AY 2018-2019
PROSPECTIVE RESEARCH TOPIC NOMINATION

CLASSIFICATION	UNCLASSIFED
RESEARCH TOPIC TITLE	Animal Decontamination in CBRN Response Enterprise Operations
TOPIC DESCRIPTION	The purpose of this research topic is to examine the challenges, options, and resources surrounding CBRN Response Enterprise (CRE) involvement in the decontamination of household pets, service animals, and working animals during a nuclear or radiological emergency.
DATE SUBMITTED	June 2018
EXTENDED TOPIC DESCRIPTION	The overarching question of this topic is: Given a nuclear or radiological emergency, how can the CRE support integrate with inter-agency organizations to decontaminate household pets, service animals, and working animals. See attached paper for details. (See attachment for further details)
DESIRED OBJECTIVES OF THE RESEARCH	1. Identify the statutory/regulatory authorities associated with animal decontamination. 2. Identify stakeholders and what are their roles in animal decontamination. 3. Identify planning (logistical, safety, etc.) considerations required for animal decontamination. 4. Determine types of training must be completed by CRE personnel in order to safely conduct animal decontamination operations.
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DESIRED RESEARCH COMPLETION DATE	N/A
AVAILABLE FUNDING, IF ANY	None
COMMENTS	See below attachment

Research Proposal: Animal Decontamination in CRE Operations

The purpose of this research study is to examine the challenges, options, and resources surrounding CBRN Response Enterprise (CRE) involvement in the decontamination of household pets, service animals, and working animals during a nuclear or radiological emergency.

It is hypothesized that the CRE can extend its decontamination capabilities, in conjunction with interagency organizations, to encompass animal populations during a catastrophic event. Investigating the most basic and foundational aspects of animal decontamination provides the means to evaluate the CRE's ability to conduct these operations, thus proving the hypothesis. The immediate challenge is to identify best practices, training requirements, existing capabilities, and any resources necessary to safely and successfully carry out this effort. Once these items have been identified, a synchronized, deliberate plan can be established, which provides a baseline for responding to future events.

However, if data indicates that the CRE is unable to marshal the necessary capabilities and skill sets to implement an animal decontamination program, or is unable to sufficiently partner with other government agencies, then the hypothesis would be disproven. In this case, the argument for not engaging in any future animal decontamination operations will be backed up by an established data set that can be presented to senior leadership should the need arise. In any event, data gathered during this research will be useful to the emergency management community as a whole and can be used to support future response efforts.

NEED FOR THE STUDY

Within the United States, the pet population has increased dramatically and as of 2012, the American Veterinary Medical Association estimates that 67% of households possess a companion animal (AVMA, U.S. Pet Ownership & Demographics Sourcebook, 2012). Due to the close relationships that many people have established with their pets, it is conceivable that during any CRE response, animals will factor into the conduct of decontamination operations.

Failure to adequately address the issue of household pets can result in multiple issues resulting in increased mortality rates, the spread of contamination, and disruption of response efforts. Potential issues include:

- Owners unable to evacuate pets may "circumvent the monitoring and decontamination process and pose a danger to themselves, others, and the environment outside the incident zone" (NASAAEP, Animal Decontamination: Current Issues and Challenges, 2010).

- Separation of a pet may impair the ability of an owner "to make sensible decisions about their own safety and that of rescue workers" (FEMA, Animals in Disasters, 2015). According to FEMA, past incidents such as Hurricane Gustav, 2008, and the Iowa Flooding, 2008, include evacuation failures, re-entry attempts and unsafe rescue attempts.

- Owners, with no option to evacuate a household pet may opt to "care for animals in place" or decontaminate the pet themselves. This can increase the potential for higher mortality rates

And secondary exposures (NASAAEP, Animal Decontamination: Current Issues and Challenges, 2010).

Although human life saving efforts are the obvious focus of a CRE deployment, the complication of household animals directly impacts the successful evacuation and decontamination of an affected population. As indicated by the 2006 Pets Evacuation and Transportation Standards Act, FEMA efforts, and lessons learned while responding to multiple disasters, it is clear that "animals cannot be viewed simply as inanimate property" and must be factored into any response operation (FEMA, Animals in Disasters, 2015).

RESEARCH QUESTION

This research is guided by one overarching question and supported by three subsidiary questions, each designed to address a different aspect of animal decontamination operations. The overarching question of this study is:

Given a nuclear or radiological emergency, how can the CRE support integrate with inter-agency organizations to decontaminate household pets, service animals, and working animals?

Addressing this complex topic requires a four-part approach, covered through the subsequent questions. Notes related to each question are included to provide a better understanding of the research scope.

1. What are the statutory/regulatory authorities associated with animal decontamination? This question includes the topic of "how clean is clean?" and who makes this determination. It is anticipated that a 50-state advisory book will need to be created to address the variety of individual state regulations in existence.

   A subset of this question relates to how the "how clean is clean" determination is presented to the public. While critical to the overall decontamination operation, this line of inquiry would require a separate study conducted in conjunction with, or by, the Federal Emergency Management Agency (FEMA).

