

ABSTRACT

Incorporating animals into emergency management is complex and involves many stakeholders who may not be core members of the emergency management system. This presents challenges as individuals and groups with veterinary and animal rescue knowledge are called upon, or offer, their assistance during emergency events. This paper uses a case study of the animal emergency management response during bushfires at Sampson Flat in South Australia in January 2015. South Australia incorporates animal welfare into emergency management planning and response arrangements. This case study draws on in-depth interviews with people directly involved in animal care during the bushfire response and examines their contributions and the successes and challenges involved in the response. The interviews revealed that the overall response was considered a success, especially in the areas of cooperation and coordination among the groups involved and the positive outcomes for animal welfare. The challenges identified related to communication, engaging with volunteers and staffing the response. This paper offers an example of best practice for animal welfare in emergency management. The challenges, and the responses to them, show the importance of flexibility, cooperation and learning from experience.

Animal emergency management in South Australia: a case study of the Sampson Flat bushfire

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Introduction

In recent years there has been increased recognition that animals need to be considered and integrated into emergency management and disaster response. Such considerations pose additional challenges for those involved in responding. Extra preparation, knowledge and skills are required to ensure the safety of animals, their owners and responders (Austin 2013, Edmonds & Cutter 2008, Leonard & Scammon 2007, White 2014). The behaviour of people during a natural hazard emergency is influenced by animals, whether owned or unowned. It is documented that people risk their lives to rescue animals or do not evacuate in order to protect their pets. These actions can endanger the lives of others, especially responders involved in rescue (Bird *et al.* 2011, Coates 19, Haynes *et al.* 2016; Heath, Beck, *et al.* 2001, Heath, Voeks, *et al.* 2001, Irvine 2006, Smith & McCarty 2009).

Consideration of animals also requires the integration of other response agencies, such as agricultural agencies and primary industries. In addition, 'secondary responders' may be included, such as the RSPCA and local veterinarians. Inclusion of these secondary responders enhances capacity, although resources may still be stretched. Members of the public can also provide additional capacity if they have skills in animal rescue and animal handling that are scarce in formal response teams.

There is little research documenting the experiences of animal emergency management in Australia. However, there is an increased awareness of the importance of plans and legislation considering animals and their owners in emergency situations (Taylor, Eustace *et al.* 2015). Recent research in Australia as part of the Bushfire and Natural Hazards CRC Managing Animals in Disasters (MAiD) project showed that emergency services organisations and stakeholder groups face challenges and uncertainty regarding their roles and responsibilities in the management and rescue of animals and in their interactions with owners of animals (Taylor, McCarthy *et al.* 2015). In some jurisdictions, ambiguity surrounding official responsibilities, a more distributed response system and increasing media coverage of animals in the wake of natural hazard emergencies can contribute to the public perception of a vacuum in emergency response in this area. This has led to 'spontaneous volunteers' attempting to rescue animals or assist animal owners in

dangerous situations. While these people may be well-meaning, they are untrained in emergency management.

Optimisation of animal response coordination in emergency situations is needed. The case study, part of the MAiD project, looks at the animal emergency response during the Sampson Flat bushfire and examines the contributions of different groups. It includes discussion of the successes and challenges of the response and reflects on how the inclusion of animal organisations within the official response structure may help to manage spontaneous volunteers.

Method

Ten in-depth interviews were conducted with people directly involved in the animal response during the bushfires at Sampson Flat. Participants were recruited from the researchers' networks and snowball sampling. This included five interviews with representatives from animal-related organisations included in the South Australia State Emergency Management Plan (SEMP). In addition, representatives from non-animal-related official response organisations were interviewed due to their involvement or familiarity with the response. Three interviews were conducted with staff from the Adelaide Zoo and the volunteer group, Fauna Rescue South Australia. These organisations are not 'Participating Agencies' under the SEMP, however, they were invited to assist in the recovery phase (Table 1).

Interviews were semi-structured using an interview guide gathering participant backgrounds in animal-

Table 1: Number of interviews conducted and the organisations represented in the sample.

Organisation status	Organisation	Number of interviewees
Officially in SEMP (animal)	SAVEM	2
	RSPCA South Australia	1
	Animal Welfare League	1
	Primary Industries and Regions South Australia	1
Officially in SEMP (non-animal)	South Australia Police	1
	Country Fire Service	1
Not included in the SEMP (animal)	Adelaide Zoo	2
	Fauna Rescue South Australia	1
Total		10

related emergency management and the experiences

of the Sampson Flat bushfire. The semi-structured nature of the interviews allowed for emergent themes to be explored. All interviews were audio recorded and transcribed. Interview data were coded and analysed using qualitative research analysis software NVivo 11. The interviews were used to document the animal-specific response during and after the Sampson Flat bushfire. In addition, major themes emerging from the interviews relating to the successes and challenges faced by individuals and organisations were included.

