



ANIMAL EMERGENCY MANAGEMENT IN AUSTRALIA

An audit of current legislation, plans, policy, community engagement resources, initiatives, needs, and research dissemination

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EXECUTIVE SUMMARY

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Approach

This report provides a snapshot of the current status of animal emergency management in Australia. It comprises a compendium of information in the form of brief overviews, online links, and supporting data in appendices. The report was compiled as part of a suite of deliverables from the Bushfire and Natural Hazards CRC's research project - Managing Animals in Disasters: Improving preparedness, response, and resilience through individual and organisational collaboration (MAiD).

To decide on the best approach to this audit we began with a series of questions and identified the most appropriate sources of information to review to address those questions.

This assessment was as follows:

<i>Question</i>	<i>Sources of information audited</i>
<i>What do we have in Australia to guide animal emergency management?</i>	Jurisdictional legislation, plans, policies, and guidelines
<i>What have the problems been in the past?</i>	Findings from recent disaster inquiries
<i>What are we using to improve engagement in this area with animal owners and communities?</i>	Current community engagement materials
<i>What are we doing to improve animal emergency management in the future?</i>	Recent initiatives
<i>What are the current challenges and priorities for stakeholders and what do they need? What is missing and needs more attention?</i>	Recent research on stakeholder needs and identified issues and gaps
<i>What information is available from research in our region, and what dissemination of this information has there been?</i>	Recent Australian research, workshops and conferences

This assessment guides the structure of the report and accompanying appendices.

Overall, this audit of animal emergency management in Australia reveals that a significant amount of work has been conducted in Australia since 2003 by State and Territory animal welfare and emergency management jurisdictions and Local Government in response to Commissions of Inquiry recommendations, local lessons learned, and Industry, State Government, and Non- Government Organisation initiatives.

The main report contains a limited amount of commentary about the relative approaches of one jurisdiction to another, or the quality of the materials produced. We have limited our critique to a series of findings and recommendations, provided in this executive summary, as follows.



Findings

A systems approach to emergency management – integration is required

Emergency management operates as a system, with complex intra-, inter-, and extra-organisational relationships and dependencies, i.e. within and across organisations, and between organisations and communities. Like any system, to function optimally consideration needs to be given to all its components and how they work together. Increasing levels of interest and activity apparent in animal emergency management across stakeholder organisations suggests that animal emergency management is now widely recognised as a necessary component in the emergency management system. Given this, it is important that appropriate attention is given to its status and integration.

Clouded collaboration, misunderstandings of responsibilities and issues around inter-agency coordination.

Most jurisdictions report that there is an ‘integrated approach’ to animal emergency management, but an audit of the formal documentation indicates that this typically means that ‘animals’, ‘pets’, and ‘livestock’ are mentioned in multiple documents. A number of disaster inquiry reports and disaster-related reviews have identified challenges and shortcomings in previous animal emergency management, and it cannot be concluded that clear collaboration, understanding of responsibilities, or inter-agency coordination occurs between agencies, stakeholder organisations, and animal owners *before, during, and after* disasters. This results in best practice approaches to the management of animals in disasters being obscured, with the potential for negative outcomes for public safety.

The comprehensive national survey and national knowledge exchange workshop conducted by the MAiD project team revealed that many organisations were not fully cognizant of any formal animal emergency response and recovery arrangements in their State. Results of the survey revealed that, overall, two thirds (66 per cent) reported they were aware, 19 per cent reported that they weren’t, and 14 per cent were unsure. The findings suggest there is a need for the sector to improve the clarification and communication of roles and responsibilities for managing animals during emergencies. It is clear that within and across jurisdictions stakeholder organisations have different levels of engagement in animal emergency management and are at different levels of maturity with regard to their planning in this area.

Lack of status - two steps forward and one step back – the fragility of ‘non-core’ business

Although there are a number of excellent initiatives currently underway and a great deal of dedication from those involved, there is evidence that instability in funding and organisational structures have led to delays and cancellation of work. This has resulted in significant challenges in pushing completed projects through to implementation and adoption. Resources are developed, but essentially left on the shelf or passively ‘released’ due to lack of funding or resourcing, or the disbanding and disappearance of teams. Many stakeholders in animal welfare and emergency management face challenges and have a range of needs during response and recovery activities. These needs include education, technical and non-technical skills training, reunification technology, evidence-based guidance, consistent planning, and community engagement materials.



Practitioners, academics, and other stakeholders are finding occasional opportunities to exchange information and identify priorities, however, due to the 'non-core' status of animal emergency management in most stakeholder organisations there remains greater potential for discontinuities and cessations of progress in this area.

Lack of consistency – multiple messages

As mentioned above, animal emergency management is being conducted with increasing vigour in a disjointed and piecemeal way across and within jurisdictions. Although a nationally-consistent message is available in a number of forms from the Attorney-General's Department there is no evidence of this message being adopted by jurisdictions. Instead there are multiple messages from multiple stakeholder organisations within jurisdictions, including, emergency services, primary industries, animal welfare organisations, veterinary groups, local government. It is not clear where the public goes (or would go) for information given the plethora of information and complex web of stakeholder organisations involved.

There is no animal emergency management handbook available as part of the Australian emergency management handbook and manual series to assist in the management and delivery of support services in a disaster context. Such a handbook could include training resources, guidelines, and support tools to assist operational response, communication and professional development. Generic templates for small animal-related business owners, and agricultural livestock business owners could be identified as a priority for disaster and emergency preparedness and response.

Disconnect with community engagement activities – what is working?

There has been an increasing amount of effort into community engagement activities, however there is an apparent 'disconnect' between many of the initiatives and engagement with communities which most likely results in duplication of effort and/or tool duplication. There is little evidence available to tell whether current engagement approaches are effective. This could be because evaluations are made 'in-house', but it is probably that evaluations are not undertaken and there is an over-reliance on the passive provision of information (leaflets, website information) in many areas.

Animal emergency management is a 'people' issue – broader engagement is needed

MAiD research activities have found that within many emergency service organisations, there is a tendency for animal emergency management to be regarded as an 'animal' issue, i.e. primarily about animal welfare and the logistics of animal movement, feeding, and placement. Whilst animal welfare is an important component, this is only part of the picture. The main problem with this view is that responsibility for animal emergency management is hived off to departments of primary industries and private veterinarians, and in many cases separated from the core emergency management response. Animals are important to people emotionally, and often commercially, and their presence in emergencies impacts on human behavior and safety. Emergency services organisations are the leaders in people management, as well as hazard management; they have more resources and surge capacity and are often early on the scene managing emotionally-charged situations. It is important that emergency services organisations engage with animal emergency management beyond the level of general community engagement and the preparedness phase.



Animal emergency management as an opportunity for emergency services organisations and communities

If animal emergency management is recognised and afforded a level of professional status/specialism within emergency services organisations, those organisations stand to attract additional community volunteers (possibly from a broader demographic) and enhance the development of existing volunteers and salaried staff. Already there are pockets of training in large animal rescue underway, but additional skills training in animal-handling, animal care, community volunteer coordination, and owner management could increase and sustain the interest of service volunteers. In addition to service volunteers, it is clear that communities have strong ties to animals (captive and native). This community passion could be leveraged to assist with animal emergency management in a more pre-planned, coordinated, and less ad-hoc way than is often reported. Enabling and encouraging communities to set-up their own recognised animal emergency management groups would provide a network of structures for formal communication, engagement, and integration with emergency services and local government. It could also provide a structure for channelling spontaneous/emergent volunteering and donations. The establishment of recognised community teams could also help to support increased community competence and shared responsibility; enhancing community resilience and saving money.

Gaps and priority areas

MAiD research and audit findings indicate that some areas have been addressed more comprehensively than others by community engagement or emergency management planning activities. In terms of owner groups, pet owners have been targeted widely; both directly and as part of general household preparedness materials, and horse owners have been addressed in some jurisdictions by horse associations or fire agencies. Potentially disaster-naïve ‘tree-changers’ at the peri-urban interface with multiple mixes of large and small animals and large-animal ‘pets’ have not been so well covered by engagement activities, and those with small commercial animal businesses, and larger livestock/farming enterprises are also felt to have been neglected. With respect to response and planning, the integration of spontaneous or emergent volunteers is a priority area, and greater consideration of the public and their response to wildlife is needed.

Harnessing technology

Technology is providing a broad range of opportunities in animal emergency management; in terms of re-unification, community engagement, communication, and coordination. Some of these opportunities are starting to be realised but there is still more that could be achieved. Opportunities include centralised on-line databases for access to lost and found animals for early re-unification, facial recognition, pet tracking technology, online ability to manage volunteers and donations, community engagement, contact information, registration of animals and situation reporting of animals in temporary animal shelters and numbers of injured or deceased animals. Use of these technologies could assist in the development of data sets for domestic pets, commercial animals, livestock, and wildlife due to the current method of estimations.



Recommendations

After reviewing the audit report, the following recommendations are made.

It is recommended that

- A nationally-led forum is established to open up dialogue and debate in this area. The aim of this forum would be to share and openly discuss initiatives and approaches to animal emergency management and to reach consensus on the status and professional standing of animal emergency management in Australia. The goal would be to increase adoption of good practice, reduce duplication of effort, promote a broader and more accurate understanding of animal emergency management, and drive the development of a national Animal Emergency Management Handbook.
- An overarching Animal Emergency Management Handbook be developed to assist in the management and delivery of support services in a disaster context. The principles, strategies and actions within the handbook should be driven by outputs from the national forum recommended above, and compiled by MAiD researchers and end-user practitioners with extensive service delivery experience in the management of animals in a range of disaster events.
- Jurisdictions utilise MAiD resources, via the Bushfire and Natural Hazards CRC website and direct contact with the team. These resources include research reports, journal articles, a knowledge exchange summary, this audit report, and copies of presentations. Collectively, these resources contribute significantly to the evidence-base in this area in Australia. Resources can be used to inform animal welfare and emergency management agencies of the diversity in animal emergency management and may help to promote a more consistent approach in future.
- A communication strategy is implemented with emergency service organisations to promote the 'people' aspects of animal emergency management and to acknowledge the response phase of animal emergency management. There is a need for more focus in this area and more planning and technical and non-technical skills training to assist with managing the responder-owner-animal interface. This approach should also include consideration of the longer-term consequences of emergency response on individual and community recovery and resilience trajectories.
- The professional standing of animal emergency management is reviewed by emergency service organisations, with consideration of creating a more formalised training structure and role for animal emergency management specialists.
- Emergency service organisations consider how communities can be engaged in animal emergency management in a more formalised way, and how that could be supported and coordinated.



- Technology is harnessed to identify prototype support tools that could be developed to assist operational response, communication and professional development. These could include training resources, guidelines, or engagement materials including the use of technology through apps, web-based, and social media platforms.
- Notwithstanding the challenges, attempts should be made to improve data collection in this area to inform cost benefit analysis. Tangible and intangible costs should be identified and considered in modelling, including health economics, to support research, policy, and analysis. Such considerations would lead to a more informed case for improvements in animal emergency management leading to increased risk reduction and decreased future recovery expense.



END USER STATEMENT

Andrew Stark AFSM MMgt MAICD, Chief Officer, ACT Rural Fire Service

Emergency responders across Australia are very aware of interactions between members of the community and animals during emergencies. Many responders have personal stories of when the decisions made by people about animals in disasters have led to poor outcomes for both animals and people.

This report identifies that there has been a range of activities undertaken by agencies and jurisdictions at all levels in the community, but it requires a systematic approach to integrate and improve collaboration to enable responsibilities to be met.

In achieving this collaboration, it identifies a need for developing common information resources that are based on the available research that can be used to support both consistent messaging and underpin engagement strategies in all jurisdictions.

Importantly, this report confirms that the critical element in Managing Animals in Disasters, is not the animals but the people. Emergency management agencies increasing the priority of managing animals in disasters - from pets through to livestock, and both native and captive animals - will lead to higher levels of engagement with the community and an overall increase in resilience to disasters.

This research provides the resources to underpin future activities in Managing Animals in Disasters from training responders, developing communication strategies and ensuring that data from future activities supports ongoing research into Managing Animals (and People) in Disasters.



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1. SUMMARY OF STATE AND TERRITORY POSITIONS REGARDING LEGISLATION, PLANS, POLICIES AND GUIDELINES THAT LINK TO ANIMAL EMERGENCY MANAGEMENT

Most Australian States and Territories have legislation, plans, guidelines and/or community engagement materials that refer to aspects of animal emergency management; including pets and companion animals, service animals, stock and wildlife. Many jurisdictions have released or reviewed these documents in recent years, and many refer to the plans/guidelines of other jurisdictions.

In most jurisdictions the Department of Primary Industries holds functional responsibilities for animals in emergencies/disasters and the majority of local government have responsibilities for emergency management capability. Animal emergency management is typically embedded within components of emergency management documentation, meaning that information relating to animals is scattered across numerous documents and differs from one jurisdiction to another.

The complexity and general dynamic nature of emergency planning means that, at any given point in time, it is difficult to capture in its entirety. In this section a situation report is provided for each jurisdiction. This is not intended to be complete, but hopefully captures the key legislation, plans and policies that refer to animal emergency management. Appendix 1 contains a more complete listing and occasional commentary on the documents within each jurisdiction.

Queensland

Queensland has an integrated approach to managing animals in disasters comprising of emergency management doctrine (legislation and guidelines) that references animals including the Animal Care & Protection Act 2001 and Disaster Management Act 2003.

In August 2011, the Queensland Flood Commission of Inquiry Interim Report (QFCoI) made the following recommendations relating to animal arrangements during disasters: ¹

- 5.71 *Councils, as part of their community education program for disaster preparation, should encourage pet owners to consider what they will do with their pets if they need to evacuate.*
- 5.72 *Councils should work with the RSPCA to develop plans about transporting and sheltering pets should they need to be evacuated with their owners.*
- 5.73 *Animal shelters, zoos, stables and similar facilities should develop plans for evacuating or arranging the care of animals in consultation with their local council. Local disaster coordinators should be aware of what plans exist.*

RSPCA Queensland funded Managing Pets in Disasters workshops for Local Government in 2013 - 2015 and a Participant Guide was developed based on Prevention, Preparedness, Recovery and Recovery strategies.



The Department of Agriculture and Fisheries (DAF) within the *Queensland State Disaster Management Plan 2014-2015* is a member of the Queensland Disaster Management Committee with roles and responsibilities identified to coordinate efforts to prevent, respond to and recover from pests and diseases and livestock welfare as well as the provision of advice relative to stock.

Local Government has legislative responsibility for a disaster response capability which means the ability to provide equipment and a suitable number of persons, using the resources available to the local government, to effectively deal with, or help another entity to deal with, an emergency situation or a disaster in the local government's area.

Animals are included in emergency management doctrine such as local government disaster management planning guidelines, evacuation and evacuation centre guidelines, recovery guidelines, and public cyclone shelter operations guidelines.

Significant community engagement materials exist which are disseminated by State Government agencies such as the Queensland Government Get Ready Queensland campaign, Department of Agriculture and Fisheries, Department of Environment and Heritage and seventy-seven Councils.

Victoria

Victoria has an integrated approach to managing animals in emergencies / disasters comprising of emergency management doctrine (legislation, guidelines and Victorian Emergency Animal Welfare Plan) that references animals.

The Emergency Management Act 1986 and the Prevention of Cruelty to Animals Act 1986 caters for animals. The State of Victoria released the Victorian Emergency Animal Welfare Plan in September 2011 as a direct result of the Victorian Bushfires. The Bushfires Royal Commission recognised the bonds people form with animals and the significant impact these bonds can have on people's decision making, and ultimately their safety during emergencies.

The Commission noted in its findings:

"There were also a small number of cases in which people died after refusing to leave without their pets and animals or delaying their departure for too long because of concern for their animals. Evidence demonstrates that the strong ties people have with their homes and their animals have a big impact on their decision making."(Extract from the 2009 Victorian Bushfires Royal Commission: Fire Preparation, Response and Recovery, Final Report Volume II) Further, the Commission noted *"There does not appear to be a coordinated approach to animal welfare during relief operations. Improving agency coordination would help to provide more effective relief to all animals regardless of whether they are wildlife, stock, companion animals or pets. There is a good argument to address the welfare of all animals holistically in the Emergency Management Manual Victoria"*. (Bushfires Royal Commission- Final Report Volume II, Ch 8 pp345).²

Victorian Emergency Animal Welfare Plan

The following is taken from the executive summary from the Victorian Emergency Animal Welfare Plan and clearly describes the establishment and purpose of the plan.



“This Victorian Emergency Animal Welfare Plan provides principles and policy for use in emergency planning, response and recovery phases. The framework provided by this plan can be used for management of animal welfare during any emergency but also to inform the development of specific operational plans by agencies where legislative requirements are explained and formally linked into the State emergency arrangements.”

The plan was developed following extensive consultation with many emergency management and animal welfare stakeholders including the Victorian Emergency Animal Welfare Committee. It defines roles and responsibilities of agencies and organisations and their operational interactions with the overarching objectives to:

- Contribute to enhanced public safety and community resilience through effective planning and management of animals in emergencies, and
- Ensure animals are better considered and protected from suffering during and immediately following emergencies.”

The Department of Environment and Primary Industries (now Department of Economic Development, Jobs, Transport and Resources and Department for Environment, Land, Water and Planning) has a \$1.6 million Animal Welfare Fund which provides grants each year (over 4 years), to non-government, not-for-profit organisations that improve the welfare of animals. These include animal shelters, organisations promoting responsible animal ownership education, community foster care networks, and groups that provide relief facilities and services during an emergency.³

Significant community engagement materials exist which are disseminated by State Government agencies and Councils.

New South Wales

New South Wales has an integrated approach to managing animals in emergencies / disasters comprising of emergency management doctrine (legislation, guidelines) that references animals.

The State Emergency and Rescue Management Act 1989 and Prevention of Cruelty to Animals Act and Regulations cater for animals.

NSW has a framework of plans, guidelines, and committees for PPRR at state, district, and local levels which prescribe the role, responsibilities and arrangements for each agency involved in emergency management, including councils.

In June 2014 a revised State Emergency Management Plan Mass Evacuation Centre (MEC) Guideline document was released which include reference to the provision for companion animals. In this document MECs are defined in New South Wales as “large scale evacuation centres that require multi agency co-ordination and response to deliver basic services to individuals and their companion animals affected by an emergency”. It also states that “MECs are established to provide emergency accommodation when the scale and duration of the emergency are beyond the capability and capacity of the established local/regional emergency management arrangements for evacuation centres.”



In NSW Local Government plays a key role in emergency Planning, Preparation, Response, and Recovery (PPRR) activities.

Significant community engagement materials exist which are disseminated by State Government agencies and Councils.

South Australia

South Australia has an integrated approach to managing animals in emergencies / disasters comprising of emergency management doctrine (legislation, guidelines) that references animals.

The Emergency Management Act 2004 and Animal Welfare Act 1985 caters for animals.

A memorandum of understanding exists between the State Government and the South Australian Veterinary Emergency Management Inc, (SAVEM) which is a registered charity established to enable the Veterinary community in South Australia to mount an effective response to an emergency incident involving companion animals, wildlife and livestock.

Community engagement materials exist which are disseminated by State Government agencies and Councils.

