staff and resources), compare the findings from the walk through against the most relevant established operating procedures for DPI/LLS on-ground staff involved in the response (e.g. regional concept of operations document), and determine any critical gaps in implementation and/or potential improvements in the operating procedures.▪ Develop recommendations to address critical gaps with a focus on the most material issues (these may include specific on-ground issues and/or overarching governance issues, roles and responsibilities, coordination of the response) and assess if/how LLS/DPI considers these gaps could be addressed.▪ Where recommendations have previously been raised in After Action Reviews but not yet implemented, assess the barriers to implementation (this may involve a consideration of cultural, funding, structural or other aspects).▪ Based on the case study findings, determine LLS and DPI's level of confidence in their capacity to respond consistently to future events and/or upscale their response efforts for larger scale events.
Selection of case studies	<ul style="list-style-type: none">▪ Sir Ivan Fire, red imported fire ants response in Botany Bay, and lupin anthracnose; linkages to the cumulative impacts of previous events (e.g. central west floods) will also be considered▪ note: while the NRC will focus on the case study events, it will maintain a flexible approach and, where relevant, consider supplementary information in After Action Reviews for other emergency response events (e.g. pests, diseases, weeds, natural diseases), as well as hypothetical scenarios and experiences shared by DPI/LLS staff.
Evidence collection methods	<ul style="list-style-type: none">▪ Document review.▪ Interviews.▪ Regional field visit to undertake walkthroughs with staff involved in the emergency response case studies. This will involve tracing field work steps with staff involved in response activities.
Reporting process	<ul style="list-style-type: none">▪ Draft findings and recommendations for Stage 2 will be provided to LLS and DPI for review. Draft recommendations may potentially be implemented at the completion of the audit stage.▪ A final report will be submitted to the Minister at the completion of all stages (1-3). The final report will include the results from all audit stages and will be delivered in September 2018.

Table A.1.3: Stage three: recovery - review of recovery phase responsibilities and financing structures

Audit overview	Review of the responsibilities and financing arrangements following a natural disaster or biosecurity emergency
Audit questions	<ol style="list-style-type: none"> 1 Is there clarity around roles and responsibilities for DPI, LLS and the Rural Assistance Authority during the emergency recovery phase? 2 What are the strengths and weaknesses of the funding arrangements for emergency recovery in NSW?
Audit procedures	<ul style="list-style-type: none"> ▪ review allocation and clarity of the roles and responsibilities of LLS, DPI (including the Rural Resilience Program) and the Rural Assistance Authority in the recovery phase, including for: <ul style="list-style-type: none"> - recovery centre establishment - handover from response to ongoing recovery - agriculture damage assessment reporting - recovery workshops ▪ review the funding structure for recovery activities, focussing on the extent to which funding is allocated against key recovery roles for DPI, LLS and the Rural Assistance Authority ▪ review whether improvements in the allocation of responsibilities and/or the financing arrangements (funding allocation against key recovery roles) could improve the recovery effort ▪ NRC may follow up on the case studies selected in stage two, to review the strengths and challenges faced in transition to recovery.
Selection of case studies	<ul style="list-style-type: none"> ▪ follow up to the case studies selected in stage 1.
Evidence collection methods	<ul style="list-style-type: none"> ▪ document review ▪ interviews ▪ possible regional field visit to follow-up on case-studies.
Reporting process	<ul style="list-style-type: none"> ▪ Draft findings and recommendations for Stage 3 will be provided to LLS and DPI for review and implementation at the completion of the audit state. ▪ A final report will be submitted to the Minister at the completion of all stages (1-3). The final report will include the results from all audit stages and will be delivered in September 2018.

Out of scope

As part of this audit, the NRC may identify and capture key issues and risks related to emergency management, including on the issues considered 'out of scope'. While the NRC may consider some of these issues at a high level, it does not propose conducting a detailed assessment of corporate services systems, ICT/systems (the NRC understands that a systems review is already in place), workplace health and safety, career pathways, media/external communications, aviation issues, and internal business processes (e.g. accounting and finance).