Attempts were made to recruit spontaneous volunteers who endeavoured to help during the Sampson Flat bushfire. Interviews were conducted with some volunteers, however, they all had previous natural hazard emergency experience and were part of an established organisation. No non-affiliated spontaneous volunteers were located to participate in this study. This may be due to the nature of spontaneous volunteering as it occurs during the emergency event and initial recovery phase, and these volunteers have no ongoing organisational affiliation to identify and contact them. Furthermore, the relatively well-developed animal emergency management arrangements in South Australia may mean there is less opportunity, or need, for spontaneous volunteers.

This research was approved by the Macquarie University Human Research Ethics Committee (Ref. No. 5201500803).

Animal emergency management arrangements in South Australia

South Australia has an integrated approach to managing animals during natural hazards comprising of emergency management doctrine that references animals. The *Emergency Management Act 2004* and *Animal Welfare Act 1985* caters for animals (Taylor, Eustace, *et al.* 2015). The SEMP outlines flexible regulations and comprises functional services incorporating different areas of expertise, each with their own Participating Agencies. The Participating Agencies for the Agricultural and Animal Services Functional Service (AAS) (now referred to as Agricultural and Animal Services) have responsibilities for animals (Westcott & Prelgauskas 2013).

Primary Industries and Regions South Australia (PIRSA) is the lead agency for the AAS with specific responsibility for livestock in emergencies (PIRSA 2017). Participating Agencies include animal organisations such as the RSPCA and Animal Welfare League (AWL). South Australian Veterinary Emergency Management Inc. (SAVEM), a volunteer-based registered charity, is also a Participating Agency established to enable the veterinary community in South Australia to mount an effective response to an emergency incident involving animals. SAVEM is unique to South Australia with the 'appropriate resources to enter a disaster area post-event and to search for and manage all animals (in particular companion animals, wildlife and horses) in a holistic veterinary context' (Westcott & Prelgauskas



A Fauna Rescue volunteer treating an injured koala. Volunteers with animal rescue and emergency management training are a crucial component in animal emergency response.

Image: Rachel Westcott

2013, p. 49). Registered volunteers include vets, vet nurses and wildlife carers who have completed SAVEM training in emergency management. This allows sufficient, on-call resources with dedicated emergency management training and authorisations under the SEMP (Westcott & Prelgauskas 2013). Within the AAS, SAVEM and RSPCA staff have authority to enter a fire ground when deemed safe by the South Australia Country Fire Service (CFS). In addition, SAVEM has the authority to invite other groups to participate when further assistance and skills are required away from the foreground.

The Sampson Flat fire

Sampson Flat is 30 km northeast of Adelaide in the Adelaide Hills. The area is about 6 km from the peri-urban interface and includes a high number of residents who commute to the city for work meaning they are away from home during the day. The area is home to many hobby farms and numerous horse agistment properties (Every *et al.* 2016). The Sampson Flat bushfire started on 2 January 2015 and burned for six days until it was classified as 'contained' on 7 January. The bushfire burnt approximately 12,500 ha within a perimeter of 237 km destroying 24 homes. Although there was no loss of human life, the animal toll was significant with reports of 960 sheep, 30 cattle, two horses and 10 dogs and cats dying as a result of the bushfire (Every *et al.* 2016). The actual numbers are, however, believed to be significantly higher as there is no requirement to report animal death. In addition, countless numbers of wildlife perished and a dog and cat boarding facility burnt down resulting in the death of over 40 animals. The loss of this boarding facility gained significant media and community interest.

Sampson Flat animal response

When the bushfire started, those within the AAS liaised with PIRSA and took direction from the Chief Veterinary Officer. They were told it would be approximately 48 hours before they would be allowed onto the fire ground. During this time SAVEM prepared their first response team and took phone calls from community members requesting assistance. Calls came from people who were unable to take their animals when evacuating their homes and those still at home in the fire ground who had concerns about their own animals or wildlife. All of these calls were logged to be responded to when it was safe for allied official organisations to enter the fire ground.

On 5 January, SAVEM and RSPCA staff were briefed with staff from CFS and South Australia Police. They were able to enter the fire ground, although some areas were still unsafe and inaccessible. Two SAVEM teams were deployed; initially one was with an RSPCA vehicle responding to requests from community members. The other team included a vet, scribe, vet nurse and a spotter/carer who would survey particular sections of the fire ground. They would attend to injured animals to determine if they could be treated on the fire ground, needed to be taken away for treatment, or euthanised. SAVEM set up a field clinic at the oval in Kersbrook. This provided a place where animals could be brought from the fire ground for further treatment. After their initial treatment at the oval, animals could then be collected and taken into the care of other animal organisations or private veterinarians.