Two projects in the area of emergency animal management were funded recently (2014/15) through the National Disaster Resilience Program

- RSPCA South Australia was awarded \$63,053 to establish community information resources to encourage and assist pet owners to incorporate animal management into their emergency plans. This project has resulted in the Pet Emergency Plan initiative with online resources and a video to encourage pet owner disaster preparedness.
- Primary Producers South Australia was awarded \$48,000 to develop an agreed sustainable framework and define critical relationships, roles and responsibilities of SA Primary Producer organisations in five regions to facilitate and coordinate recovery activities to primary producers affected by bushfire and other natural disasters.

Western Australia

Western Australia has an integrated approach to managing animals in emergencies / disasters comprising of emergency management doctrine (legislation, guidelines) that references animals.

The Emergency Management Act 2005 and Animal Welfare Act 2002 caters for animals.

Community engagement materials exist which are disseminated by State Government agencies and Councils.

Northern Territory

Formal emergency management documentation in the Northern Territory does not address the management of animals in emergencies / disasters. However some community engagement materials exist that reference animals.



Tasmania

Tasmania has an integrated approach to managing animals in emergencies / disasters comprising of emergency management doctrine (legislation, guidelines) that references animals.

The Emergency Management Act 2006 Animal Welfare Act 1993 caters for animals.

Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) established the Veterinary Emergency Response Team Tasmania to provide assistance to disaster affected communities.

Community engagement materials exist which are disseminated by State Government agencies, Industry and Councils.

In 2014-2015 DPIPWE was awarded \$30,000 to provide consistent and contemporary advice to Councils in relation to accounting for animal welfare in the evacuation context. Recently, workshops have been undertaken with councils and other stakeholders to work towards integrating animal emergency management.

Australian Capital Territory

Australian Capital Territory has an integrated approach to managing animals in emergencies / disasters comprising of emergency management doctrine (legislation, guidelines) that references animals.

Australian Capital Territory Emergency Plan outline the principles for emergency management in the ACT and describe how the components of emergency management in the ACT work together under a single, comprehensive and flexible framework; identify roles and responsibilities related to identified hazards and associated emergencies.

The Domestic Animals Act 2000 caters for animals and the Emergencies Act 2004 set out powers and responsibility in relation to the safety, movement of animals.

The ACT Community Recovery Plan which is a sub plan of Australian Capital Territory Emergency Plan provides for Domestic animals with the Department of Territory & Municipal Services being the lead functional agency for Domestic Animal Services having responsibility for the provision of temporary accommodation of pets until they can be reunited with their owners and assistance with management of pets whose owners attend an emergency evacuation centre.



2. FINDINGS FROM DISASTER INQUIRIES

To review and collate identified challenges and shortcomings in previous animal emergency management we reviewed a number of disaster inquiry reports and disaster-related reviews from publically available sources. The following were found to contain recommendations or observations relating to animal emergency management.

- 2013 Tasmanian Bushfires Inquiry (http://www.dpac.tas.gov.au/divisions/osem/2013_tasmanian_bushfires_inquiry_report)
- Tasmanian Bushfires January 2013 Programs for Recovery (<http://www.bushfirerecovery.tas.gov.au/reports?a=200117>)
- Queensland Flood Commission of Inquiry Interim Report 2011 (<http://nla.gov.au/nla.arc-124723>)
- 2009 Victorian Bushfires Royal Commission (<http://nla.gov.au/nla.arc-96781>)
- Inquiry into the Operational Response to the January 2003 Bushfires in the ACT (http://www.cmd.act.gov.au/functions/publications/archived/mcleod_inquiry)
- ACT Bushfire Recovery Taskforce 2003 (<http://nla.gov.au/nla.arc-33933>)
- The Canberra Firestorm Inquests and inquiry into four deaths and four fires between 8 and 18 January 2003. (<http://nla.gov.au/nla.arc-66998>)

Appendix 2 provides a detailed breakdown of animal-related commentary and recommendations from each of these reports.

As examples, within the reports listed above the following points are some that were raised.

- Loss of large numbers of stock animals
- Loss of (animal-related) livelihoods due to stock loss/fencing loss
- Denial of access to return to help injured livestock or feed surviving animals
- Reluctance of pet owners to evacuate if they could not take or make arrangements for their pets
- Risks being taken to save animals (not only by their owners, but by others)
- Lack of action (from authorities) to move/direct movements of animals ahead of time
- Issues with dead animals/carcasses – public health, lack of support, contamination due to run-off on land with dead/decaying animals
- Issues with lost animals and re-unification

In addition, the following are examples of some of the needs that were identified and/or recommendations made.

- Support required for animal welfare (advice and treatment)
- A need to recognise the importance of people's attachment to animals and the influence this can have on their behaviour.
- Improved community education to prepare for their animals
- Improved planning for transporting and sheltering pets
- Improved planning by animal enterprises (shelters, stables, zoos etc.)



The list of disaster reports reviewed is unlikely to be comprehensive, in terms of those that have mentioned animals or animal management. It is likely, however, that the observations noted here are typical situations in many disasters and emergencies, and the needs and recommendations are likely to be valid for a number of other disasters (and all hazards) that have occurred in Australia.

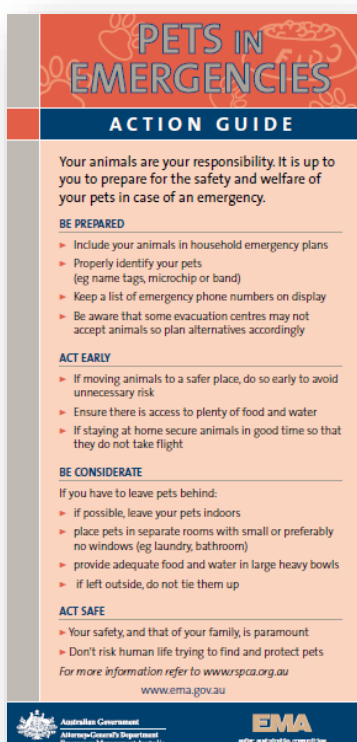
It is also important to note that the Queensland Flood Commission of Inquiry Interim Report 2011 is the only inquiry to have made recommendations in this area.

3. COMMUNITY ENGAGEMENT MATERIALS

A plethora of community engagement materials exist across Australia. A listing of community engagement materials across states and territories and nationally has been compiled and is included in Appendix 3 of this report.

National resources

At a national level resources have been produced by the Attorney-General's Departments (AGD) through the Australian Emergency Management Institute (AEMI).



Australian Emergency Management Institute
AEMI has produced nationally consistent advice for pet owners, in the form of an action guide *Pets in Emergencies Action Guide* (see left). The key message for pet owners is to “Be Prepared – Act Early – Be Considerate – Act Safe”. There is little evidence of this guide being utilised across states and territories, although it is available with the Disaster Watch App.

In addition to this main resource there are also fact sheets and website information.

Other national bodies

In addition to AGD there are a number of other, non-government organisations and industry groups that produce resources for a range of animal owners. Some of these are listed in Appendix 3.

Individual States and Territories resources

With respect to individual states and territories, Appendix 3 contains a comprehensive listing of materials, with links to resources where available. As this is a dynamic area with multiple agencies and organisations contributing there will be omissions and new materials becoming available that haven't yet been captured in this snapshot.

In most States and Territories the Department of Primary Industries and the Fire and Emergency Services agencies have information regarding animals in emergencies contained in preparedness factsheets, checklists, or in general website information. The inclusion of pets in preparedness plans has become increasingly more prevalent in recent years and in some jurisdictions smartphone apps are also available that include reference to pets, e.g. ACT has the ‘ACT First’ app. In some jurisdictions there are also templates and guide available, e.g. NSW DPI *Our Animals – Our Responsibility* (see later).



In general, mention of animals in general community engagement materials tends to be in relation to pets; typically cats, dogs, and horses, if species-specific. Primary Industries and some state Farmers Associations/Farming Federation produce materials targeted at farming communities, although some resources are focussed more on hay (fuel) rather than management of livestock.

Many local Councils include general community resources for emergency and disaster preparedness on their websites, the extent to which pets and other animals (livestock, assistance animals) are mentioned varies. Although we have not undertaken a full audit of local government websites, recent programs in Victoria, Queensland, and Tasmania have focussed on greater engagement of Councils in the management of animals in disasters and animal emergency management coverage across councils in those states appears high.

In addition to emergency service and government resources there are some community-directed materials from state-level animal-related associations, such as Horse SA (SA) and WIRES (NSW).

Although not the focus of the current report, it should be noted that some local communities are mobilising around disaster preparedness and increasingly there are resources and networks being set up online and via social media to support communities – with the inclusion of animals. A notable example is Warrandyte Community Association (*Be Ready Warrandyte*) which includes resources and information in their *Pets and Bushfire* page and a link to a local social media (Facebook) group *Eastern Melbourne Fire-Ready Pet Lovers*.



4. RECENT INITIATIVES IN ANIMAL EMERGENCY MANAGEMENT

In the last few years there have been a number of excellent government-funded initiatives and projects that have contributed, or have the potential to contribute to, animal emergency management in Australia. Some of these projects have been driven by animal welfare imperatives and some have been driven by emergency management or disaster resilience imperatives. Details of these initiatives are included in Appendix 4 and a brief summary is provided below.

National initiatives

Australia Animal Welfare Strategy

In recent years the Australia Animal Welfare Strategy (AAWS) has provided a focus and a driving force for the consideration of animals in disasters and emergencies; amongst other important animal welfare issues. Unfortunately the Federal Government ceased funding of AAWS in 2013. This lack of an overarching federal structure and oversight has led to a lack of convergence and consolidation of work in the area. For some projects the loss of this structure and its national influence, has led to the complexity of trying to implement or translate outputs and/or seek broad adoption of recommendations.

National Planning Principles for Animals in Disasters

World Animal Protection formerly the World Society for the Protection and Animals (WSPA) assisted the AAWS in delivering three workshops 2011, 2012 and 2013 which focused on animals in disasters, under the assumption that animals were not integrated into disaster planning within Australia.

An agreement was reached by the 2012 workshop participants that a coordinating group would be established to develop a national plan, which aligned with the current Commonwealth of Australian Government (COAG) natural disaster policy. This led to the formation of the National Advisory Committee for Animals in Emergencies (NACAE) comprising people with expertise in a broad range of subject areas, although not representative of industry and animal welfare and/or emergency management jurisdictions.

NACAE worked to produce a set of planning principles. The National Planning Principles for Animals in Disasters (NPPAD) recognise that animals are part of people's lives, and that "in order to build resilience, animals must be integrated into disaster planning". In line with the National Strategy for Disaster Resilience, the NPPAD recognise that the welfare and safety of people is the priority at all times.

World Animal Protection lobbied for the endorsement of the NPPAD by the National Animal Welfare Committee in 2013 and in 2014 the NPPAD was endorsed by the Australian and New Zealand Emergency Management Committee.

The NPPAD describe the planning process and considerations to include in a disaster management plan and includes high-level guidelines that can be customised by jurisdictions in the process of writing or reviewing their plans.



Animal Health Australia

Crisis Response to Animal Welfare (CRAW)

This project was commissioned by Animal Health Australia (AHA) in 2014 on behalf of the Australian Animal Welfare Strategy (AAWS) Livestock and Production Animals Working Group. Funding for the project was provided by the Australian Government, Meat and Livestock Australia, Australian Wool Innovation and Dairy Australia.

The CRAW project was developed to examine situations in which businesses are unable to resolve animal welfare crises and external stakeholders are required to assist or take over control. It examined the circumstances leading to the involvement of external stakeholders, their roles within the current arrangements and whether there is a need for these arrangements to be improved. The final report⁵ identified that Australian livestock businesses have economic, legal and ethical motives to ensure the welfare of production animals in their care is maintained and the report made 13 recommendations to improve Australia's capability in responding to livestock welfare crises. There are recommendations for the state and federal governments, Industry and due to its integral role during property-specific crises, the finance sector.

The project covered a broad range of circumstances that can lead to animal welfare crises. Of relevance to this current report flood was the main natural disaster (along with drought) that was considered.

The key recommendations were:

Industry:

- develop a tool kit to guide animal welfare contingency planning for producers
- formalise Industry's role and responsibility in dealing animal welfare crisis responses
- clarify the use of industry held funds, reserves and resources in responding to animal welfare crises

Government:

- retain lead in responding to animal welfare crises
- improve animal welfare crisis response plans, response tactics and national coordination arrangements

Finance Sector

- develop policies, guidelines and training for finance staff that consider livestock welfare during a property closure or financial hardship being experienced by producers

Bushfire and Natural Hazards CRC

Managing Animals in Disasters (MAiD)

In 2014 the BNHCRC funded a research project focussing on animals and their owners in disasters and emergencies. The aim of this project is to identify and build best practice approaches to animal emergency management to enable engagement with animal owners, and other stakeholders in disasters/emergencies. The goal of the project is to improve



outcomes for public safety and the resilience of responders, animal owners, those with animal-related businesses, and their communities.

This project is a collaboration between the University of Western Sydney/Macquarie University, Central Queensland University, RSPCA Queensland and the BNHCRC. The project has a current complement of seven end-user agencies who provide a sounding-board and assist with project direction and research support. The end user agencies are:

- Australian Government - Attorney-General's Department
- Tasmania – Tasmania Fire Service
- Western Australia - Department of Fire and Emergency Services
- Australian Capital Territory - Emergency Services Agency (ACT Rural Fire Service)
- New South Wales - State Emergency Service
- Victoria - Department of Environment, Land, Water and Planning
- South Australia – South Australian Fire & Emergency Services Commission

This current report was prepared by the MAID project team to support the aims of the project by bringing together a broad compendium of the current status of plans and resources in the area of emergency animal management. The findings from this resource and research collation will guide the future direction of the MAID project.

State-specific initiatives

New South Wales: NSW DPI

Building Resilience in Rural/Residential and Regional Communities

This project was funded under the joint State and Commonwealth Natural Disaster Resilience Program which focuses on building resilience in regional, rural, and peri-urban communities, through a community engagement strategy that promotes resilience in animal care in the context of natural disaster emergency prevention and preparedness. The project involved a state-wide community engagement strategy under the New South Wales emergency management arrangements for the Agriculture and Animals Services Functional Area (AASFA).

Regional 'Building Resilience' workshops were conducted in November 2013 to learn from people in a diverse range of communities how they currently care for animals before, during and after a natural disaster.

The aim was to identify stakeholders, draw on their knowledge, learn about their needs, examine the roles of emergency services and other agencies in animal welfare, and determine what works and what doesn't. These workshops helped determine ways NSW DPI Agriculture and Animals Services Functional Area can assist communities and their animals with practical, timely strategies and tools (p.30 Vol 3)⁴.

The key objectives of this project were:

- to increase the capacity of DPI's AASFA to help communities take preventative measures that will reduce impacts of natural disasters on animals and more effectively plan for and manage the care of animals before, during and after a natural disaster.



- to partner with other agencies to ensure that the care of animals in a natural disaster has a high priority in training, communication and implementation of prevention and preparedness initiatives.
- to enhance engagement opportunities for communities to participate in decision making, such as determining safer places for animals in an emergency, increasing preparedness for natural disasters to reduce the loss.

Objectives were focussed on ensuring that communities:

- take action to prevent the consequences of a natural disaster on animals
- have prepared for a natural disaster by documenting their action plans
- have improved their capability by rehearsing or applying their action plans
- have strategies or plans to recover from a natural disaster should one occur.

A key principle to the success of the project was the alignment to a community engagement strategy whereby DPI is identified with an emergency management focus of 'doing things *with* the community' as opposed to 'doing things *to* the community'.

The NSW DPI developed the engagement strategy to enhance community resilience by helping communities care for their animals before, during and following natural disasters.

Our Animals, Our Responsibility strategy was released in July 2014⁴ to provide practical advice and information for community engagement practitioners working with animal owners, carers and community networks.

Outputs from Building Resilience project include a Strategy, Community Engagement Guide, Project Report, Community Profile, Community Analysis, Community Engagement Plan, Risk Assessment, Action Plan and Evaluation Plan templates.

New South Wales: NSW SES

Hawkesbury SES has Large Animal Rescue equipment to perform large animal rescues being the first State Emergency Service unit with dedicated equipment.

South Australia: South Australia Veterinary Emergency Management (SAVEM)

The coordination of veterinary donations to support Victorians after the Black Saturday bushfires in 2009 provided the stimulus to form SAVEM in South Australia. SAVEM comprises volunteers from private veterinary practice who are trained to respond to emergencies involving companion animals, wildlife and livestock. SAVEM is a response and recovery agency that triages, treats, rescues and reunites animals post disasters and emergencies. SAVEM volunteers are trained in elements of emergency management and are integrated into emergency management response in SA as part of the State Emergency Management Plan.

Although SAVEM was founded in 2010 it is included in this section as an example of an effective model of animal emergency management that is playing a role in shaping current practice in this area.



South Australia: RSPCA South Australia

Protect your Pets

In 2014 RSPCA South Australia launched *Protect your Pets*; a campaign designed to raise community awareness of the need to consider their pets in their disaster planning and to encourage and assist pet owners to plan. This initiative includes online information and resources and a video.

Tasmania: DPIPWE

Veterinary Emergency Response Team Tasmania (VERTT)

The bushfires in Tasmania in 2013 led to a clearly identified need to have better services in place to support the response to animal welfare issues in disasters; specifically triaging, treatment and reuniting. This led to the call in 2014 for veterinary professionals to sign up to be part of VERTT. VERTT volunteers are from the private veterinary sector and are activated by DPIPWE.

Animal Welfare in Emergencies

In 2015 DPIPWE has led a project to engage with local councils in the area of emergency planning for animals. Workshops have been held to help integrate and improve planning.

Victoria: DEDJTR/DELWP (formerly DEPI)

Animal Welfare Plan

The Victorian Emergency Animal Welfare Plan was described in the first section of this report. This plan provides a focus for further initiatives and projects with funding from the Animal Welfare Fund Grants Program. In 2014-5 funding program the Victorian Division of the Australian Veterinary Association received a grant for assessment and treatment of companion animals in emergencies, this project involves the development of a series of webinars.

Victoria: Lort Smith Animal Hospital

Companion Animal Loss and Support Group

The Lort Smith Animal Hospital, in partnership with The Australian Centre for Grief and Bereavement, runs a Companion Animal Loss and Support Group on the third Saturday of every month. These sessions provide those grieving the loss of a pet the opportunity to share their stories, support each other and lessen their isolation.

Queensland: RSPCA Queensland

Managing Pets in Disasters for Local Government

RSPCA Queensland funded a *Managing Pets in Disasters* program for Local Government during 2013 – 2015 and developed a participant guide based on prevention, preparedness, response, evacuation and recovery principles, following Queensland Flood Commission of Inquiry Interim Report recommendations.

The *Managing Pets in Disasters* workshops are designed for decision makers who are involved or likely to be involved in animal welfare disaster preparedness, planning, response and recovery. The workshops cover topics such as lessons learned from previous events, legislation relating to pets and animals, incorporating pets into disaster planning, spontaneous volunteers, coordinating a response, evacuation and relocation and recovery.