Attachment 2 - Recovery roles and responsibilities and clarity of funding availability for recovery

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Overall coordination of the Agricultural and Animal Services Functional Area (AASFA) response	DPI - Emergency Management Unit (EMU) Department of Industry's (DoI) Regional Directors	NSW AASFA Supporting Plan - Supporting plan of NSW Emergency Management Plan Version 2. January 2017.	Interview respondents indicated that this coordination role was played by the both the DPI's Emergency Management Unit and DoI's Regional Directors.	Medium Discrepancy between documentation and on-ground delivery of coordination role in recovery according to stakeholder interviews.	No	High Coordination of AASFA response covered by existing staff salaries
Disaster impact assessment and reporting						
Disaster assessment	DoI Department of Primary Industries (DPI) Local Land Services (LLS) AASFA participating organisations Industry	NSW DoI. Policy: Emergency management - Disaster assessment and declaration. Biosecurity and Food Safety (BFS). September 2016.	LLS involved in collecting data. Some respondents indicated that LLS was involved in management and coordination of the report.	Medium Roles assigned to multiple AASFA agencies in documentation. Interviews indicate that LLS is predominantly responsible for on-ground damage assessment and may take on additional roles in disaster assessment.	No	High Staff time incurred in disaster assessment reporting are covered by existing staff salaries.

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Coordination of the disaster assessment report	DoI – Regional Director DPI - EMU (assigned for coordination of agricultural natural disasters but not natural disasters)	NSW DoI. Policy: Emergency management – Disaster assessment and declaration. Biosecurity and Food Safety. September 2016.	Most respondents were in agreement regarding EMU coordination of the damage assessment report. The role of DoI’s Regional Director in coordination of damage assessment reporting was not raised by interview respondents.	Medium Discrepancy in allocation of coordination of damage assessment reports in current documentation. Stakeholders did not identify a role for Regional Directors in coordination of the disaster assessment report.	No	High Staff time incurred in coordination of disaster assessment reports is covered by existing staff salaries.
Endorses natural disaster declarations	DoI’s Regional Director DPI’s Emergency Management Unit (EMU)	NSW DoI. Policy: Emergency management – Disaster assessment and declaration. Biosecurity and Food Safety (BFS). September 2016. NSW DPI. Guide: Emergency recovery operations EMU, BFS. February 2018.	No clarity	Medium Endorsement assigned to multiple positions. It is assumed that a disaster assessment must be approved at various delegations prior to final endorsement.	No	High Staff time required to endorse an agricultural natural disaster is covered by existing staff salaries.

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Representation on recovery committees						
Regional recovery committees	DPI LLS DPI-Rural Resilience Program (RRP)	NSW Department of Justice (DoJ). State Recovery Co-ordinator Report. East Coast Storm and Flood. April 2015. NSW DoJ. Regional Recovery Co-ordinator Report. NSW Inland Flooding. September 2016. NSW DoJ. Sir Ivan Fire Regional Recovery Committee Recovery Action Plan. June 2017.	Interviews indicated that LLS, DPI and the DPI-RRP staff were involved in recovery committees. There were mixed interview responses that indicated that agencies in some cases were involved in regional recovery committees, whereas other interviews were clear that DPI and LLS did not play a role at the regional level and were only involved in subcommittees.	Low Discrepancies in documentation and feedback from stakeholders interviews did not provide clarity on DPI, LLS, and DPI-RRP staff roles in regional recovery committees.	No	High Where DPI and LLS staff participate in regional recovery committees costs incurred are expected to be covered by existing staff salaries / organisation budgets.
Agricultural subcommittee (recovery sub-committee)	AASFA participating and supporting agencies DPI LLS DPI-RRP	NSW DoJ. Sir Ivan Fire Regional Recovery Committee Recovery Action Plan. June 2017. NSW AASFA Supporting Plan - Supporting plan of NSW Emergency Management Plan Version 2. January 2017.	Across LLS regions there was inconsistency in expectations regarding LLS involvement and whether Committee functions fall within day to day roles.	Medium Documentation was clear that DPI / LLS play a role in recovery committees. Stakeholders indicated varying expectations regarding their role in recovery committees.	No	High Where DPI and LLS staff participate in recovery subcommittees costs incurred are expected to be covered by existing staff salaries / organisation budgets.