Research findings

Successes

The main successes of the response as reported by interview participants were in the two areas of:

- cooperation and coordination
- animal welfare.

The cooperation and coordination of the response, led by SAVEM, was noted by interview participants as a particular success. Prior to each bushfire season, SAVEM, RSPCA and AWL establish how they will cooperate during an event, identifying the main tasks and priorities. In the initial days of the response, SAVEM and RSPCA focused on animal welfare assessment and treatment of animals in the fire ground. When required, animals were transported elsewhere for further treatment. AWL complemented the work of SAVEM and RSPCA by:

- opening their shelter facilities so community members could board their animals if they evacuated
- transporting animals from the oval in Kersbrook to, for example, Adelaide Zoo or private veterinarian clinics for further treatment
- offering their animal cremation facility at no charge to bereaved community members to cremate their dead animals
- coordinating donations of goods from the public with the RSPCA
- updating their website and social media channels with information about the animal response.

SAVEM has the authority to communicate with people and groups outside of the official structure to assist with their duties. During the Sampson Flat response and recovery, assistance was required with the treatment and care of large numbers of injured wildlife. This led to contact with Adelaide Zoo and Fauna Rescue. SAVEM volunteers used their networks to fill gaps in capacity. One volunteer recalls:

We were getting these joeys and koalas that were coming in injured and so they just couldn't go to a wildlife carer because they were injured...one of our senior office vets is a part-time worker at the zoo and he said, 'Look, I think we'll ask the zoo if we can send animals there?' Which is what we did and that happened...they were great and they had their staff pro bono round the clock... that was a bit of an incidental finding, and we've had more debriefing and meetings with them as well over the last two months.

Before the bushfire, a volunteer from Fauna Rescue had completed the first stage of SAVEM training. As such, she was able to provide the needed expertise in koala rescue and rehabilitation. She stated:

There was a koala that was very high up in a tree. They couldn't get a cherry picker in there so they rang me and so I got myself and two other rescuers and went out there with the team. They had to come with us,

the SAVEM people, they actually saw how we rescued the koala...that was good for them to see. They did not know what we could do.

Having staff with veterinary and emergency management training permitted to enter the fire ground is important for animal welfare. It enables a quick response, which is crucial for alleviating animal suffering. RSPCA officers have the jurisdiction to enter properties without owner permission to assess, treat or euthanise animals. SAVEM and RSPCA cooperated in ways each other felt important. For SAVEM staff, having an RSPCA officer with them meant they could respond to animal needs without permission to enter a property. As an RSPCA officer stated:

Under the Animal Welfare Act we're authorised to inspect [animals]. So we can enter a property without permission for the purposes of rescuing an animal and I can take anyone with me who I deem would be helpful in my role. So, that's the way that SAVEM could come with us and assess animals on properties without getting themselves in trouble for trespassing.

For RSPCA officers, SAVEM volunteers provided on-hand veterinarian and emergency management expertise to assist in assessing situations and providing treatment.

Interview participants valued their work due to improved animal welfare and they recognised the link between animal and human wellbeing. As a SAVEM volunteer noted, 'the main reason for [treating some animals rather than euthanising], apart from the fact that its good animal welfare, was the psychological wellbeing of the community'. SAVEM and RSPCA received many calls from people effected by the bushfire requesting them to check their animals. SAVEM received 80 requests for assistance in the first three days of the response and they responded to over 750 calls in the six weeks after the fire. In many cases this involved a welfare check and ensuring animals were healthy and had access to food and water. Others required treatment or euthanasia if suffering could not be alleviated.

There is an increasing expectation that animals should be included in emergency response. This was recognised by the AWL by its opening of its shelter facilities for the pets of people who needed to evacuate. As an AWL staff member commented:

The people who needed to evacuate and were perhaps reluctant to because they had pets [could] bring their pets down to us at Edinburgh north [where the shelter is located]. So, to sort of help them to make that decision to leave.

This is significant, as animals, with the exception of assistance animals, are not permitted to enter evacuation and relief centres in South Australia (PIRSA 2017).

Challenges

The challenges that emerged during the Sampson Flat bushfire response, as identified by interview participants, were in three areas of:

- communication
- engaging with volunteers
- staffing the response (this includes sufficient numbers of personnel and ensuring physical and psychological wellbeing).

Although organisations within the official response had discussed ways and channels of communication in preparation for an event, some still felt uncertainty about their role. As one animal welfare worker noted:

...we sort of felt, is there something else we should be doing? Or should we not be doing this? Or are we doing this correctly? That sort of thing... communication around what's going on now, where's it heading now, that sort of thing that I think we sort of thought we might be more in the loop about.

Organisations and individuals involved in previous responses were more confident about their roles and actions. In response, those with experience provided support to those with concerns and worked together to provide clarification of roles and updates on progress. After the recovery phase concluded, one organisation strengthened their internal policies and staff information related to their role in future events.