Reunification technology

- Website: On-line database access to lost and found animals
- Facial Recognition: The *Finding Rover* App uses facial recognition technology to match up lost and found animals.
- GPS Collars: The *TrakaPet* GPS Animal Tracking System is the most innovative pet tracking technology on the market.
- Facebook: Extensive proactive social media engagement by RSPCA Qld Facebook "Cyclone Ready" companion animal information reached over 500,000 users in February 2015.
- RSPCA Animal Tracking System: A multi-purpose web-based application system that can be deployed electronically in the field during a catastrophic event that provides early reunification, registration of animals, contact information and situation reporting of animals in temporary animal shelters and numbers of lost and found animals.



5. IDENTIFIED NEEDS AND PRIORITIES

Managing Animals in Disasters: Stakeholder Survey (2014)

As part of the BNHCRC's Managing Animals in Disasters project a survey of end-user (mostly emergency service organisations) and stakeholder organisations was undertaken in July-August 2014. The aim of the study was to identify and prioritise the challenges encountered by these organisations in the management of animals and animal owners. In addition, attitudes towards organisational responsibility for the management of animals in disasters and awareness of relevant emergency response and recovery arrangements were also sought. This complemented a mirror survey undertaken with a small sample of emergency responders regarding their personal 'on the ground' experiences.

The stakeholder survey was initially sent to those in senior positions in all emergency service organisations, primary industries, land/environment departments, and RSPCA in each state and territory with a request to direct the survey to one or two suitable senior personnel for completion.

A second wave of survey invitations was sent to known contacts with interests and/or responsibilities in animal emergency management across a wide range of organisations (e.g. councils, AVA, NGOs). The survey served the purpose of identifying issues for organisations and their personnel and also added to awareness-raising of the project. A copy of the survey questionnaire is included at Appendix 5a.

In total a sample of 98 respondents representing 68 organisations across all States and Territories across Australia and the Commonwealth took part in the survey. A breakdown of the survey data is included, question by question, in Appendix 5b.

Just over 60% of survey respondents reported that they were aware of resources within their organisation that focus on managing animals in disasters or engaging with animal owners, this suggests (as covered earlier in this report) that there is a great deal of activity in this area being undertaken simultaneously across many organisations and across jurisdictions.

Needs and priorities

Around two thirds of survey respondents reported that there problems or difficulties for their organisation around the management of animals/animal owners in disasters/emergencies that were above a minor level (recurrent issues and/or significant, frequent or very serious). Around 30% felt there were some minor issues.

The main challenges identified in the study were in the logistics of animal management (both personnel and equipment), the physical management and rescue of animals, interactions with owners during disaster response, and post-disaster impacts in the management of animals and their owners (distress, emotional issues).

In the context of possible outputs from the MAiD project, respondents were asked to identify types of resources that would be most helpful for their organisation in the area of animal emergency management. Community engagement materials, education and training, and



guidelines and manuals were identified as being the most helpful; and presumably the most needed.

As part of the survey stakeholders were asked to identify priority owner groups that should be the focus of the MAiD project going forward. Although most owner groups were given medium or high priority, the small landholders/acreages with outdoor/larger animals were given the highest priority along with owners of small-scale animal-related businesses and those with agricultural businesses.

Issues and Gaps

Independently of the MAiD survey just outlined, we have reviewed potential gaps and issues identified by jurisdictions in their funding calls or in the current training resources of federal government training organisations.

Education and Training

There is no overarching Animal Welfare Emergency Management Handbook based on Prevention, Preparedness, Response, Evacuation and Recovery principles within the Australian Emergency Management Institute (AEMI) suite of publications.

Education and Training in Animal Emergency Management based on Prevention, Preparedness, Response Evacuation and Recovery principles is ad hoc.

Government Skills Australia

Public Safety, Local Government and Public Sector Training Package

Government Skills Australia, Environment Scan⁶ (2014) identified community evacuation as a skills gap and a technical reference group was formed to scope the work. If it is identified that the outcome of the scoping requires review or development to address gaps, continuous improvement work will be incorporated in the implementation of the new standards. Currently Government Skills Australia Work reports that work is being completed in areas where technical reference groups had been formed. With the uncertainty around funding beyond June 2015, commencement of work on new areas has had to be suspended at present. All previously completed material is being finalised in preparation for the development work that may recommence in future.

Australian Emergency Management Institute

With its transition to a virtual model AEMI may have greater flexibility to deliver emergency management education and training, and products and services in new and innovative ways. AEMI is committed to the continued delivery of the Advanced Diploma of Public Safety (Emergency Management) as well as many of the current AEMI programs. This presents an opportunity to address current gaps in the area of animal emergency management, and to develop new products and services to enhance the building of national disaster resilience.

AEMI launched a multimedia version of the Australian Natural Hazards Disaster map that has been created to improve the presentation of hazard information and increase awareness of past disaster events within Australia. The Disaster Mapper is an interactive map of Australia



which can be viewed and searched by location, by disaster type or date. Each event icon has facts, statistics, photographs, videos and links available.

The Teaching Guide identifies that pets and animals are an important component of our society. A lesson plan exists for students to develop their own Pet Disaster Plan and Pet Evacuation Kit. However, no online interactive product accompanies the lesson plan.

An interactive product is recommended that covers the content of the lesson plan in relation to the:

- Family Disaster Plan
 - Preparing a Pet Disaster Plan
 - Constructing a Pet Evacuation Kit
 - How they might move their pet safely: carriers, portable kennel
 - The impact of the disaster, such as emotional scarring - that disasters can have on pets.
- The Assessment / evidence of learning could be by way of an interactive quiz which encourages the student to reflect on their learning.

VIC DEPI/DEDJTR/DELWP

The former Victorian Department of Environment and Primary Industries identified within their Animal Welfare Fund Grants Program Round 3 (2014/2015) the need for assisting not-for-profit organisations that offer community education programs to extend staff skills and training, provide for facilities necessary to conduct education programs and extend the advertising of these programs.

They also identified the need for improvement in the rates of reuniting pets to their owners;

- State-wide lost and found register for animal victims of disasters;
- Development of online ability to manage volunteers and donations including offers of agistment.

NSW Department of Primary Industries

The NSW DPI Strategy – Our Animals – Our responsibility⁴ (previously outlined) identifies the need to provide training and resource support for AASFA committee members to better understand their roles. It also outlines the desired capabilities needed to implement a community engagement strategy for animal care in natural disasters.

Other

Limited animal emergency management school resources are available within the AEMI Disaster Resilience for Schools website in the form of game simulation.

Some organisations (non-registered training organisations) provide training in a variety of topics such as large animal rescue, veterinary care and discussion exercises which at times is disconnected with State & Territory initiatives.

No veterinary disaster medicine course is currently available in Australia.

No analysis of public safety units of competency has been conducted in association with Government Skills Australia to determine if a skills gap exists in animal welfare emergency management.



With the exception of a “Protocol for volunteers involved in wildlife Rescue Operations” document produced by former VIC Department of Sustainability and Environment (now DELWP) in 2010, no other codes of practice are evident for spontaneous volunteer animal interest groups who operate sometimes outside emergency management arrangements, for example via social media, advising the public on emergency management and animal welfare issues.

In general, the subject of wildlife in animal emergency management is neglected. Communities often have strong connections to local wildlife and the desire to rescue native animals is strong. This can occasionally result in extreme/unsafe behaviours and is an area of concern for public land managers.

There is little evidence to suggest that animals and/or pets are incorporated into discussion exercise scenarios by emergency management agencies.

Emerging technologies

Early re-unification and data to determine animal actual numbers in disasters and a number of technologies are not widely known and are readily available.

New technology based largely around the internet creates a number of opportunities for increasing community engagement, from websites to blogs, text messages to videos, social interaction to gaming. Taking advantage of these emerging technologies requires continuing research and an investment in the development and upkeep of any initiatives.

Apps and online communications are only effective if stakeholders have the equipment and knowledge to quickly access information, e.g. tablet PCs, smartphones. Also, sophisticated communications infrastructure can be unreliable, especially in natural disasters. Simple, easily understood printed brochures and flyers are still important means of communicating key messages and templates for disaster plans.

However, new smartphone app technology, such as vaccination reminders used by many veterinary clients, could be adapted for owners of animals of all types. They could be used to help prepare individual natural disaster plans and include guidance for adequate provision for food, veterinary medications, cages, etc.

Data for cost benefit modelling

Precise, relevant information on the financial implications of deaths and injuries to animals, and estimates of lost production caused by natural disasters are difficult to obtain. Only limited reporting of estimated losses in the region is available, and then reporting is limited only to consideration of agricultural livestock⁸. It is therefore hard to create meaningful cost benefit analyses to inform government and communities that there is an urgent need to improve prevention and preparedness measures for animal care in natural disasters.

Improvement is needed in gathering quality data about animal losses immediately after natural disasters so they can be used as more effective and trusted baseline measurements.



Advice and cooperation are needed from the Australian Bureau of Statistics, industry peak bodies, Insurance Council of Australia, charities, primary industry support industries (e.g. feed suppliers), veterinarians and other specialists.

Added to this is the difficulty in quantifying the intangible losses; the emotional impacts on animal owners and carers, the impacts on individual functioning and recovery trajectories, and the suffering endured by animals.

Psychosocial impacts of disasters are increasingly acknowledged and reported. Animal owners face additional risks for psychosocial impacts in disasters and emergencies due to animal loss. These may be emotionally-driven, e.g. bereavement, loss of companionship (human-animal bond), commercially-driven, e.g. loss of a large number of animals, lost/compromised livelihoods, or a combination of the two, e.g. the loss of legacy (bloodlines/selectively bred animals) and despair at having lost a [hard won] family business and 'letting down' preceding and/or future generations.

Linked to this, mental disorders are identified as the largest contributors to the non-fatal burden of disease in Australia ⁹. Resulting in the greatest losses of years of 'healthy' life lost due to disability (YLD). Minimal health economic modelling has been applied to the costs of disasters, particularly in terms of their contribution to poor mental health outcomes that require treatment. Such information could be utilised to advocate for improved disaster risk reduction and preparedness, in general, representing savings in health service costs and in improved productivity post-event. Further to this, and with systematic and structured data collection, the additional long-term mental health impacts of animal-related losses could be estimated, assisting to make a financial case for improved animal emergency management.

6. AUSTRALIAN RESEARCH AND DISSEMINATION ON ANIMAL EMERGENCY MANAGEMENT

Australian research

Most of the research literature that exists in the area of animals/animal owners in disasters and animal emergency management is from the United States; often drawing on experiences of significant disaster events, such as Hurricanes Andrew, Ike, Katrina, floods in Colorado, and super storm Sandy. Although the US literature is important in informing the general area and information about human attachment to animals and human behaviour, the literature concerned with disaster planning, response and emergency management more broadly is, clearly, aligned to US emergency management processes and structures.

There has been an increasing focus in the US on animal emergency management with FEMA-funding being contingent on preparedness for animals. There are more clearly defined roles for emergency services personnel, the establishment of community-based response teams for animals, and now discussion on the introduction of specialist animal responder roles in emergency services (Heath, 2015)⁵.

By comparison, the Australian approach to animal emergency management is low-key, less resourced, and less well developed. In recent years there have been two large nationally-funded projects in this area: Thompson 'Should I stay or should I go? Increasing natural disaster preparedness and survival through animal attachment' funded under the Australian Research Council DECRA Scheme, and Taylor et al 'Managing animals in Disasters: Improving preparedness, response and resilience through individual and organisational collaboration' funded by the Bushfire and Natural Hazards CRC.



Only in fairly recent years, since 2012, have Australian researchers published in this area and as recently as April 2015 the most comprehensive collection of Australian research was published, in the Australian Journal of Emergency Management (see left).

In addition to Australian research, there is a small collection of New Zealand-based research outputs; from Steve Glassey (Canterbury) and Hayley Squance (Massey).

A comprehensive listing of peer-reviewed Australian research papers in the area of animals in disasters/animal emergency management is included at Appendix 6 of this report.



Currently active academic researchers in Australia working in animal-related disaster research and/or supervising Higher Degree Researchers, are located in Central Queensland University (Adelaide and Rockhampton campuses), Western Sydney University, Macquarie University, LaTrobe University, Flinders University, and The University of Sydney.

The authors of this reports are aware of PhD studies in this area currently being undertaken by Rachel Westcott (WSU), Joshua Trigg (CQU), Dian Fowles (Flinders) and Cheryl Travers (USyd).

Australian workshops

In addition to the increasing body of academic publication there have been a number of workshops and conference streams that have had a focus on animal emergency management.

MAiD Knowledge Exchange Workshop

The Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC) Managing Animals in Disasters (MAiD) project held a Knowledge Exchange Workshop in Sydney in August 2014.



A summary report was produced that summarised the findings and gave copies of presentations (see photo). This report is available from the BNHCRC.

More than 30 people, representing 24 stakeholder organisations from around Australia, attended this workshop to discuss the challenges and needs of stakeholders tasked with managing animals and their owners in disasters.

Participants represented diverse organisations within the university sector, police and emergency services, primary industries, and animal advocacy and welfare.

The workshop agenda included presentations and plenary discussions. A great deal of information and suggestions emerged from the discussions, including a greater understanding of the current

context the participants are working in, a greater need for education and training directly related to animals and those that care for them, and an appreciation of the challenges related to community engagement, technology and consistency in response and coordination.

Along with the Stakeholder survey, discussed earlier, the Knowledge Exchange Workshop has formed an important part of the scoping activities of the MAiD project and the field research phase.

AAWS / WSPA workshops

Two workshops were co-hosted by the Australian Animal Welfare Strategy (AAWS) and World Society for the Protection of Animals (WSPA) to discuss a national approach to animals in disasters and to promote information sharing, priority setting, and identification of gaps. These workshops included stakeholders from many different areas and both produced workshops



reports. These workshops led to the formation of the National Advisory Committee for Animals in Emergencies and the later development of the National Planning Principles for Animals in Disasters.

- Building Resilience: Animals and Communities Coping in Emergencies (2012). Sydney.
- Building Capability in Communities: A National Approach to Animals in Disasters (2013 Melbourne).

Australian conferences

Since 2013 the Australian and New Zealand Disaster Management Conference (ANZDMC) has included presentations in the area of animal emergency management. Conference proceedings and audios of presentations are available via their website (www.anzdmc.com.au). Details of presentations/content from these recent conferences are listed below.

ANZDMC 2013

Pre-Conference Workshop:

- Greg Eustace, Managing Animals in Disasters through individual and organisational collaboration

Main Conference – dedicated stream on animals in disasters:

- Prof Marsha Baum Professor of Law, University of New Mexico - *Animals in Disasters: The U.S. Experience*
- Ms Kate Hill Senior Lecturer, Massey University Co Author - Ms Hayley Squance, Programme Director / Lecturer, Massey University - *Evaluation of the morbidity and mortality of animals post Canterbury earthquakes – A Pilot study*
- Ms Hayley Squance Programme Director / Lecturer, Massey University *Veterinary Emergency Response Team – a resource across the ditch*
- Dr Mel Taylor Senior Research Fellow, University of Western Sydney, Co Authors – Dr Penny Burns and Erin Lynch, University of Western Sydney, Mr Greg Eustace, State Coordinator Emergency Management, RSPCA Queensland. - *Pets and people, preparedness for disasters (P3D)*
- Dr Kirrilly Thompson Senior Research Fellow, Central Queensland University Appleton Institute - Risk factor or protective factor? Using animal attachment to motivate early evacuation and survival
- Ms Bridget Vercoe, Country Director, World Society for the Protection of Animals (WSPA) - *Animals Matter in Disasters – the New Zealand approach*
- Dr Ian Dacre, Disaster Management Operations Director, Asia Pacific, World Society for the Protection of Animals, *Remember the Animals*

ANZDMC 2014

Main conference

- Steve Glassey, Canterbury University. NZ, *Why Pets Matter in Disasters*



ANZDMC 2015

Main Conference – dedicated stream on animals in disasters:

- Rachel Westcott, Animal Emergency Management: Response and Recovery Experience and lessons from the Sampson Flat Fire, South Australia, January 2015
- Megan McCarthy, Stakeholder perspectives on the management of animals and their owners in disasters
- Shurron Billman, Exploring the Psychological Sequelae of Pet and Livestock Loss following a Natural Disaster: 18 months after the 2013 Queensland Floods



7. REFERENCES

1. *Queensland Floods Commission of Inquiry Interim Report* (2011), Queensland Floods Commission of Inquiry, Queensland Government.
2. *Victorian Bushfires Royal Commission- Final Report* (2010) - Vol 2, Ch 8 pp 345. 2009 Victorian Bushfires Royal Commission.
3. *Animal Welfare Fund - Grants Program* (2014) Victoria Department of Environment and Primary Industries <http://www.depi.vic.gov.au/pets/community-and-education/animal-welfare-fund-Aaa-grants-program>
4. NSW Department of Primary Industries (2014) *Our animals. Our responsibility. A community engagement project to help animals survive natural disasters*, Volume 1 – Strategy, Volume 2 – Community engagement guide, Volume 3 – Project Report, NSW Government.
5. Animal Health Australia, *Crisis Response for Animal Welfare Final Report* (2014), GHD
6. Government Skills Australia, *Environmental Scan* (2014) p32, Government and Community Safety Industry Skills Council.
7. Health, S.E. & Linnabary, R.D. (2015). Challenges of Managing Animals in Disasters in the U.S. *Animals*. 5, 173-192: doi:10.3390/ani5020173.
8. Coll, E. (2013). The case for preparedness: quantification of production losses due to livestock deaths from disasters in Australia. World Society for the Protection of Animals (WSPA), Australia.
9. AIHW, Begg S, Vos T, Barker B, Stevenson C, Stanley L & Lopez A (2007). The burden of disease and injury in Australia 2003. Cat. No. PHE 82. Canberra: AIHW. <http://www.aihw.gov.au/publication-detail/?id=6442467990>

Appendix 1. Legislation, Plans, Policies and Guidelines – Jurisdictional breakdown

State	Publication	Comment
<p>Queensland</p>	<p>Legislation</p> <p>Disaster Management Act 2003</p>	<p>Section 76</p> <ul style="list-style-type: none"> • (ii) prevent or minimise loss of human life, or illness or injury to humans or animals <p>Section 77 General Powers</p> <ul style="list-style-type: none"> • a disaster coordinator can control the movement of persons, vehicles and animals in declared areas; they can evacuate persons or animals from declared areas; and they can contain an animal within an area, or remove and destroy an animal <p>Section 130</p> <ul style="list-style-type: none"> • Policies of Insurance <p>Section 80</p> <ul style="list-style-type: none"> • disaster response capability, for a local government, means the ability to provide equipment and a suitable number of persons, using the resources available to the local government, to effectively deal with, or help another entity to deal with, an emergency situation or a disaster in the local government’s area.
	<p>Animal Care & Protection Act 2001</p>	<p>Section 17 identifies in deciding what is appropriate, regard must be had to—</p> <ul style="list-style-type: none"> • (a) the species, environment and circumstances of the animal; and • (b) the steps a reasonable person in the circumstances of the person would reasonably be expected to have taken. • Examples of things that may be a circumstance for subsection (4)(b)— <ul style="list-style-type: none"> • <i>a bushfire or another natural disaster</i> • <i>a flood or another climatic condition</i> <p>Section 19 identifies unreasonable abandonment or release</p>
	<p>Animal Management (Cats and Dogs) Act 2008</p>	<p>Responsible pet ownership</p>
	<p>Nature Conservation Act 1992</p>	<p>Code of Practice Care of Sick, Injured Orphaned Protected Animals in Queensland</p>