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Delivery of recovery support to landholders						
One-on-one support to landholders	DPI-Rural Resilience Program (RRP) LLS	NSW DoJ. Sir Ivan Fire Regional Recovery Committee Recovery Action Plan. June 2017.	There were mixed views from LLS regions on delivery of recovery advice to landholders. While some staff viewed this as no different to their day to day role, others viewed recovery functions as taking them away from delivery of other core LLS services.	Medium Documentation does not indicate that one-on-one technical support is expected to be provided by the agencies involved in the delivery of recovery functions. DPI-RRP plays an important role by linking landholders to welfare services. Current funding for the DPI-RRP ends in June 2019.	No	Low Funding is not typically available for one on one support under existing arrangements. However, during the Sir Ivan Fire funding for temporary landholder welfare support was allocated by the Department of Justice's Office of Emergency Management.
Workshop delivery	DPI LLS	NSW AASFA Supporting Plan - Supporting plan of NSW Emergency Management Plan Version 2. January 2017. NSW DoJ. Regional Recovery Coordinator Report. NSW Inland Flooding - Recovery Action Plan. September 2016. NSW DoJ. Sir Ivan Fire Regional Recovery	Workshop delivery where workshops deliver advice that is specifically tailored to the needs of affected landholders is seen to fall out of day to day work of LLS. Staff found the costs involved to resource workshops were difficult to manage. While funding of staff time is a key cost, staff	Medium Documents indicate that DPI and LLS have a role in delivery of workshops. Typically this is allocated to LLS in recovery action plans; however, overarching documentation is not consistent with expectations that LLS	No	Low NSW Disaster Assistance Guidelines do not allocate funding for workshops. The Office of Emergency Management indicated during interviews that there may be funding available for delivery of information to landholders via

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
		Committee Recovery Action Plan. June 20017.	were also concerned with costs of travel and resources required to run a workshop.	will lead this recovery activity.		mobile recovery centres.
Technical information and factsheets on recovery	LLS DPI-Agriculture DPI- Rural Resilience Program (RRP)	NSW AASFA Supporting Plan – Supporting plan of NSW Emergency Management Plan Version 2. January 2017. NSW DoJ. Sir Ivan Fire Regional Recovery Committee Recovery Action Plan. June 2017. NSW DoJ. Regional Recovery Coordinator Report. NSW Inland Flooding. September 2016. NSW DoJ. Recovery Coordinators report. East Coast Storm and Flood. April 2015.	LLS identified that they are principally involved in pulling together factsheets and technical advice. LLS identified that in some cases they do not have the technical expertise to pull together the required factsheet information and believe support should be provided by DPI Agriculture. DPI Agriculture are unclear regarding their role in recovery. DPI Agriculture staff indicated that where advice was provided it was requested through personal relationships / direct requests.	Medium Documentation indicates that AASFA is responsible for delivery of technical information to support landholder recovery. Stakeholder interviews indicated a lack of clear expectations in delivery of technical advice.	No	High Staff time to collate and disseminate information resources to impacted landholders is covered by existing staff salaries.

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Recovery centres	DPI- Rural Resilience Program (RRP) LLS	NSW AASFA Supporting Plan – Supporting plan of NSW Emergency Management Plan Version 2. January 2017. NSW DPI. Guide: Emergency recovery operations Emergency Management Unit, BFS. February 2018.	LLS staff recovery centres. There were mixed responses from staff of different regions whether this forms part of their day to day role or if this takes them away from core service delivery functions. DPI – RRP view staffing of recovery centres as part of their core service and function.	Medium Documentation indicates that AASFA is responsible for staffing of recovery centres. Stakeholder interviews indicated a lack of clear expectations for staffing of recovery centres.	Yes	Medium The NSW Disaster Assistance Guidelines provides funding for recovery centre facilities, payroll tax, overtime and backfilling. AASFA agencies have not historically accessed funding for overtime costs or backfilling.
Coordination of AASFA staff participating in recovery centres	DPI – Emergency Management Unit (EMU)	NSW AASFA Supporting Plan – Supporting plan of NSW Emergency Management Plan Version 2. January 2017.	DPI – EMU view coordination of staffing of recovery centres as one of their roles in overall coordination of emergency management activities. Other AASFA agencies interviewed were not aware of the role DPI-EMU play in coordination of AASFA staff in recovery.	Medium There was limited documentation regarding coordination of staff involved in recovery centres. AASFA agencies did not indicate a clear understanding of DPI-EMU’s role in coordinating staffing of recovery centres.	No	High Staff time to coordinate participation in recovery centres is covered by existing staff salaries.

