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Communication and Working with Authorities During Natural Disasters 223
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Keeping people and animals out of harm’s way, preventing property loss, and working together in the community with other animal stakeholders and officials are important in building community resilience during disasters. Developing plans for neighbors helping each other evacuate animals is important. Producer helping producer, veterinarian helping veterinarian, and community helping community build resilience by preventing loss, responding to needs, and recovering and restoring livelihoods.

Cattle Assessment On-Site During Emergencies 233
Arthur Lee Jones, Renée Dawn Dewell, and Joanna Davis
Veterinary assessment of the condition and needs of livestock and their owners in an emergency is an essential element of the disaster response. The emergency response for livestock has 4 critical components: assessing the need for and attending to the immediate medical needs of injured or affected livestock; determining the resources available to meet the needs, including feed and facilities; identifying any ongoing threats or potential hazards to livestock health and welfare; and appropriate documentation of damages and actions by responders. Information gathered from cattle assessments by veterinarians is used to prioritize resources and plan for anticipated needs.

Feeding and Watering Beef Cattle During Disasters 249
Justin W. Waggoner and K.C. Olson
Animal care, feeding, and nutrition in the wake of a natural disaster or emergency situation are difficult and require resourcefulness. Immediately following the event, the most basic needs essential for survival of cattle (ie, water, feed, rest, and recovery) should be addressed. Once these basic needs have been addressed, the primary objective then becomes to maintain the present condition of the animals to reduce the potential for negative production outcomes. This article provides a general overview of feeding and managing cattle immediately following a natural disaster or emergency situation.

Tornado Preparation and Response in Feedlot Cattle 259
Samantha L. Boyajian, Nels N. Lindberg, and David P. Gnad
Encouraging operations to develop emergency protocols is one of the best steps one can take as a veterinarian who may be called upon to help once disaster strikes. Poor plans yield slow progress, and in times of tornado
damage, efficiency in recovery is critical for an operation. A veterinarian is a key player in animal stewardship as well as human health and safety during natural disasters.

Blizzards and Range Cattle: Management Before, During, and After the Storm 265
Russ Daly and Cynthia Marshall Faux

Numerous factors contribute to the outcome and recovery for range cattle affected by blizzard. Consequences and impact on the producer depend on the timing of the storm relative to the herd’s production cycle, access to shelter, duration and intensity of the storm, and poststorm emergency management. Critical planning efforts by the producer include clear animal identification methods, identification of sheltering options, and consideration of animal indemnity and insurance requirements. Including range animals in local and state disaster planning efforts facilitates response and recovery efforts. Response efforts must include understanding of postincident animal behavior concerns and producer and responder mental health.

Management of Confined Cattle in Blizzard Conditions 277
David B. Sjeklocha

Preparation and prioritization are essential to managing confined cattle through a severe winter storm. Water, feed, and cattle comfort are the top priorities for cattle after a blizzard, and making sure employees understand those priorities and how to address them will help to minimize cattle stress and losses.

Wildfire Response in Range Cattle 281
David N. Rethorst, Randall K. Spare, and John L. Kellenberger

The manner in which the producers and communities affected by the Starbuck fire dealt with the aftermath and recovery is the focus of this article. Ranchers, as stewards of the cattle, had to assess and attend to the welfare of survivors, euthanize the severely damaged, dispose of the dead, and deal with inadequate federal assistance and insurance claims. Veterinarians acted as coordinators of the community relief effort and supported the ranchers. The practical and psychological effects, and more humane possible future scenarios, are described.

Preparation and Response to Truck Accidents on Highways Involving Cattle 289
Lisa Pederson, Jerry Yates, and Audry Wieman

Annually, in the United States, more than 50 million head of cattle are transported. Most are transported via semitrailer. As the number of livestock transported via motor vehicles has increased, so has the number of accidents involving livestock transport. Most livestock transport accidents in the United States involved semitrailers carrying cattle. Before the Bovine Emergency Response Program, no standard operating procedures existed for accidents involving livestock transport in the United States. The Bovine Emergency Response Plan provides a framework for veterinarians, emergency responders, and law enforcement to better address accidents involving cattle transport.
Flooding seems to be occurring at an increased frequency and severity, resulting in significant losses to the beef cattle industry. Responding to the needs of beef cattle is a resource-intense occurrence and beyond that provided by most local jurisdictions. It is incumbent on livestock producers to develop continuity of operations or emergency plans designed to limit the financial losses and compromised animal welfare that occur when livestock are exposed to flood conditions. Livestock producers and the veterinary medical profession should also encourage and participate in the development of public emergency plans focused on limiting losses in this critical industry.

Feedlot cattle consuming large amounts of feed and gaining weight rapidly generate significant amounts of metabolic heat. In summer, failure to dissipate this heat leads to heat accumulation and heat stress. Respiratory rates, panting scores, and behavioral changes are useful indicators of heat stress in cattle. Ceasing cattle movement, providing supplementary water tanks in the pens, cooling the pen surface, and manipulation of nutrition and feeding management should be considered to mitigate the risk and manage a heat stress crisis. Removing manure from the pens and provisions of shade have been found to be beneficial for cattle exposed to hot climates.

A foreign animal disease (FAD) infecting beef cattle can have a negative impact on producers and the veterinarians who serve them. A veterinarian’s ability to recognize FADs is a significant responsibility, as is aiding clients and local community in preparing for and responding to an outbreak. Knowledge of local livestock operations, markets, and resources provides valuable insight to managing officials and speeds response. Business continuity for clients and veterinarians will be affected by movement controls. Successful control and eradication of an FAD requires a concerted effort by producers, veterinarians, emergency responders, and state and federal officials.

Euthanasia is ending life in a way that minimizes or eliminates pain and distress. It requires techniques that induce loss of consciousness followed by cardiac and respiratory arrest and loss of brain function. Although euthanasia is the objective for uncontrollable animal suffering, it is not always possible. Euthanasia of animals using barbiturates or barbituric acid derivatives is impractical for situations that require mass euthanasia of multiple animals. Selection of the most appropriate disposal method depends on number of carcasses, potential environmental impact, climatic conditions, and other factors. Preplanning and training are requirements for proper application of euthanasia procedures and disposal of carcasses.
Veterinarians responding to animal health-related incidents are in the same class as first responders and should be aware of similar mental health concerns. Cultivating resiliency, identifying symptoms, and linking individuals to support systems are practical strategies to provide positive outcomes for veterinarians facing difficult experiences. This article explores veterinarians as first responders and farm stress and provides an overview of mental health responses to trauma; strategies and interventions for individuals, families, communities, and veterinarians; a discussion of boundaries and threshold for managing crisis; barriers and considerations for service provision; and a summary and discussion of future research and curriculum opportunities.