	<p>Plans</p> <p>State Disaster Management Plan 2014-2015</p> <p>District Disaster Management Plans</p> <p>Local Disaster Management Plans</p>	<p>Department of Agriculture, Fisheries and Forestry</p> <ul style="list-style-type: none"> • Primary agency for the containment and eradication of emergency animal and plant diseases • Coordinate efforts to prevent, respond to, and recover from pests and diseases, and livestock welfare • Provide advice relative to stock • Coordinate destruction of stock or crops in an emergency pest/disease situation <p>Department of Environment and Heritage Protection</p> <ul style="list-style-type: none"> • Lead agency for environmental recovery • Provide oiled wildlife response, traditional owner liaison <p>Department of National Parks, Recreation, Sport and Racing</p> <ul style="list-style-type: none"> • Provide expert environmental advice in disasters <p>RSPCA Queensland</p> <ul style="list-style-type: none"> • Monitoring the responsible care of animals, provide standards of care for animals and protect animals from unjustifiable, unnecessary or unreasonable pain; • Collaboration with partner agencies and others to ensure that there is effective prevention, preparedness, response and recovery strategies and priorities for disaster management within a community; • Assisting in identifying and addressing immediate, medium and long term animal welfare recovery needs so as to enhance the capacity of the local community to recover from a disaster. <p>A district disaster management plan must be consistent with the disaster management standards and disaster management guidelines and is a combination of Local and District Plans at a regional level. Responsibility Qld Police Service</p> <p>77 x Local Disaster Management Plans which are the responsibility of Local Government and need to encompass all guidelines and Flood Commission of Inquiry Recommendations</p>
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	<p>Guidelines</p> <p>Qld Local Disaster Management Guidelines</p> <p>Qld Evacuation Guidelines</p> <p>Qld Recovery Guidelines</p> <p>Qld Public Cyclone Shelter Operations Guidelines</p> <p>Qld Evacuation Centre Management Handbook</p> <p>Qld Evacuation Centre Field Guide</p> <p>Qld Evacuation Centre Planning Toolkit</p> <p>Community Engagement Strategies</p> <p>Qld Government Get Ready Campaign</p> <p>Department of Agriculture and Fisheries</p> <p>Qld Fire and Emergency Services</p>	<p>Contain strategies relating to community engagement and the need for animals to be addressed</p> <p>Animals included in evacuation process</p> <p>Department of Environment and Heritage Protection lead agency environmental recovery (wildlife)</p> <p>No Pets permitted – advice on community engagement requirements</p> <p>Factors to be considered</p> <p>Factors to be considered</p> <p>Advice on service providers</p> <p>Pet Emergency Plan</p> <p>Comprehensive website containing fact sheets</p> <ul style="list-style-type: none"> • Preparing animals for natural disasters • Caring for animals in natural disasters • When to take animals home after a natural disaster • Cattle movements in natural disasters • Animal disease issues after flooding • Flood assistance for primary producers • Displaced and lost animals after flood and heavy rainfall <p>Comprehensive website containing fact sheets on preparing pets</p> <p>Comprehensive advice available in 14 languages</p>
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<p>New South Wales</p>	<p>Legislation State Emergency and Rescue Management Act 1989 Animals Act 1977 Companion Animals Act 1998 National Parks and Wildlife Act 1974 Prevention of Cruelty to Animals Act 1979 Prevention of Cruelty to Animals Regulation 2012 Welfare of Zoo, Circus, Exhibited and Other Animals</p> <p>Plans State Emergency Management Plan</p> <p>State Agriculture and Animal Services Functional Area Supporting Plan</p>	<p>Section 37A</p> <ul style="list-style-type: none"> provides for the Minister, in the circumstances of an emergency, to authorise an emergency services officer to take measures to protect an animal from injury or death <p>A person shall not abandon</p> <p>Section 26</p> <ul style="list-style-type: none"> The proprietor of a business that conducts an animal trade and each person concerned in the management of the business - Each animal is to be protected from extreme climatic and environmental conditions and from interference by people. <p>Evacuation</p> <ul style="list-style-type: none"> Evacuation of persons or domestic animals from an area of danger or potential danger is a possible strategy to mitigate the impact of any hazard. <p>Emergency</p> <ul style="list-style-type: none"> means an emergency due to an actual or imminent occurrence (such as fire, flood, storm, earthquake, explosion, terrorist act, accident, epidemic or warlike action) which: endangers, or threatens to endanger, the safety or health of persons or animals in the State; <p>Transport Services Functional Area</p> <ul style="list-style-type: none"> Evacuation of people and animals <p>Lead Agency - Department of Primary Industries</p> <ul style="list-style-type: none"> Supporting plan details the control and coordination arrangements for the use of all

	<p>Regional Emergency Management Plans</p> <p>Guidelines (updated June 2014)</p> <p>Major Evacuation Centre Guideline</p> <p>Evacuation Centre Management Guideline</p>	<p>agriculture and animal resources available within the State to the Agriculture and Animal Services Functional Area Coordinator for the prevention of, preparedness for, response to, and recovery from the impact and effects of an emergency.</p> <ul style="list-style-type: none"> Responsibility for prevention, preparedness, response and recovery rests initially at the local level <p>District Emergency Management plans describe the arrangements at the District level to effectively and efficiently prevent, prepare for, respond to and recover from emergencies and also provides policy direction for the preparation of Local Displans, Local and District Supporting Plans and Local and District Sub Plans.</p> <p>Large scale evacuation centres that require multi agency co-ordination and response to deliver basic services to individuals and their companion animals affected by an emergency.</p> <p>Local Government Local Emergency Management Committee responsibility to assist with the management, transportation and handling of evacuees' domestic animals;</p>
<p>Victoria</p>	<p>Legislation</p> <p>Emergency Management Act 1986</p> <p>Prevention of Cruelty to Animals Act 1986</p> <p>Wildlife Act 1975</p> <p>Domestic Animals Act, 1994</p> <p>Livestock Management Act, 2010</p> <p>Impounding of Livestock Act, 1994</p> <p>Flora and Fauna Guarantee Act, 1988</p>	

	<p>Plans</p> <p>State Emergency Response Plan</p> <p>Victorian Animal Emergency Welfare Plan</p> <p>State Emergency Relief and Recovery Plan</p> <p>Local Government Municipal Emergency Management Plans</p>	<p>The Victorian Animal Emergency Welfare Plan cover the legislative requirements</p>
<p>South Australia</p>	<p>Legislation</p> <p>Emergency Management Act 2004</p> <p>Animal Welfare Act 1985</p> <p>Animal Welfare Codes of Practice</p> <p>Animal Welfare Regulations 2012</p> <p>Codes of Practice for the Humane Destruction of Wildlife</p> <p>Dog and Cat Management Act 1995</p>	<p>25 of the Emergency Management Act 2004 in South Australia</p> <p>Without limiting or derogating from the operation of subsection (1), but subject to the regulations, the State Co-ordinator or an authorised officer may, if of the opinion that it is necessary to do so, do or cause to be done all or any of the following things:</p> <ul style="list-style-type: none"> • remove or destroy, or order the removal or destruction of, any building, structure, vehicle, vegetation, animal or other thing • remove, or cause to be removed, to such place as the State Co-ordinator or authorised officer thinks fit, any person or animal, or direct the evacuation or • removal of any person or animal; • direct or prohibit the movement of persons, animals or vehicles

	<p>Impounding Act 1920</p> <p>Livestock Act 1997</p> <p>Plans</p> <p>State Emergency Management Plan</p>	<p>EVACUATION OF AFFECTED PERSON</p> <p>In planning an evacuation for persons impacted by the decision, considerations may also have to be made in regards to:</p> <ul style="list-style-type: none"> Type of animals permitted
<p>Western Australia</p>	<p>Legislation</p> <p>Emergency Management Act 2005</p>	<p>Section 46</p> <p>Power of local government to destroy dangerous vegetation or premises in cyclone area If a local government is of the opinion that any vegetation or premises on land in a cyclone area in the district of the local government may, as a result of the cyclonic activity —</p> <ul style="list-style-type: none"> cause loss of life, prejudice to the safety, or harm to the health, of persons or animals; or <p>Section 47</p> <p>Local government may require owner or occupier of land to take action If a local government is of the opinion that any vegetation or premises on land in a cyclone area in the district of the local government may, as a result of the cyclonic activity —</p> <ul style="list-style-type: none"> cause loss of life, prejudice to the safety, or harm to the health, of persons or animals; <p>Section 50</p> <p>State Emergency Coordinator or hazard management agency may make emergency situation declaration</p> <ul style="list-style-type: none"> The State Emergency Coordinator or the hazard management agency must not make the declaration unless satisfied that there is a loss of life, prejudice to the safety, or harm to the health, of persons or animals; <p>Section 67</p> <p>Powers concerning movement and evacuation For the purpose of emergency management during an emergency situation or state of emergency, a hazard management officer or authorised officer may do all or any of the following —</p>

	<p>Animal Welfare Act 2002</p> <p>Animal Welfare Codes of Practice</p> <p>Animal Welfare (Commercial Poultry) Regulations 2008</p> <p>Animal Welfare (General) Regulations 2003</p> <p>Animal Welfare (Pig Industry) Regulations 2010</p> <p>Animal Welfare (Scientific Purposes) Regulations 2003</p> <p>Dog Act 1976</p> <p>Dog Regulations 1976</p> <p>Dog (Restricted Breeds) Regulations (No. 2) 2002</p> <p>Wildlife Conservation Act 1950</p> <p>Wildlife Conservation (Reptiles and Amphibians) Regulations 2002</p> <p>Wildlife Conservation Regulations 1970</p> <p>Plans</p>	<ul style="list-style-type: none"> • direct or, by direction, prohibit, the movement of persons, animals and vehicles within, into, out of or around an emergency area or any part of the emergency area; • direct the evacuation and removal of persons or animals from the emergency area or any part of the emergency area; <p>STATE EMERGENCY MANAGEMENT PLAN FOR TROPICAL CYCLONE DECEMBER 2007 Evacuation of Pets</p>
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		<p>Where FESA has not directed the evacuation and removal of animals, evacuation of pets is the responsibility of the owner. Assistance with evacuation of pets by emergency service personnel will be provided at the discretion of FESA and may not necessarily at the same time as people.</p> <p>3.3 Special needs groups Individual communities or groups within a community may require special consideration when responding to an emergency. Groups which should be considered include (but are not limited to):</p> <ul style="list-style-type: none"> • Remote communities; • Indigenous Communities; • Tourists; • Culturally and linguistically diverse groups; • Persons with physical or mental disabilities (including assistance animals); <p>4.9 Evacuation arrangements During an “emergency situation” or “state of emergency”, a hazard management officer or authorised officer may do all or any of the following:</p> <ol style="list-style-type: none"> 1. Direct, or by direction, prohibit the movement of persons, animals and vehicles within, into, out of or around an emergency area of any part of the emergency area 2. direct the evacuation and removal of persons or animals from the emergency area or any part of the emergency area <p>4.92 Evacuation of Pets Where FESA has not directed the evacuation and removal of animals, evacuation of pets is the responsibility of the owner. Assistance with evacuation of pets by emergency service personnel will be provided at the discretion of FESA and may not necessarily at the same time as people</p> <p>4.9.3 Assistance Animals (Primary Mobility Aid) Assistance animals, are not to be considered as pets, and must be evacuated along with the owner i.e. the owner and assistance animal are to be considered as one.</p> <p>Identify a safe place for your pets. (Most Welfare Centres will not accept animals, except guide dogs.)</p>
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		<p>STATE EMERGENCY MANAGEMENT PLAN FOR FLOOD</p> <p>4.11.4 Evacuation of Pets</p> <p>The evacuation of pets will be conducted at the discretion of FESA subject to operational circumstances.</p> <p>Due to safety restrictions, it may not be possible to allow pets to accompany their owners when transported via aircraft or flood boats. Assistance animals (guide dogs, diabetic dogs etc.) will remain in the care of their owners throughout the evacuation. This includes the transport and access into evacuation centres.</p>
<p>Tasmania</p>	<p>Legislation</p> <p>Emergency Management Act 2006</p> <p>Animal Welfare Act 1993</p> <p>Animal Farming (Registration) Act 1994</p> <p>Animal Health Act 1995</p> <p>Animal Health Regulations 2006</p> <p>Animal Welfare Regulations 2008</p> <p>Dog Control Act 2000</p> <p>Dog Control Order 2011</p> <p>Dog Control Regulations 2010</p>	<p>"emergency power" means a power specified in Schedule 1;</p> <p>These powers are formally sanctioned by the State Controller/ conferred on Regional Controllers and related to:</p> <ul style="list-style-type: none"> • directing/controlling movement of people, animals, wildlife • medical examination and/or treatment, decontamination • destruction of animals, wildlife, vehicles, premises/property suspected to be contaminated with chemical, biological, radiological materials • disposal of human and animal remains

	<p>Guide to Tasmanian Dairy Cattle Welfare Law of Animals Act 1962</p> <p>Tasmania's Animal Welfare Standards and Guidelines</p> <p>Wildlife (General) Regulations 2010</p> <p>Plans Tasmanian Emergency Management Plan</p>	<p>Care for pets is the responsibility of Councils assisted by DPIPW and RSPCA</p>
<p>Australian Capital Territory</p>	<p>Legislation ACT Emergencies Act 2004</p>	<p>General powers of chief officers The chief officer of an emergency service may, for the protection or preservation of life, property or the environment</p> <ul style="list-style-type: none"> • give directions to regulate or prohibit the movement of people, animals or vehicles; or • evacuate people or animals from an area to another place; <p>Management of emergencies This part applies to an emergency that, because of its scale or nature—</p> <ul style="list-style-type: none"> • presents a significant danger to the health or safety of people, animals or property in the ACT or to the environment of the <p>Section 150C Emergency powers—no declared state of emergency (1) This section applies if an emergency controller is appointed under section 150A for an emergency. (2) For the management of the emergency, the emergency controller may—</p> <ul style="list-style-type: none"> • direct the movement of people, animals or vehicles within, into or around the area to which the emergency applies (the emergency area); and • give directions regulating or prohibiting the movement of people, animals or vehicles within, into or around the emergency area; and <p>160A Emergency powers—declared state of emergency (1) This section applies if a declaration of a state of emergency is in</p>

	<p>Animal Welfare Act 1992</p> <p>Animal Welfare Regulation 2001</p> <p>Animal Welfare Standards-Codes of Practice</p> <p>Domestic Animals Act 2000</p> <p>Domestic Animals Regulation 2001</p> <p>Plans ACT Community Recovery Plan</p> <p>Australian Capital Territory Emergency Plan</p>	<p>force.</p> <p>(2) For the management of the declared state of emergency, the emergency controller may—</p> <ul style="list-style-type: none"> • direct the movement of people, animals or vehicles within, into or around the area to which the state of emergency applies (the emergency area); and • give directions regulating or prohibiting the movement of people, animals or vehicles within, into or around the emergency area; and <p>Domestic animals Coordinated by: Domestic Animal Services, Department of Territory & Municipal Services Responsibilities:</p> <ul style="list-style-type: none"> • temporary accommodation of pets until they can be reunited with their owners; • assistance with management of pets whose owners attend an emergency evacuation centre. <p>Animal Recovery Control Centre (ARK)</p> <ul style="list-style-type: none"> • Domestic Animal Services has two Animal Recovery Control Centre Trailers available for deployment at emergency/ evacuation sites. The ARKS are capable of rapid deployment as self-supporting resources to provide a command and control point for the relocation and/or control of animals whose owners have been affected by a major event. • The ARKS are also available for quarantine sites in the event of an animal disease outbreak. The ARKS carry recording, identification and computer equipment in addition to portable stock-yards, boxes and cages for all types of animals. <ul style="list-style-type: none"> • Outlines the principles for emergency management in the ACT and describe how the components of emergency management in the ACT work together under a single, comprehensive and flexible framework; identify roles and responsibilities related to
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		identified hazards and associated emergencies.
Northern Territory	<p>Legislation</p> <p>Emergency Management Act</p> <p>Animal Welfare Act</p> <p>Plans</p> <p>Guideline</p>	<p>Northern Territory Disaster Act 1982 makes no provisions for animals</p> <ul style="list-style-type: none"> • Northern Territory Emergency Recovery Management Plan makes no provisions for animals • Northern Territory All Hazards Emergency Management Arrangements only mentions disposal of deceased animals <p>Pet Emergency Kit</p>

Appendix 2. Analysis of Natural Disaster Inquiries – animal-related commentary and recommendations

Inquiry	Submissions	Issues	Recommendations
2013 Tasmanian Bushfires Inquiry	<p>All submissions are not listed.</p> <p>Local Government Association of Tasmania</p> <p>Tasmanian Farmers and Graziers Association</p> <p>Tasman Emergency Recovery Management Committee (Council)</p>	<ul style="list-style-type: none"> • The Inquiry found that there were negative economic effects for many businesses, including in tourism, livestock farming, wine, fruit and seafood industries. • The Tasmanian Farmers and Graziers Association estimated that approximately 662kms of commercial fencing and 10 000 head of livestock, mainly sheep, were lost. • Road closures prevented land and home owners from entering to care for livestock and pets. • Farmers were denied access to help their injured and suffering livestock, as were animal aid organisations such as the RSPCA. People attempting to help themselves and restore their properties to basic order were refused the ability to access tools and materials. Damage done to their livelihoods was compounded by the refusal of police to let essential resources through blockades. • Displaced livestock was not planned for, but satisfactory arrangements were made. • The period of road closure and power outage were significant contributory factors due to the reliance of these for survival basics of water, food and essentials including fuel. The abrupt road closure separated families, people were separated from dependent 	Nil