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Animal welfare support including inspection of burial pits	LLS	<p>LLS. Sir Ivan and Kain's Flat Fire: AASFA Concept of Operation – Transition from Emergency Response to Industry and Community Recovery. March 2017.</p> <p>NSW DoJ. Recovery Coordinators report. East Coast Storm and Flood. April 2015.</p>	<p>Documentation indicated a clear role for AASFA in provision of animal welfare functions in recovery.</p> <p>There was a greater appreciation amongst LLS regions of their role in addressing animal welfare issues during recovery.</p>	High Documentation indicates that AASFA is responsible for addressing animal welfare issues during recovery. Stakeholder interviews indicated that LLS understands their role in on-ground delivery of animal welfare functions in recovery.	Yes	High Funding available to address animal welfare issues includes: <ul style="list-style-type: none"> aerial support for mustering / euthanasia of stock transport of stock and provision of water assessment and euthanasia of stock (backfilling) removal and disposal of animal carcasses.
Coordination of fodder donation	<p>AASFA Coordinator</p> <p>DPI</p> <p>LLS</p> <p>Non-government organisations</p>	<p>NSW State Emergency Management Plan (EMPLAN)</p> <p>Not documented in the AASFA Supporting Plan</p> <p>DPI website, 'Feed and fodder: requirements for fodder purchased from interstate' (cited 26 September 2018).</p> <p>Local Land Services. Sir Ivan and Kain's Flat Fire: AASFA Concept of</p>	<p>Interviews indicated that due to significant fodder donations during Sir Ivan Fire there was a need for a fodder coordinator, which AASFA took on. There were mixed views amongst DPI and LLS staff as to whether fodder coordination is their role. Some suggested that the coordination of fodder donations</p>	Low Significant levels of discrepancy in documentation of AASFA role in fodder donation and coordination	Yes	High Funding is available for: <ul style="list-style-type: none"> transport of donated fodder expenses incurred in the provision of emergency fodder

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
		Operation – Transition from Emergency Response to Industry and Community Recovery. March 2017.	could be managed by NGOs, with supervision from AASFA for biosecurity reasons.			
Administration of recovery funding						
Administration of landholder grant funding and loans	Rural Assistance Authority (RAA)	<p>NSW DPI. Guide: Emergency recovery operations EMU, BFS. February 2018.</p> <p>NSW DoI. Policy: Emergency management – Disaster assessment and declaration. Biosecurity and Food Safety. September 2016.</p> <p>NSW DoJ. Sir Ivan Fire Regional Recovery Committee Recovery Action Plan. June 2017.</p> <p>NSW DoJ. Recovery Coordinators report. East Coast Storm and Flood. April 2015.</p>	The role of RAA in administration of grant and loan funding is well understood by all AASFA agencies.	High Documentation indicated a consistent understanding of the role of the RAA in administration of grant and loan funding	Yes	<p>High</p> <p>The RAA is able to administer funding for:</p> <ul style="list-style-type: none"> ▪ stock transport, and transport of water and fodder ▪ concessional fixed loans for impacted primary producers ▪ grants for primary producers

Role in recovery	AASFA agency identified	Documented evidence	Summary of interview evidence	Clarity of AASFA role	Funding available	Clarity of funding arrangements
Administration and processing of AASFA expenses incurred in recovery	DPI - EMU	DPI. Guide: Natural Disaster Finance, BFS. April 2018. DPI. Policy: Emergency Management – Finance arrangements. September 2016. LLS. Sir Ivan and Kain’s Flat Fire: AASFA Concept of Operation – Transition from Emergency Response to Industry and Community Recovery. March 2017.	The role of DPI’s Emergency Management Unit (EMU) in processing costs incurred is well understood by AASFA supporting agencies.	High Documentation indicated a consistent understanding of the role of DPI’s Emergency Management Unit (EMU) in administration and processing of expenses incurred in recovery	No	High Costs incurred in processing expenses incurred in recovery are covered by existing staff salaries.