2. Who are the stakeholders and what are their roles in animal decontamination? Subsequent lines of investigation determine how these entities can either support, or be supported by the CRE. Establishment of a stakeholder community able to collaborate on communication of policy, procedures, and training establishes a solid baseline of experience that can be factored into response activities.

3. What are the planning (logistical, safety, etc.) considerations required for animal decontamination? This question answers the topic of responder safety, levels of animal decontamination, resources needed to decontaminate to a specific level, requirements for signed agreements, veterinary support, disposition of animal remains, chain of custody issues, and post denomination activities.

4. What types of training must be completed by CRE personnel in order to safely conduct animal decontamination operations? Data may be used to modify existing or develop new exercise opportunities for CRE personnel, as well as change any Standing Operating

Procedures or requirements throughout the chain of command. As noted in question one, a 50-state advisory book may be created due to individual state regulations or laws.

STUDY TERMS

Household Pet: “A domesticated animal, such as a dog, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes, can travel in commercial carriers and be housed in temporary facilities. Household pets do not include reptiles (except turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing purposes” (FEMA, Emergency Planning for Household Pets and Service Animals, 2009). ** Animals such as potbellied pigs or some other large breed animals have not been fully explained under the FEMA definition.

Service Animal: “Any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability, including, but not limited to, guiding individuals with impaired vision, alerting individuals with impaired hearing to intruders or sounds, providing minimal protection or rescue work, pulling a wheelchair, or fetching dropped items” (Americans with Disabilities Act).

Working Dogs: Law enforcement and emergency response animals at the incident scene, but broader definitions can include herding dogs, hunting dogs, and dogs trained to detect odors in non- emergency response/law enforcement settings (e.g. medical, chemicals, etc.) (FEMA, Projecting Animal Demographics in a Nuclear or Radiological Emergency – Draft Working Document, 2013)

SCOPE AND ASSUMPTIONS

The scope of the research is limited by the subsequent factors: (1) only the decontamination of [owned] household pets, service animals, and working dogs will be considered, (2) the sole contaminant evaluated will be the result of a nuclear or radiological incident – at this time the core scenario is driven by a 10KT improvised nuclear detonation, (3) CRE personnel do not actively participate in the evacuation of animals from household pets in facilities such as kennels, pet stores, shelters, breeders, animal rescue organizations, and veterinary clinics, and (4) CRE personnel only support direct decontamination and pass follow-on actions, such as managing holding areas, monitoring, or establishing shelters, to FEMA or other responsible organizations.

The primary assumption of this study is that the CRE will be tasked to support animal decontamination operations being conducted by FEMA. While current direction states that the DoD will not conduct animal decontamination, it is anticipated that issues stated in the “Need for this study” section will apply sufficient pressure on decision makers to direct more active involvement.

Due to the magnitude of a nuclear or radiological incident, it is a secondary assumption of this study that interagency teams/organizations normally assigned to conduct animal decontamination will be overwhelmed with efforts to assist managed animal populations (zoos, sanctuaries,

wildlife rehabilitation areas, aquaria), biomedical research facilities, both commercial and non-commercial livestock populations, and other free ranging wildlife.

A final assumption is that communities do not maintain catastrophic animal decontamination capabilities able to respond to a nuclear or radiological incident. Furthermore, it is assumed that there is no validated set of operational guidelines, national equipment cache, or proven capability to dispatch personnel and resources to the scene of a major nuclear or radiological incident for addressing animal decontamination issues" (NASAAEP, Animal Decontamination: Current Issues and Challenges, 2010).

METHODOLOGY

This research should use qualitative methods, specifically an illustrative case study method, supported by key informant interviews and a robust literature review, to obtain information on the existing state of animal decontamination operations in the United States and select partner nations.

In order to execute this research, the following steps will be carried out.

1. Gain approval of the primary and supporting research questions, validate assumptions, and identify any additional limitations.

2. Conduct a literature review of existing animal decontamination operations. This includes identifying key stakeholders, collecting existing materials, categorizing current regulations/laws, and conducting an analysis of all "gray literature," typically consisting of "technical reports, working papers, business documents, and conference proceedings, with the intent of establishing a baseline of animal decontamination efforts.

3. Establish a study population, develop a suitable research instrument, and collect data. This portion of the study may involve the Adaptive Modeling Laboratory, limited tabletop exercise, or stakeholder meetings to fully exploit data collection opportunities.

4. Analyze all data collected during the research and produce a set of documented findings.

5. Pending the outcome of the research, establish a planning team to implement any suitable recommendations.

RECOMMENDATIONS/OUTPUT

Following the collection and analysis of data, the following products/events may be produced in support of future CRE deployments:

1. Series of individual exercises, or injects into large exercises, focusing on animal decontamination training, integration of CRE forces with interagency organizations, or the development of plans and polices.

2. Publication and dissemination of animal decontamination best practices to all CRE forces.

3. Development of topical research papers and presentations that can be shared with the responder community to promote understanding of CRE decontamination operations involving household pets, service animals, and working animals.