		<p>livestock and those with property in the fire area were unable to determine how they fared. This was contributory to the levels of anxiety which overlaid the direct impact of the emergency.</p> <ul style="list-style-type: none">• During the fires, SREMC made a request to the Department of Primary Industries, Parks, Water and Environment (DPIPWE) for assistance on animal welfare. Until these fires DPIPWE was mainly concerned with animal welfare by providing advice for managing burnt livestock and wildlife, and coordinating the care for injured wildlife. Following the SREMC's request, DPIPWE deployed stock officers to assist. A triage centre was established at Dunalley staffed by private veterinarians.• A social media post suggested that volunteer gun owners be allowed to go into affected areas to help with putting down badly affected animals (the Department of Primary Industries, Parks, Water and Environment intervened on this posting).	
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<p>Tasmania Bushfire Recovery Tasmanian Bushfires January 2013 Programs for Recovery</p>	<p>Department of Primary Industries, Parks, Water and Environment</p>	<ul style="list-style-type: none"> • Provided animal welfare responses and support to those suffering stock losses • Provided support to a veterinary triage and referral centre for animals • Assisted with the coordination of fodder • Established a telephone enquiry service for animal welfare advice • Conducted an impact assessment team to identify assistance packages for landholders • Provided extensive mapping services to the TFS • Incident Centre and to the State Crisis Centre for rapid impact assessment • Provided advice about carcass disposal, waste management and handling of asbestos • Individual contact made with all farming and fishing related businesses in affected areas and a case management approach adopted. Focused on support and counselling and advice on financial relief available • Provided advice on supplementary valuations to enable councils to provide rates relief (among other measures) to affected residents and other ratepayers • Re-establish property boundaries in fire-affected areas. 	
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<p>Queensland Flood Commission of Inquiry Interim Report 2011</p>	<p>RSPCA Queensland</p>	<ul style="list-style-type: none"> • 5.5.9 Arrangements for animals During the 2010/2011 floods, some pet owners were reluctant to evacuate if they could not take or make arrangements for the care of their pets. This was made easier where councils had plans for sheltering pets, as for instance in Rockhampton, where the council worked with the RSPCA to shelter pets in a facility alongside the evacuation centre. Similarly the Ipswich City Council had an animal management team who were able to care for pets at the Ipswich showgrounds evacuation centre and the Lockyer Valley Regional Council worked closely with the University of Queensland Veterinary School at Gatton to care for domestic and farm animals. <p>The draft Emergency Management Queensland evacuation guidelines require local disaster management groups to develop a policy on the management of pets. The draft guidelines encourage local disaster management groups to consider local solutions, such as schemes for fostering pets from high-risk areas with families in low-risk areas. The RSPCA is able to assist local disaster management groups to develop these plans.</p>	<p>5.71 Councils, as part of their community education program for disaster preparation, should encourage pet owners to consider what they will do with their pets if they need to evacuate.</p> <p>5.72 Councils should work with the RSPCA to develop plans about transporting and sheltering pets should they need to be evacuated with their owners.</p> <p>5.73 Animal shelters, zoos, stables, and similar facilities should develop plans for evacuating or arranging for the care of animals in consultation with their local council.</p> <p>Local disaster co-ordinators should be aware of what plans exist.</p>
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<p>Victorian Bushfires Royal Commission of Inquiry</p>	<p>Animal Aid Australian Koala Foundation RSPCA Victoria Australian Veterinary Association Bird Observation and Conservation</p>	<ul style="list-style-type: none"> • The revised policy needs to challenge people to think about what they would do if bushfire threatened on a work day, during school holidays or when they had other plans (such as a party). They also need to ask themselves whether they are physically and mentally strong enough to cope with the demands of a sustained firefight, what would they do if their plans fail, and how would they protect their pets and livestock or would they leave them. People need to face the fact that bushfires do not necessarily arrive at convenient times. Their planning needs to reflect this reality. • Planning for animals Section 1.4.2 notes the importance of the attachment between individuals and their pets and livestock and how that attachment can influence an individual's actions when threatened by fire. This attachment needs to be recognised, and there is a need for practical information about how individuals can include their animals in their evacuation or prepare themselves for leaving their animals behind. As with humans, early evacuation of animals is the safest course, but this might not be easy for people with numerous or large animals. Dr Sarah McCaffrey, Research Forester and Social Scientist with the US Department of Agriculture's Forest Service told the Commission her research showed that 	<p>Nil</p>
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		<p>animals were a barrier to people's willingness to evacuate: 'They know they can't get their animals out in time so they're going to just figure out how to manage internally. I have actually met a number of people who would like to evacuate but recognise they can't get their animals out and so are going to stay'. The difficulties associated with planning for animals were highlighted by a number of lay witnesses, among them Dr Renee Paulet, who lived in Callignee on 7 February</p>	
ACT Bushfires Inquiry 2003	Department of Urban Services	<ul style="list-style-type: none"> • Children who took extraordinary risks saving horses and other animals; individuals who made the effort to carry out large and small acts of kindness, simply to support others and acknowledge their compassion for victims... • ...on Friday 17 January, I arrived into Sydney airport from New Zealand...I rented a car...I stopped at a rest stop on the Federal Highway and slept for a few hours... I saw dozens if not hundreds of kangaroos. Eventually and inevitably I hit one, damaging the car quite badly... only a few weeks ago I realised the possible significance of seeing so many 'roos to the North and East of Canberra, when fires were raging to the South and West. Should the animals' movements have given us a forewarning of what was coming? <ul style="list-style-type: none"> – Captains Flat resident 	Nil

		<ul style="list-style-type: none"> • During the Canberra bushfires, ESB advice to the public was consistent with the Australasian Fire Authorities Council framework. After the state of emergency was declared, in mid-afternoon on 18 January, and the Chief Fire Control Officer had been appointed Alternate Controller, he acquired the power to 'direct the movement of persons, animals or vehicles within, into or around the emergency area' (s. 27(1)(a) of the Emergency Management Act 1999). However, he did not formally exercise this power at any stage during the crisis 	
ACT Bushfire Recovery Taskforce 2003		<ul style="list-style-type: none"> • Public Health and Safety Concerns In response to major community concerns (notably about asbestos), air and water quality monitoring and the coordination of the removal of hazardous materials and dead animals within affected suburbs was introduced. • The Animal Diseases Sub Plan was not officially activated during the State of Emergency, although it was necessary to dispose of dead animals in urban and rural areas for public health and safety purposes. • As part of the Community Recovery Sub-Plan, Domestic Animal Services staff evacuated dogs and cats from the community 	

		<p>evacuation centres. This task commences as soon as the first evacuation centre was opened on the afternoon of 18 January and continued over the following days. The animals were initially looked after at the Domestic Animal Services animal shelter at Symonston. From 19 January cats were moved to more suitable accommodation at EPIC. Dogs were reunited with their owners from 19 January onwards, but many were minded for several days while their families found alternate accommodation. Many dogs who had run away during the chaos of the fires were reunited with their owners in the following days.</p> <ul style="list-style-type: none">• From Sunday 19 January Environment ACT staff were involved in locating and assisting fire injured animals, and staff from many areas of the Department located and disposing of dead animals at Tidbinbilla Nature reserve and rural properties.• Arrangements were put in place on Monday 20 January for fire damaged household items to be taken to Mugga Lane Landfill and Mitchell Resource Management Centre free of charge. Residents were advised at the same time that dead animals from the fires could be disposed free of charge at Mugga Lane. This exemption remains in place.• Habitation of fire-affected rural settlements	
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		<p>There was liaison between Public Health Officers and counsellors regarding concerns passed on to counsellors by residents of Uriarra settlement, such as lack of garbage disposal, dead animals and possible asbestos in the air</p> <ul style="list-style-type: none"> Liaison with Murrumbidgee River Corridor Management has been undertaken to prepare an emergency plan to close the river corridor in event of rain. An appropriate media release is also being prepared for this eventuality. This action is in recognition of the likely run off and bacterial loads associated with dead and decaying animals. As many animals are in remote locations, it has not been possible to collect all the carcasses. 	
<p>The Canberra Fire Storm Inquests and Inquiry into Four Deaths and Four Fires between 8 and 18 January 2003</p>		<ul style="list-style-type: none"> An inestimable number of animals were killed or injured. The 1.00 pm media update and Canberra Connect "Take all children and pets with you". 	<ul style="list-style-type: none"> What the community should have been told..... The people should have been told that on the other hand that if they were elderly, disabled or infirm or concerned for their children or their pets they should consider leaving with their children and animals.

Appendix 3. Community Engagement Animals in Disasters

Agency	Media	Information
Tasmanian Department of Primary Industries, Parks, Water and Environment	<p style="text-align: center;">TASMANIA</p> <p>Website http://dpiuwe.tas.gov.au/biosecurity/animal-biosecurity/animal-welfare/animals-and-bushfire/animals-and-bushfire-planning</p> <p>Fact Sheets</p>	<p>Comprehensive information Animals and Bushfire Planning covering;</p> <ul style="list-style-type: none"> • Animal Welfare During Bushfires • Feeding and Watering Livestock After a Bushfire • Feeding Pellets to Livestock After a Bushfire • Fire Affected Livestock - the Next Few Weeks • Emergency Slaughter of Livestock as a Result of Bushfire • Emergency Burial of Carcasses • Equine Emergency Planning Fact Sheet 1 - Planning • Equine Emergency Planning Fact Sheet 2 - Preparation • Equine Emergency Planning Fact Sheet 3 Checklists • Equine Emergency Planning Fact Sheet 5 -My Equine Emergency Plan and Horses Vital Signs • Assessing bushfire burns in livestock • Feeding and Watering Livestock After a Bushfire • Feeding Pellets to Livestock After a Bushfire • Emergency Burial of Carcasses • Emergency Slaughter of Livestock • Fire Affected Livestock - the Next Few Weeks • Veterinary Emergency Response Team Tasmania
Tasmanian Farmers & Graziers Association	<p>Website information for animals http://www.tfga.com.au/in-the-news/emergency-bush-fire-assistance</p>	<ul style="list-style-type: none"> • Fire Safety & Survival • Grassfires • Hay - Handy Hints

Tasmania's state farmer organisation, representing over 5,000 members who live and work on farm businesses situated across Tasmania.	Fact Sheets	<ul style="list-style-type: none"> • Home Fire Safety Checklist • Emergency Phone Number List • Animals and Bushfire • Bushfire Plan • Animal Bushfire Plan • Assessing Bushfire Burns in Livestock
Tasmania State Emergency Service	Website information Animals in Emergencies	<ul style="list-style-type: none"> • Pets in Emergencies Action Guide
Tasmania Fire Service	Website Information	<ul style="list-style-type: none"> • Animals and Bushfire • Community Fire Refuges and Nearby Safer Places
Tasmania Local Government	Website Information	<ul style="list-style-type: none"> • 29 Councils exist and all provide information on animals
QUEENSLAND		
Department of Agriculture and Fisheries	Website Information www.daff.qld.gov.au/animal-industries/welfare-and-ethics/animal-welfare/natural-disasters Fact Sheets	<ul style="list-style-type: none"> • Preparing animals for natural disasters • Caring for animals in natural disasters • When to take animals home after a natural disaster • Cattle movements in natural disasters • Animal disease issues after flooding • Flood assistance for primary producers • Displaced and lost animals after flood and heavy rainfall
Department of Environment and Heritage Protection	Website Information http://www.ehp.qld.gov.au/recovery/index.html	<ul style="list-style-type: none"> • Comprehensive website relating to wildlife
Department of National Parks, Recreation, Sport and Racing – National Parks	Website Information http://www.nprsr.qld.gov.au/	<ul style="list-style-type: none"> • Comprehensive website relating to wildlife

Qld Fire and Emergency Services	Website Information http://www.emergency.qld.gov.au/emq/css/prepareyourpets.asp	<ul style="list-style-type: none"> • Comprehensive website containing fact sheets on preparing pets • Comprehensive advice available in 14 languages
Queensland Government	Website Information Get Ready Queensland Campaign http://www.qld.gov.au/emergency/dealing-disasters/prepare-pets.html	<ul style="list-style-type: none"> • Pet Emergency Plan
Agforce	Website information	<ul style="list-style-type: none"> • Natural Disaster Preparedness
RSPCA Queensland	Facebook Information (Immediately prior to events)	<ul style="list-style-type: none"> • Cyclone Ready, Heatwave Ready, Storm Ready • Links to Pets in Emergencies Action Guide
Local Government	Website information Get Ready Queensland Campaigns Brisbane City Council http://www.brisbane.qld.gov.au/community/community-safety/disasters-emergencies/disaster-management-plans	<ul style="list-style-type: none"> • 77 x Councils provide information on animals • The majority provide information relevant to the Pets in Emergencies Action Guide • The Emergency Preparedness Guideline for the Commercial Animal Management Industry is a guide aimed at commercial business owners in the animal management industry who wish to develop a disaster management plan or update their existing plans
Queensland Farmers Federation	Website Information http://www.qff.org.au/disaster-resilience-planning/ <ul style="list-style-type: none"> • The Disaster Resilience Planning Project The Project will compile information and deliver tools for resilience planning to better understand the risk and impact of a natural disaster; and use existing industry networks to initiate cultural change and facilitate industry- to- industry leadership	<ul style="list-style-type: none"> • Funding has been provided for the Project by the Queensland Government through the Department of Agriculture and Fisheries (QDAF). • The Project commenced in May 2014 and further updates will be posted here as the project progresses

NEW SOUTH WALES		
NSW Department of Primary Industries	<p>Website Information http://www.dpi.nsw.gov.au/agriculture/emergency/management</p> <p>Website Information Community Engagement Strategy Our animals. Our Responsibility. (July 2014)</p>	<ul style="list-style-type: none"> • Concept of Operations 2013-14 49.1 KB • Plans • Policies • Procedures • Role descriptions • Risk assessments • Safe work method statements • Forms and templates • Health & Safety Alerts • Community engagement • Building resilience in communities • Publications and advice • Emergency animal diseases • Help your animals to survive an emergency • Advice for pet owners during emergencies • Planning for emergencies - a guide for animal holding establishments • Emergency assistance for horse owners • Responses • Oil and chemical spills • Bushfire • Flood • Plague locusts • Aviation Management System (AMS) • Operational guidelines and related information • Volume 1 - Strategy • Volume 2 - Community Engagement Guide • Volume 3 - Project Report • Community profile template • Community analysis template • Community engagement plan template

		<ul style="list-style-type: none"> • Risk assessment template • Action plan template • Evaluation plan template
Ministry of Police and Emergency Services	<p>Website Information http://www.emergency.nsw.gov.au/search.html</p>	<ul style="list-style-type: none"> • What is an emergency? • Legislation • Personal emergency plans • Pets • Livestock • Sub plans • Transport Services supporting plan • mpes.nsw.gov.au • Personal safety • Animals • Flood emergency
RSPCA NSW	<p>Website Information http://www.rspcansw.org.au/learn/owning-a-pet/disaster-management-plan</p>	Disaster management planning
WIRES	<p>Website Information http://www.wires.org.au/</p>	Wildlife
NSW Rural Fire Service	<p>Website Information http://www.rfs.nsw.gov.au/site-search?query=animals&collection=nsw-rfs&sort= Fact sheets</p>	<ul style="list-style-type: none"> • Your Bush Fire Survival Plan • Prepare yourself and family • Plan and prepare • Fire Safety for your Pets Factsheet • Fires Near Me • Bush Fire Survival Plan • Emergency information • Boland's Gooloogong Bush Fire • Bush Fire Survival Plan

NSW SES	<p>Website Information</p> <p>http://www.ses.nsw.gov.au/?view=Search+results&search=ANIMALS+PETS</p> <p>http://www.floodsafe.com.au/pets-and-animals</p> <p>http://www.stormsafe.com.au/pets-and-animals</p> <p>http://www.stormsafe.com.au/uploads/65/stormsafepetsfactsheet.pdf</p> <p>http://floodsafe.ses.org.au/floodsafe/businesstoolkit/</p> <p>http://www.seshomeemergencyplan.com.au</p> <p>Facebook, Twitter posts</p> <p>Flood and Storm Warning products,</p> <p>Large animal rescue training capability</p>	<p>Don't forget pets during storm season</p> <p>Providing training and workshops to veterinarians and horse owners. Promoting awareness of LAR at community events, agricultural shows, etc.</p>
VICTORIA		
<p>Former Department of Environment and Primary Industries (DEPI)</p> <p>Now Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and Department of Environment, Land, Water, and Planning (DEWLP)</p>	<p>Website information</p> <p>http://www.depi.vic.gov.au/fire-and-emergencies/animals-in-emergencies</p>	<p>Evacuating</p> <ul style="list-style-type: none"> • Evacuating with pets • Large animal checklist - enacting your bushfire plan <p>Planning</p> <ul style="list-style-type: none"> • Livestock and bushfires • Horses and emergencies • Horses and bushfire • Horses and floods • American Veterinary Medical Association – 'saving the whole family' video • Equine U emergency planning workbook for horse owners <p>Recovering from emergencies</p> <ul style="list-style-type: none"> • Agisting livestock affected by bushfire • Assessing cattle after bushfire • Assessing sheep after bushfire • Disposing of carcasses in response to bushfire, flood or drought • Emergency stock containment areas

		<ul style="list-style-type: none"> • Fencing assistance • Floods and animal health • Help for animals affected by bushfire • Horses and bushfire • Horses and flood <p>Extreme heat events</p> <ul style="list-style-type: none"> • Caring for animals during extreme heat • Shelter guidelines for cattle • Shelter guidelines for sheep <p>Guidelines for managing animals at Emergency Relief Centres</p> <p>Working with fire agencies at bushfires: Protocols for volunteers involved in wildlife rescue operations</p>
Local Government	Website information	<ul style="list-style-type: none"> • All 79 x Councils have information on animals
Warrandyte Community Association	<p>Website information</p> <p>Warrandyte http://warrandyte.org.au/be-ready/pets-and-bushfire</p>	<ul style="list-style-type: none"> • HORSES • Horses and bushfire • DEPI – Horses and Bushfire • CFA – Horses and Bushfire • RFS – Prepare your horse for bushfire • Horse Safety Australia • DEPI Large Animal Checklist – Enacting your bushfire plan • SMALLER PETS • Smaller pets • CFA – Pets and Bushfires • DEPI – Your animals and an emergency event • DEPI – Evacuating with pets • RFS – Fire Safety for your pets
Country Fire Authority	<p>Website information</p> <p>http://www.cfa.vic.gov.au/</p>	<ul style="list-style-type: none"> • Pets and Bushfires Fact Sheet

		<ul style="list-style-type: none"> • Moving your pets • Pets and bushfires • Fire Risk Days: Leaving Early • Evacuation • Planning ahead is the best way to protect: * yourself, your loved ones, pets and animals “possessions that are important to you” your financial situation. • Complete Fire Ready Kit • Your Bushfire Survival Plan • Defending your property • Stay and Defend Bushfire survival planning template
VIC State Emergency Service	Website information	<ul style="list-style-type: none"> • Home Emergency Plan (includes pets and animals)
RSPCA Victoria	Website information	<ul style="list-style-type: none"> • Emergency Planning
Animal Aid	Website Information	<ul style="list-style-type: none"> • Disaster Planning for Pets
SOUTH AUSTRALIA		
Department of Primary Industries and Regions	Website Information http://www.pir.sa.gov.au/aghistory/left_nav/natural_disasters	<ul style="list-style-type: none"> • Natural Disasters
South Australian Veterinary Emergency Management Inc	Website information http://www.savem.org.au/	<ul style="list-style-type: none"> • Emergency management information
Country Fire Service	Website Information Fact Sheets	<ul style="list-style-type: none"> • Pets and Livestock
State Emergency Service	Website Information	<ul style="list-style-type: none"> • Pets in Emergency Situations
Local Government	Website Information	<ul style="list-style-type: none"> • Councils provide information on animals

RSPCA SA	Website Information	<ul style="list-style-type: none"> • Protect Your Pets
Horse SA	Website Information	<ul style="list-style-type: none"> • Disaster Preparedness
WESTERN AUSTRALIA		
Department of Fire & Emergency Services	Website Information	<ul style="list-style-type: none"> • Pets and Other Animals • Animal Welfare • Pets and Animal Emergency Kit and Plan • Prepare Before the Season • Emergency Kits • Livestock Management • Survive during a bushfire • Take Action During a Cyclone • Take Action During a Flood • Recovery from a Flood • After a Storm • After an Earthquake • Prepare for a Storm
Department of Agriculture	Website Information https://www.agric.wa.gov.au/animalwelfare/animal-welfare-natural-disaster	<ul style="list-style-type: none"> • Animal Welfare in Natural Disasters
Local Government	Website Information	<ul style="list-style-type: none"> • Councils provide information on animals
AUSTRALIAN CAPITAL TERRITORY		
ACT Emergency Services Agency	Disaster App and website Website Information http://www.esa.act.gov.au/wp-content/uploads/bushfire-planning-on-act-horse-agistment-centres.pdf	<ul style="list-style-type: none"> • ACT first • Pets and Animals • Hightailing into the fires – bushfire planning on ACT horse agistment centres
NORTHERN TERRITORY		
Northern Territory Police, Fire and Emergency Services	Website Information Fact Sheets	<ul style="list-style-type: none"> • Pets Animals • Pets in emergencies