Attachment 3 - Decision-making in biosecurity responses

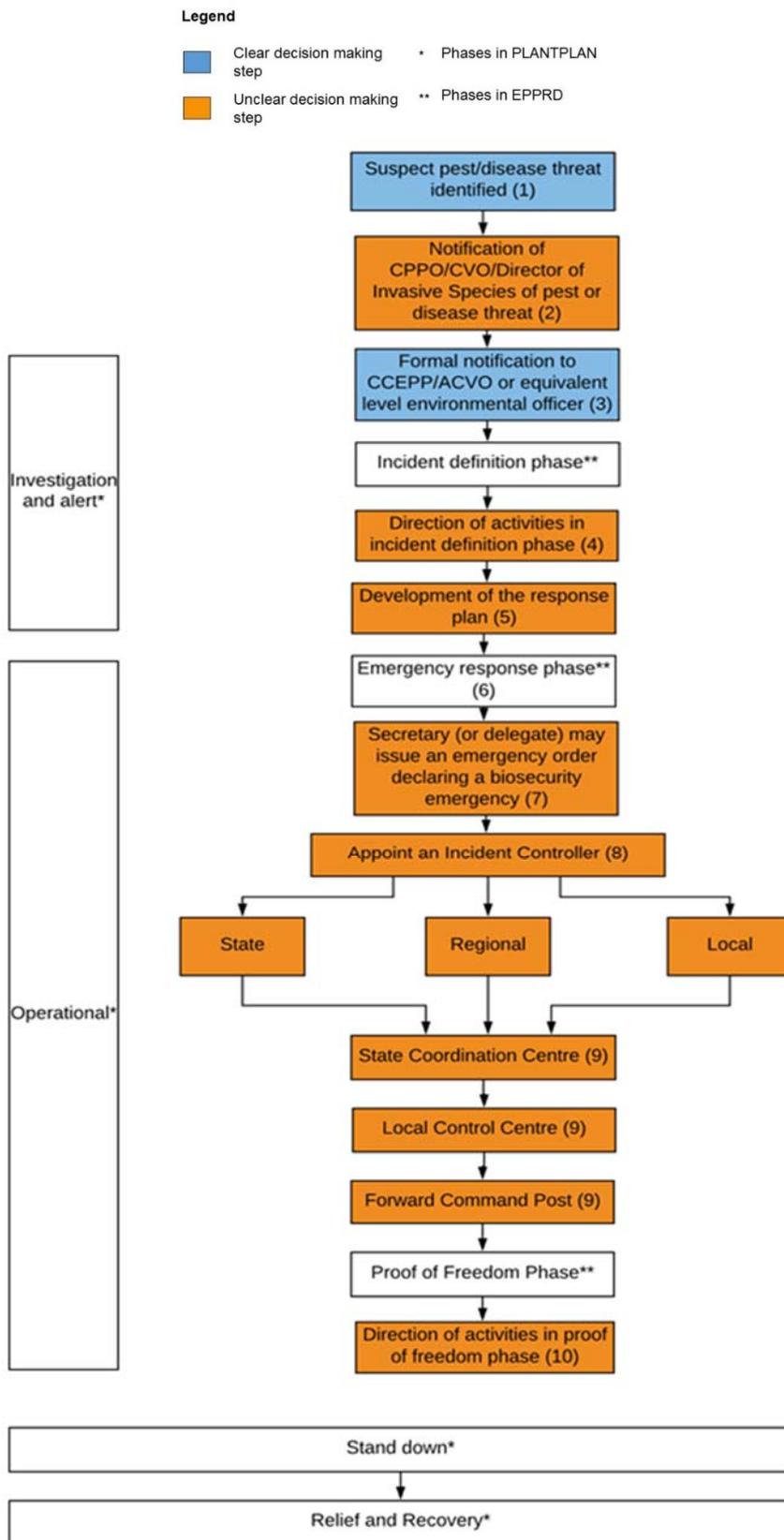


Figure 1. The Commission's understanding of decision-making steps during a biosecurity emergency response according to the relevant documents