Further challenges emerged regarding lack of knowledge about disasters and emergency management among volunteers. Some volunteers with significant wildlife rescue knowledge offered to help on the fire ground, but were unable to without having completed SAVEM training. This was a cause of frustration for those wanting to assist. In response, SAVEM staff discussed with them the personal danger of entering the fire ground and strongly encouraged these volunteers to complete the training to enable them to be deployed in future events.

The response to the Sampson Flat bushfire was long; SAVEM and RSPCA were active on the fire ground for eight weeks. Adelaide Zoo and Fauna Rescue continued looking after animals for four months before releasing them back into the bush. Combined with high levels of volunteerism, this created challenges for staffing. Volunteering was crucial to the animal response to the bushfire. SAVEM, for example, has no paid staff and relies on people volunteering their time. Other participating agencies such as RSPCA and AWL have paid staff who have an obligation to respond if activated in an emergency. However, their other day-to-day duties continue. As a staff member from RSPCA explained:

We don't have a lot of staff resources and so we couldn't just throw our entire staff at the effort because we still had our core business that we had to attend to. People are still cruel to animals and animals still need rescuing, so we have to still provide those services while endeavouring to help in Sampson Flat as well.

Paid workers were considered to be 'volunteering' for long hours during the response and for many weeks after. Staff at the Adelaide Zoo found the assistance they offered a significant commitment. As one staff member commented:

I would say, it took a good couple of weeks before we actually realised the extent of what we put ourselves into because firstly, you're just doing first aid on animals...but they were with us for four months and needed initially, daily bandage changes and then three daily bandage changes and then weekly bandage changes, and all of them had to be done under anaesthetics. So suddenly we were doing like six, seven, eight anaesthetics a day and they were taking an hour or so each.

For many workers their personal contribution and sacrifice of work and personal time was significant. Time committed to volunteering can result in conflict between the demands of family and the demands of volunteering, contributing to the risk of burnout (Kulik 2006). SAVEM was able to rotate 70 trained volunteers over the course of the response, although other groups reported difficulties in this area. In addition to rotation of tasks, the risks involved with this level of commitment can be reduced through a system of debriefings and access to psychological first aid programs. The interview participants reported they reflected on the successes and challenges of the response both internally and through a formal process of after action reviews with other organisations. The aim was to improve both human and animal wellbeing in future responses.

Discussion

The experience of the response at Sampson Flat contributes to the understanding of, and raises some important questions about, the management of animals in disasters and emergencies. Official arrangements in South Australia extend beyond animal welfare and the logistics of animal movement, feeding and placement. There is recognition of the link between animal welfare and human wellbeing, which is responsive to community member concerns about animals.

SAVEM occupies a unique space in emergency management in Australia; volunteers are trained in emergency management and function within the established system. Yet, SAVEM differs from traditional emergency volunteering in two ways. Firstly, the ability and desire to coordinate with other animal-related organisations outside of the official structure displays a certain level of improvisation and innovation often associated with emergent volunteer groups (Whittaker *et al.* 2015, p. 362). This enables some of the skill and knowledge gaps that appear during a response to be filled. Secondly, SAVEM training is important to help people with the interest and skills in animal rescue and handling to be deployed when needed without making a long-term commitment to emergency volunteering. This is one way for those who may otherwise be spontaneous volunteers to contribute and be properly managed, thus improving safety and managing risk.

Still, many people are not motivated to do training prior to an event creating considerations of how to resource future responses. The experience of Sampson Flat highlights how events are unpredictable, meaning not

all prepared operational guidelines will be followed (Carlton & Mills 2017). In addition, when relying on volunteers, staffing is unstable due to multiple factors, including professional and personal pressures. As the findings suggest, despite clear plans and a perception of predetermined roles, there is a need for clear expectations around communication and direction to aid understanding of roles among different groups. A recent report by PIRSA (*Managing Animals in Emergencies: A Framework for South Australia*) may assist to fill this gap as it aims to 'support animal owners, the community at large, government agencies, non-government organisations and businesses to understand their role and responsibilities towards managing animal welfare before, during and after emergencies' (PIRSA 2017). Since the Sampson Flat fire, public information about planning for animals in emergencies from the emergency management sector and a range of animal organisations has been updated. This includes targeted promotions to the emergency services and veterinary sector to improve knowledge of formal arrangements for animal emergency response and encourage more skilled volunteers to train with the appropriate organisations, particularly SAVEM.

Although this study is specific to the Sampson Flat bushfire, the successes and challenges are relevant in other contexts. The response at Sampson Flat was successful, occurring in a state with good integration of animal management into its emergency management structure. The challenges are not intended to diminish the importance of a dedicated animal response. The aim was to illustrate the problems that arise and highlight the need for agility and learning from experience in emergency response.

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