		<ul style="list-style-type: none"> Managing Animals in Disasters
	NATIONAL	
Australian Government Attorney – General Department	<p>Disaster Watch App Website Information Fact Sheet Dingo Creek Teaching Guide Community Awareness Action Guides Fact Sheet</p> <p>National Strategy for Disaster Resilience : Building the resilience of our nation to disasters</p> <p>National Strategy for Disaster Resilience Community Engagement Framework</p> <p>Evacuation Planning</p> <p>Community recovery</p>	<ul style="list-style-type: none"> Pets in Emergencies Action Guide Pets and Disaster What about your pets Managing Animals In Disaster
Animal Welfare League	<p>Website Information http://www.awla.com.au/2013/01/helping-pets-when-disaster-strikes/</p>	<ul style="list-style-type: none"> Disaster Planning for Pets
RSPCA Australia	<p>Website Information Knowledge Base http://kb.rspca.org.au/What-preparations-should-I-make-for-my-pets-in-case-of-an-emergency_455.html</p>	<ul style="list-style-type: none"> What preparations should I make for my pets in case of an emergency?
Dairy Australia	<p>Website Information http://www.dairyaustralia.com.au/Industry-information/About-the-industry/Recent-industry-topics/Floods.as</p>	<ul style="list-style-type: none"> Flood and wet weather information for dairy farmers
Australian Veterinary Association	<p>Website Information Fact Sheets http://www.ava.com.au/node/26950</p>	<ul style="list-style-type: none"> Keeping pets safe in a natural disaster Keeping horses safe in a natural disaster Keeping your pets safe in a natural disaster

		<ul style="list-style-type: none">• Keeping your horses safe in cyclones, storms and floods Keeping your livestock safe in cyclones, storms and floods
IFAW Australia	Website information Fact Sheet	<ul style="list-style-type: none">• Tips for keeping your pets safe in disasters
World Animal Protection	Website Information	<ul style="list-style-type: none">• Protect Your Pets

Appendix 4: Animal emergency management initiatives (2014- 2015)

Animal Health Australia	<ul style="list-style-type: none"> Crisis Response for Animal Welfare (CRAW) 	http://www.mla.com.au/Research-and-development/Search-RD-reports/RD-report-details/Animal-Welfare/Crisis-Response-for-Animal-Welfare/997
Australian Animal Welfare Strategy	<ul style="list-style-type: none"> National Planning Principals for Animals in Disasters 	http://www.australiananimalwelfare.com.au/app/webroot/files/upload/files/PDF/FINAL%20National%20Planning%20Principles%20for%20Animals%20in%20Disasters.pdf
NSW Department of Primary Industries	<ul style="list-style-type: none"> \$300K Federal & State Funded 3 year Community Engagement Strategy: <i>Our Animals – Our responsibility</i> 	http://www.dpi.nsw.gov.au/agriculture/emergency/management/community-engagement/building-resilience-in-communities
RSPCA Qld	<ul style="list-style-type: none"> RSPCA Qld Funded <i>Managing Pets in Disasters</i> for Local Government. Workshops. RSPCA Qld in-kind contribution to the Bushfire & Natural Hazards Cooperative Research Centre (BNHCRC) – <i>Managing Animals in Disasters</i> program 	<p>Development of RSPCA Managing Pets in Disasters Participant Guide and Domestic Pet Sub Plan for Local Government</p> <p>\$1m research 3 year program Managing Pets in Disasters Participant Guide is BNHCRC Background Intellectual Property</p> <p>http://www.bnhcrc.com.au/research/resilient-people-infrastructure-and-institutions/237</p>
RSPCA SA	<ul style="list-style-type: none"> \$60k Federal Funding <i>Protect Your Pets</i> Community Engagement Strategy 	<p>https://www.facebook.com/rspcasouthaustralia</p> <p>Video: https://www.facebook.com/video.php?v=10152971528259617&fref=nf</p>

SAVEM	<ul style="list-style-type: none"> • South Australian Veterinary Emergency Management (SAVEM) established • Activated by SA Department of Primary Industries and Regions South Australia 	http://www.savem.org.au/
Tasmania Department Primary Industries, Parks, Water and Environment	<ul style="list-style-type: none"> • Established the Veterinary Emergency Response Team Tasmania and activated by DPIPWE • \$30,000 Federal Funding - Animal Welfare in Emergencies Project provides an opportunity for Council staff to adapt the advice in a practical manner to suit their community's needs. Workshops with councils undertaken. 	http://blogs.abc.net.au/tasmania/2014/05/vertt-tasmanian-vets-create-volunteering-emergency-response-team-to-save-animals-during-disasters.html http://www.abc.net.au/news/2014-04-24/vets-volunteer-for-animal-emergency-response-team/5408600
(Formerly) Victoria Department of Environment and Primary Industries Now Department of Economic Development, Jobs, Transport and Resources (DEDJTR) and Department of Environment, Land, Water, and Planning (DEWLP)	<ul style="list-style-type: none"> • Animal Welfare Plan and Templates for Local Government • The Victorian Department of Environment and Primary Industries identified within their Animal Welfare Fund Grants Program Round 3 (2014 / 2015) the improvement in the rates of reuniting pets to their owners; <ul style="list-style-type: none"> ○ Statewide lost and found register for animal victims of disasters; ○ Development of online ability to manage volunteers and donations including offers of agistment • \$12,400.00 State Grant Program Assessment and treatment of companion animals in emergencies: webinar series Australian Veterinary Association (Victoria Division) 	http://www.depi.vic.gov.au/fire-and-emergencies/animals-in-emergencies

Appendix 5a: Stakeholder Survey Questionnaire

MAiD Stakeholder Survey

MANAGING ANIMALS IN DISASTERS (MAiD): IMPROVING PREPAREDNESS, RESPONSE, AND RESILIENCE THROUGH INDIVIDUAL AND ORGANISATIONAL COLLABORATION

The Managing Animals in Disasters (MAiD) project is funded through the Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC).

The research team would like to ask for your assistance.

The MAiD initiative is seeking to identify and build best practice approaches to animal welfare emergency management to enable engagement with animal owners, and other stakeholders in disasters/emergencies. The goal of the project is to improve outcomes for public safety and the resilience of responders, animal owners, those with animal-related businesses, and their communities.

As part of the scoping phase of our project we are collecting information from organisations that are BNHCRC partners and those that we have identified as potential project stakeholders. We would like to know about your organisation's needs and priorities in this area. This information will be used to help direct and focus the research and assist with decisions on what types of project outputs to develop. Therefore your input, through this survey, is extremely valuable to the longer term success of the project.

We would like to invite you to complete this survey it should take about 10 – 15 minutes depending on how much written comment you provide.

About the Bushfire and Natural Hazards Cooperative Research Centre (BNHCRC)

The BNHCRC is funded for eight years with \$47 million from the Australian Government's Cooperative Research Centres Program. The remaining funds – approximately \$80m cash and in-kind – come from partner agencies, non-government organisations, government organisations and research institutions from all States and Territories and New Zealand. The BNHCRC has an annual cash research spend of approximately \$7 million per year; this is augmented by in-kind resources from the partners.

The work of the Bushfire and Natural Hazards CRC is intrinsically linked to a number of national policies and strategies, including the:

- National Disasters Resilience Strategy (NSDR) (COAG endorsed);
- Strategic Research Priorities (Australian Research Committee endorsed); and
- National Bushfire Policy Statement (COAG endorsed);

The BNHCRC has the following strategic goals:

- Create a sustainable emergency management research capability
- Generate knowledge through high-quality research
- Build enduring partnerships for effective conduct and use of research
- Translate the research to adoption and use
- Contribute to the delivery of a disaster-resilient Australasia

Further information on the BNHCRC – MAiD initiative can be found at:

<http://www.bnhcrc.com.au/research/resilient-people-infrastructure-and-institutions/237>

To take part please click the 'next' button below. The second page contains some further details and the survey begins after that. Your completion of the survey is taken as your consent to participate. Your responses are only saved at the end of the survey.

THANK YOU!

Background / ethics information

Project title: Managing animals in disasters: improving preparedness, response, and resilience through individual and organisational collaboration.

This study is being conducted by Dr Mel Taylor and Dr Penny Burns, University of Western Sydney, and Dr Kirrilly Thompson and Dr Bradley Smith, Central Queensland University (Adelaide). RSPCA Queensland is also a partner in this project.

We don't anticipate that there will be any direct risks or specific benefits to your involvement in this study, however, your input will provide guidance to the project which will result in the development of materials that we hope might benefit your organisation in the longer term.

We will use the survey data in reports for the BNHCRC and we will be writing up some study results for presentations at conferences, and in journal articles. Only the researchers will have access to the raw data you provide. We will de-identify any comments you provide and your personal identity will not be disclosed, however, it may not be possible or appropriate to de-identify the organisation. We will use this information constructively however, eg. to express preferences for certain options.

Please note that the minimum retention period for data collection is five years.

Participation is entirely voluntary and you are not obliged to be involved. Although we hope that you will complete this survey in full, you can withdraw at any time without giving a reason.

What if I require further information?

Please contact the research team member listed below should you wish to discuss the research further before deciding whether or not to participate.

Dr Mel Taylor, Senior Research Fellow (UWS), maid@uws.edu.au, (02 4620 3929)

What if I have a complaint?

This study has been approved by the University of Western Sydney Human Research Ethics Committee. The approval number is H10638. If you have any complaint or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel +61 2 4736 0229 Fax +61 2 4736 0013 or email humanethics@uws.edu.au. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

YOUR ROLE AND ORGANISATION

* 1. What organisation do you work for?

2. What is the State or Territory jurisdiction of your agency/organisation?

- NSW QLD TAS
 ACT SA NT
 VIC WA Commonwealth / National
 Other (please specify)

3. What is your current role/title?

4. Within your organisation (and in the context of disasters/emergencies) does your role include oversight of any of the following?

- Community engagement/disaster preparedness
 Operational response/disaster response
 Animal management/animal welfare
 Community evacuation centres
 Emergency management/planning
 Community recovery

Other (please specify)

ROLES AND RESPONSIBILITIES

5. Briefly, what is your organisation's role or responsibility with regard to the management of animals and/or their owners in disasters/emergencies?

6. Do you think your organisation should have responsibilities for management of animals in disaster/emergency situations?

- Yes
- Unsure
- No

7. Are you aware of any formal animal emergency response and recovery arrangements within your State?

- Yes
- Unsure
- No

8. (Optional) Comments

PROBLEMS AND DIFFICULTIES

9. In general, are there problems or difficulties for your organisation around the management of animals/animal owners in disasters/emergencies?

- No, none at all
 Some minor or rare issues
 Occasional or recurring issues
 Significant or frequent issues
 Very serious or severe issues

10. Are there problems or difficulties for your organisation, in regard to...

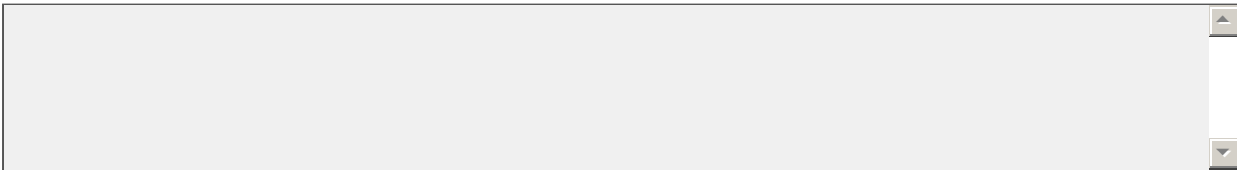
	No, none at all	Some minor or rare issues	Occasional or recurring issues	Significant or frequent issues	Very serious or severe issues
a. The physical management/rescue of animals in natural disasters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b. Interactions with animal owners during disaster response?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c. Interactions with animal owners in disaster preparedness and planning?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d. Interactions with members of the general public with regard to animals in natural disasters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e. Post-disaster impacts in management of animals or their owners (e.g. distress, emotional responses)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f. The logistics available to respond to animals in natural disasters (e.g. additional personnel, equipment)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g. Unclear policy or operational responsibilities for the management of animals or their owners in natural disasters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h. Inter-agency coordination around the management of animals or their owners in natural disasters?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i. Co-ordination with non-emergency service agencies (e.g. DPI, Local Council)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
j. Managing/dealing with untrained / spontaneous animal-related responders? (e.g. animal interest groups)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comments

11. Are there any other challenges or problems for your organisation (in the context of animals/owners/coordination) not mentioned above?

- No
- Yes

If yes, please provide some brief details



CONSIDERATION OF ANIMALS IN DISASTERS/EMERGENCIES

12. From your organisation's perspective, and in the context of disasters/emergencies.

How important is it to consider animals on the basis of...

	not at all	somewhat	moderately	very	extremely
animal owner safety?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
broader public safety?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
safety of your organisation's personnel?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
animal welfare?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
longer term owner well-being/resilience (e.g. emotional, financial)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
longer term well-being of your organisation's personnel?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
organisational public relations?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
operational success/successful delivery of your organisation's roles/responsibilities?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Are you aware of any initiatives or campaigns run by your organisation that focus on managing animals in disasters/emergencies – or engaging with animal owners?

- No
- Yes

If yes, please provide some brief details

14. Are you aware of any resources within your organisation that focus on managing animals in disasters/emergencies – or engaging with animal owners?

- No
- Yes

If yes, please provide some brief details

15. What skills/training do you think would be useful within your organisation to help improve management of animals/animal owners in disasters/emergencies?

PRIORITIES AND PROJECT OUTPUTS

The MAiD project will be working towards developing a small number of support tools/materials to assist with the challenges and/or priority areas identified during the scoping phase of this project.

These final two questions seek to identify the groups you feel should have the highest priority, and the types of project output you think could be most usefully developed as part of this project.

16. Please consider your previous responses, the needs of your organisation, and any gaps you think exist in this area.

How high a priority do you feel the following owner groups or focus areas should be for this research project?

	Not a priority	Low priority	Medium priority	High priority
Companion animal/pet owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Small landholders/acreages - with outdoor/larger animals (eg. horses, goats, alpacas)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Owners of small-scale animal-related businesses (eg. kennels, agistments, breeders)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Owners of larger-scale animal-related businesses (eg. stables, zoos, animal shelters, studs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agricultural business - farmers/livestock owners	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responders - yours or other organisations' personnel (skills/education/training)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mix of response organisations (collaboration/coordination)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(please specify)

17. There are many possible types of project output that could be developed as part of the MAiD project - their content will depend on the exact purpose and target audience.

However, in general terms, how useful do you think the following might be for your organisation?

	not useful	somewhat useful	very useful	extremely useful
Re-unification technology (eg. apps, web-based lost and found, GPS tracking)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Guidelines/manuals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Education and training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Business continuity planning (animal businesses)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Community engagement materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workshop content	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Any other suggestions (please provide some details)

18. (OPTIONAL) Do you have any final comments you'd like to add?



FOLLOW UP

We would like to consult back with organisations later in the year when we shortlist our priority areas for research and/or project outputs. It would be very helpful to come back to the same person. If you would be willing to be contacted directly please leave your contact details below.

Also, please indicate whether you're interested in any of the other options.

If you don't want to leave contact information please skip this page (press 'next') to finish the survey and save your responses.

19. Name

20. Email address

21. Please tick the relevant boxes if interested in the following.

- I would be willing to be contacted by the team to provide more information
- I would like to stay informed about the project (be sent newsletters, publications)
- I would be willing to provide my organisation's relevant policy documents or supporting information

Appendix 5B: Stakeholder survey data tables

Q.2 What is the State or Territory jurisdiction of your agency/organisation?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Other (please specify)	4	4.1	4.1	4.1
	NSW	17	17.3	17.5	21.6
	ACT	1	1.0	1.0	22.7
	VIC	9	9.2	9.3	32.0
	QLD	21	21.4	21.6	53.6
	SA	21	21.4	21.6	75.3
	WA	5	5.1	5.2	80.4
	TAS	4	4.1	4.1	84.5
	NT	5	5.1	5.2	89.7
	Commonwealth / National	10	10.2	10.3	100.0
	Total	97	99.0	100.0	
Missing	System	1	1.0		
Total		98	100.0		

Other (please specify)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		94	95.9	95.9	95.9
	Australia and New Zealand	1	1.0	1.0	96.9
	National	1	1.0	1.0	98.0
	Regional (Australia, NZ and surrounding pacific islands)	1	1.0	1.0	99.0
	RSPCA QLD/ SA/ VIC/ WA	1	1.0	1.0	100.0
	Total	98	100.0	100.0	

Q.4 Within your organisation (and in the context of disasters/emergencies does your role include oversight of any of the following...		
	Frequency	Percent
Community engagement/disaster preparedness	59	60.2
Operational response/disaster response	66	67.3
Animal management/animal welfare	63	64.3
Community evacuation centres	28	28.6
Emergency management/planning	67	68.4
Community recovery	32	32.7

Q. 6 Do you think your organisation should have responsibilities for management of animals in disaster/emergency situations?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	45	45.9	45.9	45.9
	Unsure	13	13.3	13.3	59.2
	No	40	40.8	40.8	100.0
	Total	98	100.0	100.0	

Q. 7 Are you aware of any formal animal emergency response and recovery arrangements within your State?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	65	66.3	66.3	66.3
	Unsure	14	14.3	14.3	80.6
	No	19	19.4	19.4	100.0
	Total	98	100.0	100.0	

Q. 9 In general, are there problems or difficulties for your organisation around the management of animals/animal owners in disasters/emergencies?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No, none at all	7	7.1	7.6	7.6
	Some minor or rare issues	29	29.6	31.5	39.1
	Occasional or recurring issues	39	39.8	42.4	81.5
	Significant or frequent issues	13	13.3	14.1	95.7
	Very serious or severe issues	4	4.1	4.3	100.0
	Total	92	93.9	100.0	
Missing	System	6	6.1		
Total		98	100.0		

Q. 10 Are there problems or difficulties for your organisation, in regard to...										
	a. The physical management/rescue of animals in natural disasters?	b. Interactions with animal owners during disaster response?	c. Interactions with animal owners in disaster preparedness and planning?	d. Interactions with members of the general public with regard to animals in natural disasters?	e. Post-disaster impacts in management of animals or their owners (e.g. distress, emotional responses)?	f. The logistics available to respond to animals in natural disasters (e.g. additional personnel, equipment)?	g. Unclear policy or operational responsibilities for the management of animals or their owners in natural disasters?	h. Inter-agency coordination around the management of animals or their owners in natural disasters?	i. Coordination with non-emergency service agencies (e.g. DPI, Local Council)?	j. Managing/dealing with untrained / spontaneous animal-related responders? (e.g. animal interest groups)
Mean	2.74	2.51	2.16	2.47	2.56	2.82	2.49	2.37	2.07	2.43