Explanation of Figure 1. Decision-making in biosecurity responses¹

Flowchart reference	Supplementary information
1	<p>The NSW <i>Biosecurity Regulations</i> 2017 clearly assign different notification protocols following identification of a suspect pest/disease threat according to the risk factor of the pest or disease threat. Notification protocols are:</p> <ul style="list-style-type: none">▪ notification required by any individual must be given in one working day of first becoming aware (<i>Biosecurity Regulations</i>, Schedule 1)▪ notification required by vested individual for example owner, occupier, or consultant (<i>Biosecurity Regulations</i>, Schedule 2) <p>Source: Biosecurity Act Notification Factsheet (DPI website).</p>
2	<ul style="list-style-type: none">▪ Notification can occur through the following channels:<ul style="list-style-type: none">- NSW DPI website reporting form- Emergency Animal Disease Watch Hotline- Invasive Plants & Animals Hotline- Exotic Plant Pest Hotline- Local Land Services- DPI Biosecurity general enquiries number- NSW DPI Office/LLS Office <p>Source: Biosecurity Act Notification Factsheet (DPI website).</p> <p>Interviews with DPI indicated that there have been historical biosecurity incidents where consultation between DPI and LLS has not occurred following a pest or disease threat. This highlights a need for greater clarity in the notification stage and protocols for who must be ultimately notified of a suspect pest or disease threat.</p>
3	<p>PLANTPLAN identifies that where there are grounds of suspicion for Emergency Plant Pests (EPP) the Chief Plant Health Manager (CPHM) must notify the Consultative Committee on Emergency Plant Pests (CCEPP) within 24 hours of becoming aware of the incident. In NSW the CPHM is the Chief Plant Protection Officer. Failure to notify may result in the jurisdiction not receiving payment.</p> <p>The CPPO may choose not to notify the CCEPP if the pest/disease threat does not fall under national funding arrangements.</p> <p>Similar arrangements are in place under the Emergency Animal Disease Response Agreement (EADRA) for emergency animal diseases.</p>
4	<p>PLANTPLAN identifies that the CPHM will coordinate the collection of all relevant information and investigation of the initial report.</p> <p>PLANTPLAN indicates that the investigation and operational phases may run concurrently:</p> <p style="text-align: center;"><i>"Due to the potential urgency & evolving timeline of an incident & response, the operational phase can be commenced prior to all activities in the investigation & alert phase being completed."</i></p> <p>No details of this phase are listed in the NSW Biosecurity Sub Plan that highlight allocation of decision making and DPI/LLS roles and responsibilities.</p> <p>Under EADRA, the CVO has similar responsibilities.</p>

¹ PLANTPLAN and the Emergency Plant Pest Response Deed (EPPRD) is used in this example. Equivalent processes are followed under AUSVETPLAN and the Emergency Animal Disease Response Agreement.