Q. 10 Are there problems or difficulties for your organisation, in regard to...(percent)					
	No, none at all	Some minor or rare issues	Occasional or recurring issues	Significant or frequent issues	Very serious or severe issues
a. The physical management/rescue of animals in natural disasters?	13.6	30.7	31.8	15.9	8
b. Interactions with animal owners during disaster response?	15.9	35.2	31.8	15.9	1.1
c. Interactions with animal owners in disaster preparedness and planning?	33	33	21.6	10.2	2.3
d. Interactions with members of the general public with regard to animals in natural disasters?	19.5	32.2	29.9	18.4	0
e. Post-disaster impacts in management of animals or their owners (e.g. distress, emotional responses)?	14.9	32.2	35.6	16.1	1.1
f. The logistics available to respond to animals in natural disasters (e.g. additional personnel,	16.9	28.1	22.5	21.3	11.2
g. Unclear policy or operational responsibilities for the management of animals or their owners in natural disasters?	21.3	34.8	25.8	9	9
h. Inter-agency coordination around the management of animals or their owners in natural disasters?	19.5	36.8	33.3	8	2.3
i. Co-ordination with non-emergency service agencies (e.g. DPI, Local Council)?	30.7	44.3	15.9	5.7	3.4
j. Managing/dealing with untrained / spontaneous animal-related responders? (e.g. animal interest groups)	22.1	34.9	26.7	10.5	5.8

Q. 11 Are there any other challenges or problems for your organisation (in the context of animals/owners/coordination) not mentioned above?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	53	54.1	60.9	60.9
	Yes	34	34.7	39.1	100.0
	Total	87	88.8	100.0	
Missing	System	11	11.2		
Total		98	100.0		

Q. 12 How important is it to consider animals on the basis of...								
	animal owner safety?	broader public safety?	safety of your organisation's personnel?	animal welfare?	longer term owner well-being/resilience (e.g. emotional, financial)?	longer term well-being of your organisation's personnel?	organisational public relations?	operational success/successful delivery of your organisation's roles/responsibilities?
Mean	4.16	3.97	4.10	4.17	3.73	3.69	3.72	3.93

Q. 12 How important is it to consider animals on the basis of... (percent)					
	Not at all	somewhat	moderately	very	extremely
animal owner safety?	2.1	9.6	5.3	36.2	46.8
broader public safety?	0	10.6	17	37.2	35.1
safety of your organisation's personnel?	4.3	9.6	8.5	27.7	50
animal welfare?	0	5.3	11.7	43.6	39.4
longer term owner well-being/resilience (e.g. emotional, financial)?	5.4	12.9	17.2	32.3	32.3
longer term well-being of your organisation's personnel?	5.3	14.9	18.1	28.7	33
organisational public relations?	1.1	10.8	24.7	41.9	21.5
operational success/successful delivery of your organisation's roles/responsibilities?	2.2	8.8	15.4	40.7	33

Q. 13 Are you aware of any initiatives or campaigns run by your organisation that focus on managing animals in disasters/emergencies – or engaging with animal owners?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	37	37.8	38.9	38.9
	Yes	58	59.2	61.1	100.0
	Total	95	96.9	100.0	
Missing	System	3	3.1		
Total		98	100.0		

Q. 14 Are you aware of any resources within your organisation that focus on managing animals in disasters/emergencies – or engaging with animal owners?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	36	36.7	37.9	37.9
	Yes	59	60.2	62.1	100.0
	Total	95	96.9	100.0	
Missing	System	3	3.1		
Total		98	100.0		

Q. 16 How high a priority do you feel the following owner groups or focus areas should be for this research project?								
		Companion animal/pet owners	Small landholders/acrea ges - with outdoor/larger animals (eg. horses, goats, alpacas)	Owners of small-scale animal-related businesses (eg. kennels, agistments, breeders)	Owners of larger-scale animal-related businesses (eg. stables, zoos, animal shelters, studs)	Agricultural business - farmers/livestock owners	Responders - yours or other organisations' personnel (skills/education/t raining)	Mix of response organisations (collaboration/co ordination)
N	Valid	92	93	92	92	92	91	90
	Missing	6	5	6	6	6	7	8
Mean		3.30	3.57	3.35	3.27	3.33	3.24	3.16

Q. 16 How high a priority do you feel the following owner groups or focus areas should be for this research project? (Percent)					
	Not a priority	Low priority	Medium priority	High priority	Total
Companion animal/pet owners	3.3	12	35.9	48.9	100.1
Small landholders/acreages - with outdoor/larger animals (eg. horses, goats, alpacas)	1.1	4.3	31.2	63.4	100
Owners of small-scale animal-related businesses (eg. kennels, agistments, breeders)	1.1	10.9	40.2	47.8	100
Owners of larger-scale animal-related businesses (eg. stables, zoos, animal shelters, studs)	2.2	17.4	31.5	48.9	100
Agricultural business - farmers/livestock owners	1.1	17.4	29.3	52.2	100
Responders - yours or other organisations' personnel (skills/education/training)	1.1	12.1	48.4	38.5	100.1
Mix of response organisations (collaboration/coordination)	1.1	13.3	54.4	31.1	99.9

Q. 17 How useful do you think the following might be for your organisation?							
		Education and training	Workshop content	Business continuity planning (animal businesses)	Community engagement materials	Guidelines/manuals	Re-unification technology (e.g. apps, web-based lost and found, GPS tracking)
N	Valid	91	91	92	92	92	90
	Missing	7	7	6	6	6	8
Mean		3.09	2.69	2.70	3.10	2.98	2.43


Q. 17 How useful do you think the following might be for your organisation? (Percent)				
	not useful	somewhat useful	very useful	extremely useful
Business continuity planning (animal businesses)	13	34.8	21.7	30.4
Workshop content	5.5	37.4	39.6	17.6
Community engagement materials	1.1	23.9	39.1	35.9
Guidelines/manuals	5.4	23.9	38	32.6
Education and training	3.3	18.7	44	34.1
Re-unification technology (e.g. apps, web-based lost and found, GPS tracking)	17.8	36.7	30	15.6

Appendix 5C: The challenges of managing animals and their owners in disasters: perspectives of Australian response organisations and stakeholders

REFERENCE

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The challenges of managing animals and their owners in disasters: perspectives of Australian response organisations and stakeholders

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ABSTRACT

This paper documents the findings of a comprehensive national survey of Australian response organisations and other relevant stakeholders involved in the management of animals and their owners in emergencies and disasters. The aim of the study was to identify and prioritise the challenges encountered by these organisations in the management of animals and animal owners. In addition, attitudes towards organisational responsibility for the management of animals in emergencies and awareness of relevant emergency response and recovery arrangements were sought.

A sample of 98 respondents representing 68 organisations from all Australian states and territories were surveyed. The main challenges identified in the management of animals and their owners were in the logistics of animal management (personnel and equipment), the physical management and rescue of animals, interactions with owners during emergency response, and post-emergency impacts on the management of animals and their owners (distress and emotional issues). As would be expected, different categories of organisations and stakeholders experienced different challenges. Issues were reported across all categories irrespective of their formally-assigned roles and responsibilities in this area.

Introduction

There is a plethora of plans, guidelines, and legislation regarding animal welfare emergency management for companion animals, livestock and wildlife. Although the body of supporting academic literature is increasing in size and scope, Australian research remains relatively scant. Studies tend to be focused on North American

contexts, and are heavily framed around animal owners and their failure to evacuate, their risk-taking to save animals, and the emotional impacts of animal loss (Heath *et al.* 2001a, Heath, Voeks & Glickman 2001b, Zottarelli 2010, Lowe 2009, Hunt 2008). Hall *et al.* (2004) go beyond the owner perspective to acknowledge those who work with animals in emergency situations, such as veterinarians and government officials, may also suffer physical and psychological stress. The limited research that focuses on emergency management and response in the context of animals in emergencies and disasters is predominantly directed towards the logistics of planning for animals, information management needs, and justification of the need to include animals in emergency and disaster planning (Leonard & Scammon 2007, Edmonds & Cutter 2008, Austin 2013, White 2014).

Despite the lack of Australian empirical research in the area, there has been an increased awareness of the importance of plans and strategies that consider the needs of animals and their owners in emergency situations. In Australia, reports from the 2011 Queensland Flood Commission of Enquiry, the 2009 Victorian Bushfires Royal Commission, and the 2013 Tasmania Bushfires Enquiry have all included reference to the management of animals, and improvements required in response co-ordination, emergency management, and consideration of the human-animal bond. The *National Strategy for Disaster Resilience* (COAG 2011) has shaped the Australian approach taken in all aspects of emergency management and the strategy has promoted disaster resilient communities. Given the high rates of companion animal ownership in Australia (63 per cent) (Animal Health Alliance 2013) and the well-documented and profound impacts of pet and animal loss on owners (Zottarelli 2010, Hall *et al.* 2004, Thompson 2013), it would appear that a fundamental requirement of current emergency management should be the consideration of companion and commercial animals at all stages of emergency preparedness and planning.

With the recent endorsement of the *National Planning Principles for Animals in Disasters* by the Australia-New Zealand Emergency Management Committee there appears a willingness to work towards better integration of animal considerations into the emergency management planning and response

of relevant organisations, stakeholders and animal owners. Many people are potentially affected by these plans; however, there is little extant research that specifically focusses on the diverse range of response organisations and stakeholders involved in the management of animals and their owners in emergencies. There are challenges to the co-ordination of relevant public and private organisations during emergencies, including cultural, organisational, jurisdictional and legal barriers (Janssen *et al.* 2010). Indeed, as Irvine (2007) argues, animal stakeholders of all kinds 'have unique needs in disaster planning and response' (Irvine 2007). Therefore, there is a need for research that understands the distinctive operational, social, political, and economic factors in Australia that influence the varied stakeholders who encounter the human-animal interface in emergencies. This study begins to address this gap by exploring the challenges and notions of responsibility of various stakeholders including departments of primary industry, emergency services organisations, and local councils in Australia.

Understanding the experiences and attitudes of those involved with the management of animals during emergencies helps the development of best practice approaches to animal welfare emergency management that provides engagement with animal owners and other stakeholders in emergencies. This includes improving outcomes for public safety and the resilience of responders, animal owners, those with animal-related businesses, and communities. This study, along with a mirror study with frontline responders (Taylor *et al.* 2014) and studies with animal owner groups, was undertaken to aid the understanding of the breadth and the relative extent of the issues encountered, and the perspectives of a range of different response organisations and stakeholders operating in Australia.

Method

Survey design: An online survey was developed to explore a range of potential issues and challenges related to the management of animals and their owners in emergencies. The survey design and content were guided by prior research (Taylor *et al.* 2014). The survey was administered online via *SurveyMonkey*TM and data were collected over a six-week period, from mid-July to end-August 2014.

Sampling: A two-stage approach was used for sampling. A set of core response organisations was identified comprising all the state and territory fire agencies, State Emergency Services, police services, departments of primary industry, environment agencies, Australian Veterinary Association regions, RSPCA divisions, and relevant government agencies and Industry peak bodies (n=82). Invitations to take part in the study were sent to the Senior Director/Head of each organisation with a request to nominate someone from the organisation to complete the survey. In the second stage, a set of expert contacts from across animal health and welfare organisations, industry associations, local government, non-government

organisations (NGOs), and other stakeholder groups was identified (n=86) and invited to participate.

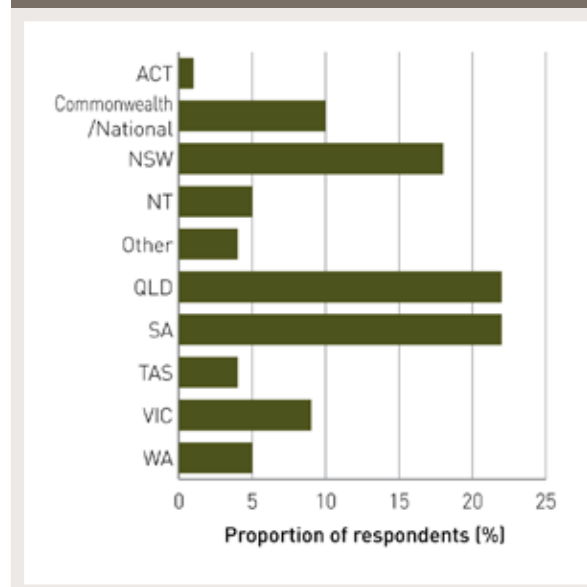
Analysis: Data from the survey were analysed using *IBM SPSS V.21*TM. Simple descriptive statistics are presented to provide an overview of the top-level data.

Results

Sample description

Data were collected from 98 respondents representing 68 organisations. The response rate from the core response sample was 66 per cent (54/82) and from the expert contact sample it was 51 per cent (44/86); the overall response rate for the survey was 56 per cent (94/168). Figure 1 summarises the jurisdictional distribution of the responses.

Figure 1: Jurisdictional distribution of respondents/responding organisations.



Respondents were asked to provide the name of their organisation. These organisations were categorised to aid analysis. Table 1 summarises these organisational categories.

As data in Table 1 show, the four largest organisational categories in the sample were emergency services organisations, primary industries, local government, and animal-related organisations. Respondents were asked to identify the oversight of their role within the organisation and most identified emergency management (68 per cent), operational response (67 per cent), animal management/animal welfare (64 per cent), and community engagement/disaster preparedness (60 per cent).

Table 1: Organisational category of sample.

Category	Organisation types/examples	N	%
Emergency services	Fire agencies, State Emergency Services, Police	25	25.5
Primary industries	State/Federal departments of primary industry	20	20.4
Local government	Councils	14	14.3
Animal-related organisations	Industry associations, animal welfare organisations, Australian Veterinary Association, wildlife care	21	21.4
RSPCA	State organisations	5	5.1
Other government agencies	Government agencies – Environment/Parks	8	8.2
Human welfare	NGOs, Human/Community services	3	3.1
Other	Independent/not included elsewhere	2	2.0

Operational responsibility for animal management and awareness of arrangements

In opening the survey participants were asked whether they felt their organisation should have responsibilities for the management of animals in emergency situations. Overall, 46 per cent felt that their organisation should have responsibilities, 41 per cent felt they shouldn't, and 13 per cent were unsure. Figure 2 summarises the responses by organisational category.

Although respondents from some organisational groupings clearly felt they should have responsibilities for the management of animals, such as primary industries and RSPCA, others, such as emergency services organisations did not (72 per cent 'no'). Interestingly, local government and other government agencies were least sure with a more even split in views across the three response options.

Respondents were asked whether they were aware of any formal animal emergency response and recovery arrangements in their state. Overall, two thirds (66 per cent) reported they were, 19 per cent reported that they weren't, and 14 per cent were unsure. Figure 3 summarises these data by organisational category.

Figure 3 shows the majority of respondents reported they were familiar with response and recovery arrangements, especially those in primary industries, however other groups were less certain or less aware. Many respondents provided comments in relation to this section of the survey. Mostly they outlined their organisation's role or position in the broader emergency context, or they identified the RSPCA as playing a major role, or they were focussed at the local level and were less certain of how their organisation's role was co-ordinated with that of others.

Problems or difficulties around the management of animals and their owners.

This section of the survey included questions about the general level of problems or difficulties encountered by respondents' organisations around the management of animals and their owners. A second question asked the extent to which a set of ten further, more specific, potential challenges were encountered. Table 2 summarises the overall extent of problems in this area across the whole sample and Figure 4 shows a numeric value assigned to each response option to simplify the data and provide a mean rating for each organisational category.

Table 2: Extent of difficulties faced around the management of animals and their owners.

In general, are there problems or difficulties for your organisation around the management of animals/ animal owners in disasters/ emergencies?	N	%
No, none at all	7	7.6
Some minor or rare issues	29	31.5
Occasional or recurring issues	39	42.4
Significant or frequent issues	13	14.1
Very serious or severe issues	4	4.3

Data in Figure 4 indicate that greater/more serious issues were reported by RSPCA representatives, followed by those from Primary Industries. Respondents from emergency services organisations reported the least issues.

Figure 5 presents mean rating data for ten specific challenges that might be encountered by response organisations and other stakeholders. These data are broken down to summarise the responses of the four largest organisational groups in the survey.

Figure 2: Do you think your organisation should have responsibilities for management of animals in disaster/emergency situations?

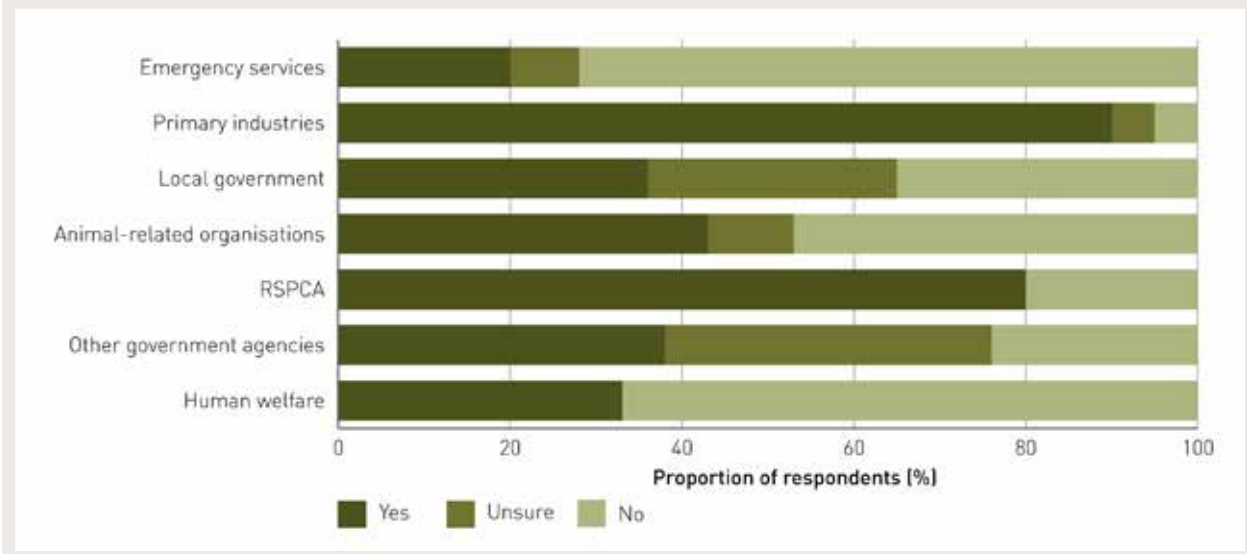


Figure 3: Are you aware of any formal animal emergency response and recovery arrangements within your State?

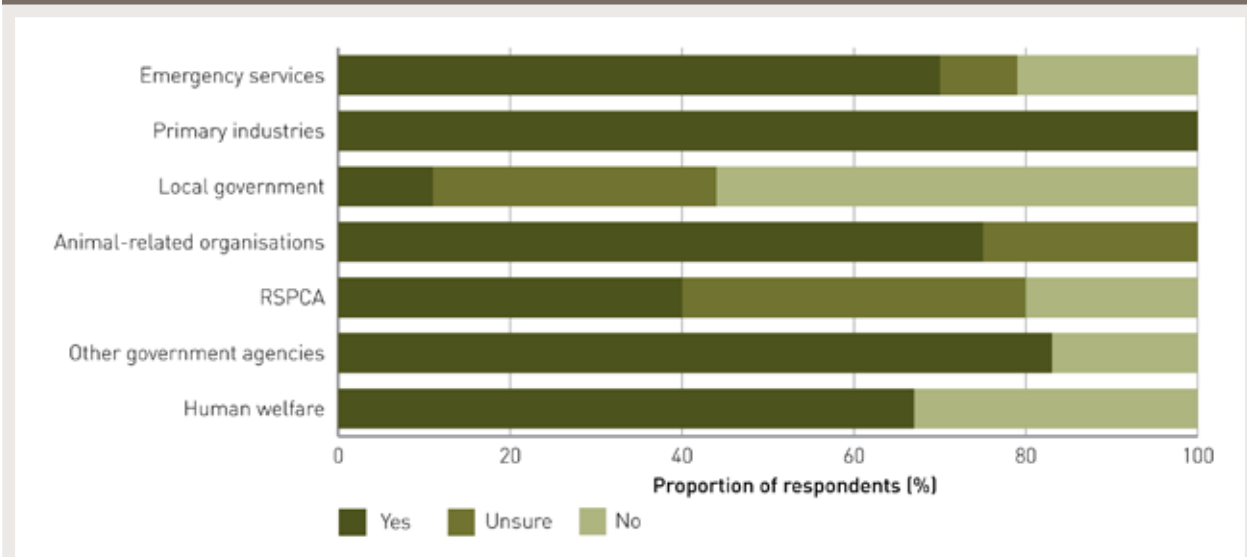


Figure 4: Mean ratings of general extent of problems or difficulties experienced in the management of animals and their owners. (1='No, none at all'; 5='very serious or severe issues').

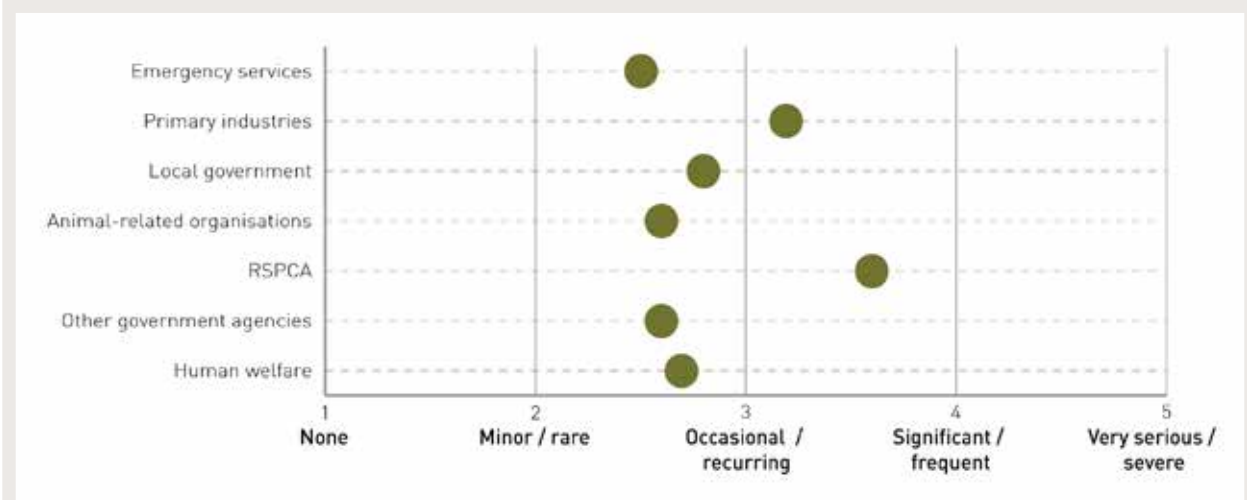


Figure 5: Mean ratings of problems or difficulties experienced in the management of animals and their owners, broken down by the four largest organisational groups in the sample. (1= 'No, none at all'; 5 = 'very serious or severe issues').

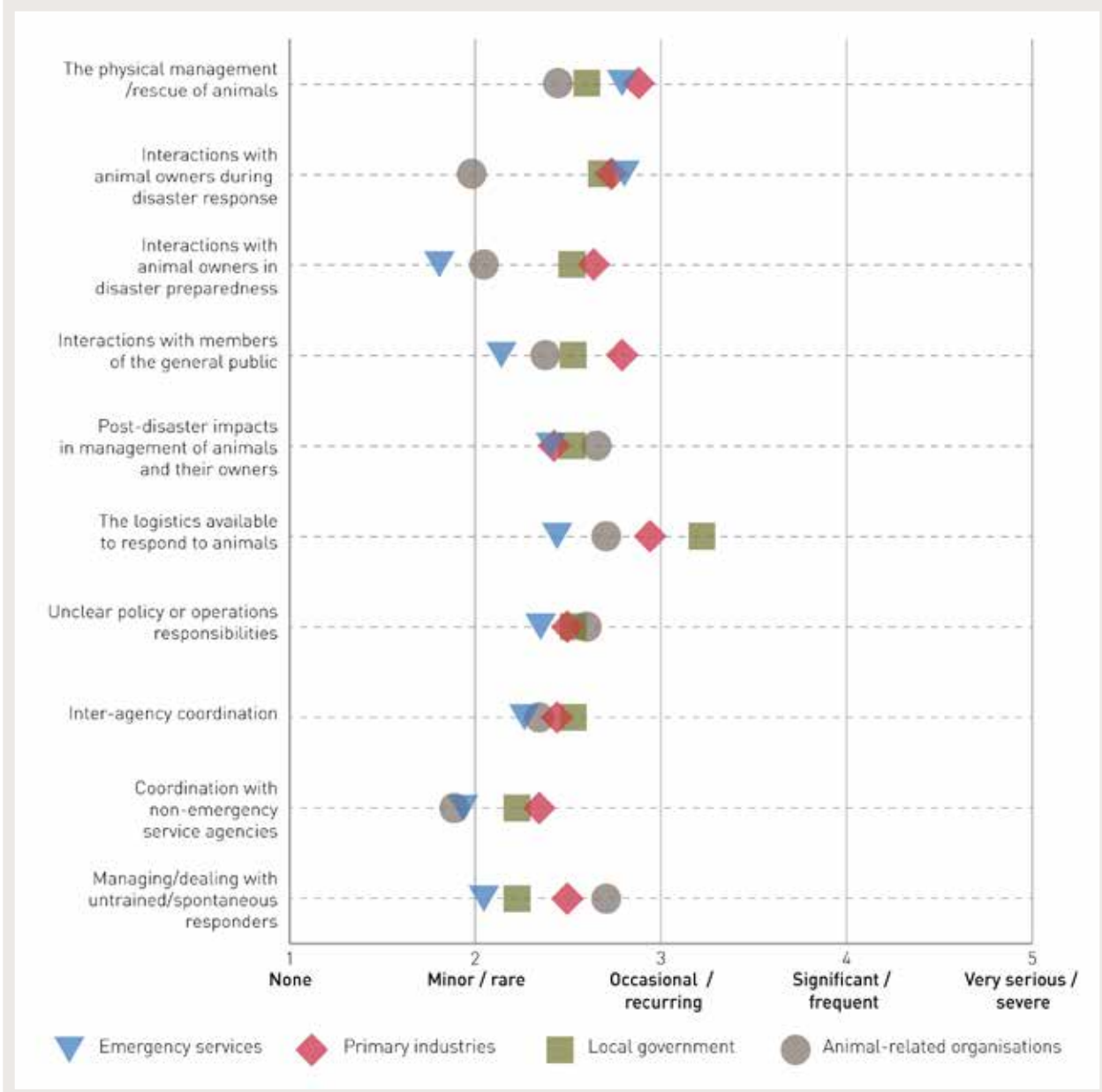


Figure 5 shows there was variability in the mean ratings across areas and between the organisational categories for each area. In many areas these differences were quite small and unlikely to be statistically significant. Logistics issues were a greater challenge for many organisations overall, and specifically for the primary industries and local government organisations. Emergency services organisations indicated that physical management of animals and interactions with animals and owners during response were greater issues. Physical management of animals and interactions with the general public were slightly greater challenges for Primary Industry organisations and local government, and managing untrained/spontaneous animal-related responders and post-emergency impacts appeared to be greater challenges for animal-related organisations.

Discussion

The data represents the views of a large number of response organisations and other stakeholders that have a level of involvement in the management of animals and their owners in emergencies.

In terms of organisational responsibility it is clear that primary industries organisations generally feel that this should be their responsibility and they report being aware of the relevant response and recovery arrangements. They are also a group likely to encounter greater challenges in this area, especially around the logistics of response (personnel and equipment) and interactions with members of the general public with regard to animals in emergencies. In most states and territories the Primary Industries

agency is the lead agency for animal welfare emergency management.

Emergency services organisations, however, generally feel they should not have this responsibility and report being less aware/more unsure of the relevant response and recovery arrangements. This finding is fairly unsurprising, given that the primary role of many of the agencies in this group is to manage the hazard/s and to protect human life. However, it is also clear that frontline responders from these organisations are most likely to be the ones on the scene during a response when issues with animals and owner management arise. The nature of the specific challenges reported by emergency services organisations reflects this, with issues around the interaction with owners during response and the physical management and rescue of animals being the ones reported as more frequent or serious.



Paracombe and Tea Tree Gully CFS volunteers lead dogs to safety during a fire in the Adelaide Hills, South Australia 2014.

The responses of local government stakeholders indicate that overall views on the level of responsibility in this area are mixed, and awareness of relevant arrangements is lower than for other groups. Furthermore, local government respondents reported a broader range of challenges in this area including inter-agency co-ordination, unclear policy/responsibilities, and post-emergency impacts, in addition to those already mentioned (e.g. logistics). The reasons for these results are unclear. Variability in the sample in terms of respondents' jurisdictions/locations and therefore their formal responsibilities in this area, or less familiarity with emergency arrangements *per se*, may help to explain this. It is highly likely, though, that local government organisations are more diverse as a group than the emergency services organisations

and primary industry groups in the sample, and are focussed at a local level with regard to emergency management. It is also true that in this study they were not sampled systematically in the way the other two groups were.

Animal-related organisations are another diverse group in the sample and their responses reflected a degree of variability, probably because some represent industry associations, some veterinary care, and others animal welfare. The challenges are varied also; more aligned to those of local government than to the other two larger organisational groups. In addition to the challenges already mentioned, animal-related organisations reported greater issues with untrained/spontaneous responders.

Due to lower representation of some groups in the study sample, less has been reported about those groups. The RSPCA responses stand out, in terms of their views on organisational responsibility and the extent of challenges faced in the context of emergencies. As a charity organisation the response and recovery role of the RSPCA is complex and the extent of its role in any given situation may depend on local or state government arrangements even though many other organisations, as well as the general public, identify the RSPCA as a focus for animal rescue and management at these times. The challenges for expectation management are evident, with the RSPCA often experiencing a mismatch in their role and other agency/individual perceptions regarding animal welfare emergency management.

In reflecting on the study, the views of a wide range of response organisations and other stakeholders were elicited providing useful and informative insights in this area, in an Australian context. Although the sample was extensive it should be kept in mind that each organisation has specific roles and responsibilities within its jurisdiction and, in addition, response, management and perceived roles may vary depending on the nature of the emergency and the type of animal being managed. As the survey sought to obtain a 'generalised' overview of this area it is likely that important local or specific issues may not be identified. Similarly, the survey was answered by only one person (occasionally two) in each organisation, albeit with the request to represent the views of the organisation more broadly. This approach has clear limitations and certain groups, such as local government, were represented in a limited/non-random way. Some caution should be taken in generalising these findings.

Conclusion

This is the first empirical identification of the challenges faced by a range of Australian response organisations and stakeholders when managing animals in emergencies. All organisations had a stake in managing animals in emergencies and all had experienced problems or difficulties. To minimise risk and confusion, avoid duplication, strengthen inter-agency collaboration and support frontline responders

and animal owners, the findings suggest there is a need for the sector to improve the clarification and communication of roles and responsibilities for managing animals during emergencies.

These study findings are being used to prioritise research as part of a project in the Bushfire and Natural Hazards CRC, and they will be used to guide discussions about the range of issues faced before, during, and after emergencies to help inform policy and training.

Acknowledgements

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References

- Animal Health Alliance 2013, *Pet ownership in Australia*. At: <http://223.27.22.40/~sh10135/wp-content/uploads/2013/08/Pet-Ownership-in-Australia-2013-Summary-report-2013.pdf> [Accessed 28/11/2014].
- Austin JJ 2013, *Shelter from the storm: Companion animal emergency planning in nine states*. *Journal of Sociology and Social Welfare*, 40, 4, pp. 185-210.
- COAG 2011, *National Strategy for Disaster Resilience: Building Our Nation's Resilience to Disasters*, Council of Australian Governments, Canberra, Australia.
- Edmonds AS & Cutter SL 2008, *Planning for pet evacuations during disasters*. *Journal of Homeland Security and Emergency Management*, 5, p. 1.
- Hall MJ, Ng A, Ursano RJ, Holloway H, Fullerton C, & Casper J 2004, *Psychological Impact of the Animal-Human Bond in Disaster Preparedness and Response*. *Journal of Psychiatric Practice*, 10 (6), pp. 368-374.
- Heath SE, Kass PH, Beck AM & Glickman LT 2001, *Human and Pet-related Risk Factors for Household Evacuation Failure During a Natural Disaster*. *American Journal of Epidemiology*, 153, pp. 659-665.
- Heath SE, Voeks SK & Glickman LT 2001, *Epidemiologic features of pet evacuation failure in a rapid-onset disaster*. *Journal of the American Veterinary Medical Association*, 218, pp. 1898-1904.
- Hunt M, Al-Awadi H & Johnson M 2008, *Psychological Sequelae of Pet Loss Following Hurricane Katrina*. *Anthrozoos: A Multidisciplinary Journal of The Interactions of People & Animals*, 21(2), pp. 109-121. doi: 10.2752/175303708X305765.
- Irvine L 2007, *Ready or Not: Evacuating an Animal Shelter During a Mock Emergency*. *Anthrozoos: A Multidisciplinary Journal of The Interactions of People & Animals*, 20(4), pp. 355-364. doi: 10.2752/089279307x245482.
- Janssen M, JinKyu L, Bharosa N & Cresswell A 2010, *Advances in multi-agency disaster management: Key elements in disaster research*. *Information Systems Frontiers*, 12(1), pp. 1-7. doi: 10.1007/s10796-009-9176-x.

Leonard HA & Scammon DL 2007, *No Pet Left Behind: Accommodating Pets in Emergency Planning*. *Journal of Public Policy and Marketing*. 26, pp. 49-53.

Lowe S, Rhodes J, Zwiebach L & Chan C 2009, *The Impact of Pet Loss on the Perceived Social Support and Psychological Distress of Hurricane Survivors*. *Journal of Traumatic Stress*, 22(3), pp. 244-247.

Taylor M, Eustace G, Smith B, Thompson K, Westcott R & Burns P 2014, *Managing Animals in Disasters (MAiD): The experiences of emergency services personnel in supporting animals and their owners in disasters*. *Proceedings of the Bushfire and Natural Hazards Cooperative Research Centre Research Forum*, Wellington, NZ. At: www.bnhcrc.com.au/publications/biblio/bnh-1562.

Thompson K 2013, *Save me, save my dog: Increasing natural disaster preparedness and survival by addressing human-animal relationships*. *Australian Journal of Communication*, 40, pp. 123-136.

White JI 2014, *Supporting the Information Management Needs of People Helping Animals in Disasters*. Paper presented at the Proceedings of the 18th International Conference on Supporting Group Work, Sanibel Island, Florida, USA.

Zottarelli LK 2010, *Broken Bond: An Exploration of Human Factors Associated with Companion Animal Loss During Hurricane Katrina*. *Sociology Forum*, 25, pp. 110-122.

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Appendix 6. Australian peer-reviewed research articles in the area of animals in disasters/animal emergency management (2012 – 2015)

Many of these references are 'open access' and therefore easily accessible to the general public.

Taylor M, Lynch E, Burns P, Eustace G (2015), The preparedness and evacuation behaviour of pet owners in emergencies and natural disasters, *Australian Journal of Emergency Management*, Volume 30:2.

Taylor M, McCarthy M, Burns P, Thompson K, Smith B, Eustace G (2015), The challenges of managing animals and their owners in disasters: perspectives of Australian response organisations and stakeholders, *Australian Journal of Emergency Management*, Volume 30:2.

Trigg J, Smith B, Thompson K (2015) Does emotional closeness to pets motivate their inclusion in bushfire survival plans? Implications for emergency communicators, *Australian Journal of Emergency Management*, Volume 30:2.

Thompson K (2015) For pet's sake, save yourself! Motivating emergency and disaster preparedness through relations of animal guardianship, *Australian Journal of Emergency Management*, Volume 30:2.

Smith B, Taylor M, Thompson K (2015) Risk perception, preparedness and response of livestock producers to bushfires: a South Australian case study, *Australian Journal of Emergency Management*, Volume 30:2.

Rogers J, Scholz T, Gillen A (2015) Dealing with livestock affected by the 2014 bushfires in South Australia: decision-making and recovery. *Australian Journal of Emergency Management*, Volume 30:2.

Thompson K, Leighton M, Riley C. (2015) Helping hands, hurting hooves: The need for a multidisciplinary paradigm of large animal rescue. *Australian Journal of Emergency Management* 2015, Volume 30:2. 53-58.

Trigg J, Thompson K, Smith B, Bennett P. (2015) Engaging pet owners in disaster risk and preparedness communications: Simplifying complex human-animal relations with archetypes. *Environmental Hazards* 1.

Every, D.; Due, C.; Thompson, K.; Ryan, J. (2015) "I know it sounds silly, but my pets mean the world to me": Conflicting perspectives on animal rescues in natural disasters. *Society and Animals* (in press).

Taylor M, Eustace G, Smith B, Thompson K, Westcott R, Burns P (2014), *Managing Animals in Disasters (MAiD): The experiences of emergency services personnel in supporting animals and their owners in disasters*. Proceedings of the Bushfire and Natural Hazards Cooperative Research Centre Research Forum, Wellington, NZ.

Due, C, Thompson, K, Every, D (2014), 'An image of hope in a week of despair': representations of 'Sam the Koala' in the Australian mainstream news media', *Media International Australia*, vol. 151, pp. 47-55

Taylor M, Eustace G, Burns P (2014), *Managing Animals in Disasters (MAiD) Improving preparedness, response and resilience through individual and organisational collaboration Knowledge Exchange Workshop Summary Report, Bushfire and Natural Hazards Cooperative Research Centre.*

Thompson K, Every D, Rainbird S, Cornell V, Smith B and Trigg J (2014) *No Pet or Their Person Left Behind: Increasing the Disaster Resilience of Vulnerable Groups through Animal Attachment, Activities and Networks. Animals 2014.*

Thompson K, Every D, Cornell V, Rainbird S, Smith B, Trigg J (2014) *Animal Attachment and Disaster Resilience in Vulnerable Communities in Australia - A Literature Review.*

Coll E. (2013) *The case for preparedness: Quantification of production losses due to livestock deaths from disasters in Australia. Paper prepared for the World Society for the Protection of Animals, February 2013.*

Thompson K. 2013. *Save me, save my dog: Increasing natural disaster preparedness and survival by addressing human-animal relationships. Australian Journal of Communication, 40, 123-136.*

Camilleri P, Healy C, MacDonald E, Nicholls S, Sykes J, Winkworth G, and Woodward M (2012) *Recovery from the ACT bushfires: The experience of the 2003 Canberra bushfires three years after*

White S, (2012) *Companion Animals, Natural Disasters and the Law: An Australian Perspective, Griffith Law School, Griffith University.*