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- 5 Biosecurity Emergency Sub Plan (Part 3 (27, 47, 48)) allocates coordination of the response plan to the CPPO/CVO.
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- 6 According to Emergency Plant Pest Responses Deed (EPPRD) and the Emergency Animal Disease Response Agreement (EADRA) the emergency response phase (and associated cost sharing) is triggered if the National Management Group agrees to implement a response plan prepared by the CPPO or CVO (and approves the plan)
- However, not all emergencies are cost shared under these agreements and the State may also proceed to respond under the equivalent of the emergency response phase under state arrangements
- The Biosecurity Emergency Sub Plan does not identify who is responsible for approval of the response plan and the activation of the emergency response phase (However, this should be the relevant Chief Officer (CPPO/CVO/Director of Invasive Species).
-
- 7 The NSW *Biosecurity Act* 2015 indicates that the Secretary is responsible for issuing an emergency order (Part 5, Div. 1(S.44)):
- an emergency order is issued if there is imminent biosecurity risk that may have a significant biosecurity impact (S.44(2))
 - “Biosecurity risk” means the risk of a biosecurity impact occurring (S.14)
 - “Biosecurity impact” means an adverse effect on the economy, the environment or the community (S.1A).
- The NSW *Biosecurity Act* 2015, *Instrument of delegation (Secretary) (No 2)* 2017 confers the ability to issue an emergency order to several different parties (See Section 5.2).
- The number of positions identified within the NSW *Biosecurity Act Instrument of delegation* means that there is not the clarity in the position that is ultimately accountable for the declaration of an emergency order, and coordination of the information contained within an emergency order.
- The NSW Biosecurity Sub Plan is silent on emergency orders and has not been updated to reflect changes under the NSW Biosecurity Act 2015.
- Interviews with DPI have indicated that decision making rests with the CPPO/CVO/Director of Invasive Species with a need to notify senior DPI staff including the DPI Director General and or the DPI Deputy Director General BFS to alert them to potential funding and resourcing impacts.
- Documents e.g. Biosecurity Sub Plan/DPI *Emergency Management Concept of Operations 2018-19* do not acknowledge the decision making role of the Director of Invasive Species.
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- 8 The Biosecurity Sub Plan states that the Executive Emergency Management Committee (EEMC) appoints the Incident Controller (with advice from the CVO/CPPO) (see p. 39).
- According to the Biosecurity Sub Plan the Incident Controller is responsible for:
- appointment of the incident management team
 - establishment of the control centre
 - establishment of structures, systems and processes.
- Interviews with the biosecurity combat agency staff indicated that the EEMC are not involved in making operational decisions in an emergency, including the appointment of an Incident Controller.
- Interview respondents indicated that the EEMC is predominantly kept up to date on emergency responses commencing or in progress. Decisions regarding resourcing are only made by the EEMC during large scale emergencies. These roles are not reflective of the roles of the EEMC outlined in the Biosecurity Sub Plan.
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The DPI *Emergency Management Concept of Operations 2018-2019* does not assign a position responsible for appointing an Incident Controller.

9 Roles and accountability for DPI and LLS are outlined in various documents including the Biosecurity Sub Plan, DPI *Emergency Management Concept of Operations 2018-19*, and PLANTPLAN/AUSVETPLAN. In many cases, assignment of organisational function is made on a local, regional or state basis.

The currently outlined roles and responsibilities within the Biosecurity Sub Plan, DPI Concept of Operations and PLANTPLAN/AUSVETPLAN are as follows:

- Biosecurity Sub Plan:
 - part 3 (paragraph 27) outlines broad functions for EEMC/NSW CVO/NSW CPPO/NSW DPI EMU
 - part 3 (paragraph 46) states the CVO/CPPO will form part of the SCC
 - part 3 (paragraph 28) states LLS roles and responsibilities: enhance the capacity of all landholders to plan and prepare for, respond to and recover from biosecurity emergencies and provide resources to organise and coordinate emergency management activities including field operations, incident management and recovery activities.
- PLANTPLAN:²
 - Allocates roles to the CPHM regulation 4.1.1 (pg.19). These can be subsequently delegated to a Plant Health Officer.
 - Outlines roles and functions of various positions within job role cards according to various positions. These include:
 - Chief Plant Health Manager
 - LCC Controller
 - Plant Health Officer
 - SCC Director
- DPI *Emergency Management Concept of Operations 2018-19*:
 - outlines the location of the SCC and that this will be staffed by a partial or full IMT (paragraph 1)
 - location of LCCs across the state and the expected staffing level for the IMT (full or partial) (paragraph 2)
 - location of FCP, under command of Officer in charge, span of control not more than five for each LCC (paragraph 3/4)
 - NSW DPI & LLS staff available across NSW to respond (paragraph 20)
 - LLS staff will be used in local/regional emergencies (paragraph 24)
 - LLS Manager of Biosecurity and Emergency Services (MBES) (or equivalent) is to coordinate & respond to emergencies as required (paragraph 25)
 - LLS will be responsible for coordinating local responses with NSW DoI's Regional Director support as required (paragraph 26).

As identified in the Biosecurity Sub Plan, DPI *Emergency Management Concept of Operations 2018-19* and PLANTPLAN roles within each of these documents can be conflicting or without the required level of specificity to provide clarity.

10 The Biosecurity Sub Plan is silent on delegations within the proof of freedom phase.

² AUSVETPLAN and the Biosecurity Incident Management System (BIMS) outline similar arrangements.