

AN OVERVIEW OF LIVESTOCK EMERGENCY RESPONSE PLANNING AND LOCAL EMERGENCY RESPONSE PLANNING

David J. Workman, BS, MA
WVU Extension Agent and Extension Associate
Professor, West Virginia University

Stephen Boyles, BS, MS, PhD
Animal Sciences
The Ohio State University, Columbus, OH

Loose animals can be livestock like cattle and horses or wildlife like deer and moose or even dogs and alligators. According to State Farm Insurance, there are about 1.5 million animal-car accidents each year that cause 10,000 injuries, 150 deaths, and an average of \$2,500 in property damage. Trailer accident, barn fires, escaped animals onto the highway, and animals caught in mud or broken through ice are all events to which emergency responders have been called. Many districts do not have protocols, formal training, or specialized equipment to rescue livestock. While the incidence of loose livestock is minimal in urban environments, it can still happen. Loose livestock can be a frequent issue in some rural districts. Succession planning is a critical element of organization strategy. This relates to the US Fire Administration operational objective to respond appropriately in a timely manner to emerging issues.

PREVENTION

On local and state levels, prevention of loose animals would include support of animal control officers and humane society efforts to increase the quality of fencing as well as laws that would mandate stiff consequences for owners of loose animals, especially repeat offenders.

- Interact with the local university extension service to conduct a meeting on loose livestock. Don't assume all livestock producers understand the best methods of containment or transport animals.
- Similarly interact with local 4-H, FFA groups. Similar to early seatbelt laws, educating the youth and indirectly educate the adults.
- Promote loose livestock education to local, statewide, and national organizations

LEGAL ASPECTS OF LOOSE ANIMALS AND FENCE

All 50 states have enacted statutes that address issues of livestock running at large and the fences that may or may not be required to keep them confined. These "fence law" statutes can vary widely from state to state. Many states require owners of livestock to secure the livestock on property that they own or lease; however, there are some western states that still follow the "open range" doctrine. The "open range" states reverse the duty to fence in livestock and allow livestock to roam in certain remote parts of the state while requiring other landowners to fence off their land if they wish to keep livestock off of their property. States' fence statutes provide the statutory text of each state's fence and livestock running at large statutes, along with the date of

Example 1: Ohio

After September 30, 2008, a line fence that contains livestock must meet the law's definition of "preferred partition fence." A preferred partition fence is any of the following:

- A woven wire fence of either standard- or high- tensile wire and topped with 1 or 2 strands of barbed wire that is at least 48 inches from the ground.
- A nonelectric high-tensile fence with at least 7 strands of wire constructed in accordance with NRCS standards.
- A barbed wire, electric, or live fence to which the adjoining landowners agree, in writing.

Example 2: Maryland

Maryland does not have a specific state statute defining what a fence is and the duties of two neighboring landowners in erecting a fence. Instead, Maryland's fencing law is based on county ordinances (where available) and previous court decisions.

its possible expiration (Source: Rumley RW, National Agricultural Law Center).

Most states require owners to make reasonable effort to maintain fences to keep livestock off public roadways. State laws should be investigated by responders in their jurisdiction. Even the legal definition of a fence can vary.

The laws often provide for liability if a motor vehicle or train strikes an animal but whether the liability driver of any vehicle approaching any horse-drawn vehicle, any ridden animal, or any livestock shall exercise proper control of his vehicle and shall reduce speed as necessary...in order to avoid frightening and to safe-guard the animal or livestock to insure the safety of any person driving or riding the animal or in charge of the livestock. However, for animals that are not under the direct control of a person, the owner may be subject to liability.

OPEN RANGE

In some US counties there are still free-range grazing law, which may alter the legal implications of a collision with an animal (Nixon, 2006). The owner or the person in possession of the animals may not be held liable for injury or damage when free-ranging animals are involved. For example, there is no "finders keeper" when it comes to loose livestock in Texas. A person finding stray cattle on their property must inform the local sheriff's department of the existence of the livestock. Otherwise they can be charged with theft (ie, cattle rustling). Legislation is more vague or variable on exotic animals.

The sheriff will then notify the original owner or, if the owner is unknown, impound the livestock. If the owner still cannot be located the livestock may be sold and the funds used for county purposes. The person who found the loose livestock can be reimbursed for maintenance and/or damages to their property.

In some counties, handling loose livestock can take many hours of the week by the sheriff's department. Some departments have begun impounding the animals rather than directly returning them to the owner.

EXOTIC ANIMALS

Exotic Animal Ownership:

Ohio Dangerous Wild Animal Act

Some states like Michigan and Ohio have legislation on exotic animal ownership and housing.

After the Ohio Dangerous Wild Animal Act became effective on September 03, 2012, owners of dangerous wild animals in Ohio became required to register their animals with the Ohio Department of Agriculture. Unless exempted, the law requires all animals to be microchipped at the time of registration. Unless exempted, anyone wishing to possess a dangerous wild animal or restricted snake after January 1, 2014 must apply for an applicable permit and demonstrate they meet the permit requirements. Facilities exempt from permitting requirements must continue to register with the Department of Agriculture all dangerous wild animals in their possession.

Dangerous wild animals/Restricted snakes

- Large cats
- Bears
- Elephants
- Certain monkeys
- Rhinos
- Alligators
- Crocodiles
- Anacondas and pythons (longer than 12 ft)
- Vipers
- Certain venomous snakes

WHAT MIGHT YOU FIND AT THE SCENE OF AN ACCIDENT

No two accidents involving animals are the same. It can be difficult for drivers to see animals. Some animals have hair that diffracts light. The natural colors of many animals can be dark, earthtones. Many semi-truck accidents involving livestock occur at night. Movement in wildlife can be at night but also early morning and dusk. A vehicle does not have to impact a large animal very hard or fast for it to land on the hood of the vehicle and go into the windshield. The center of gravity of a large animal is higher than most cars. Uninjured animals that are thrown from a trailer may just be grazing in the median or on the side of the roadway. It is more difficult to effectively move excited or frightened animals.

A list of agencies/individuals that may be involved can include the following:

- Animal control
- Law enforcement
- Firefighters
- Veterinarians
- Emergency medical services (EMS)
- A livestock hauler
- The owner of the animal(s)

Wildlife are under the jurisdiction of the Department of Wildlife. Operational Directives: Does an operational directive exist? A citizen's call to 911 might garner a response of "Contact Animal Control" (which does not deal with large animal rescue).

A VETERINARIAN

In a perfect world it would be nice to have a "large animal" veterinarian to be on the call list. A veterinarian can assist with rescue, but veterinarians are generally not trained in the incident command system (ICS) or other rescue functions. Do not assume all veterinarians are experts in large animal medicine. Similarly, do not assume all veterinarians are experts in large animal handling techniques. Veterinarians should be integrated into the emergency management plan before the incident so that details concerning incorporation into the command system and financial reimbursement can be determined. The veterinary personnel are not in charge of the emergency operation.

TRANQUILIZER GUN

Training will be required of anyone using a tranquilizer gun. To fire the gun effectively, you may need to be within 30 yards of the target. If you shoot an injured animal with a tranquilizer gun, it may affect the diagnosis by a veterinarian. Pulse and respiration will be skewed. Veterinary oversight and certification may be required in the use of these drugs and equipment.

RELOCATION

Preplanning is paramount to the successful animal relocation. Relationships need to be developed prior to needing a place to relocate animals. Owners or managers of relocation facilities need to be alerted that surviving livestock may be relocated to their facility when the dispatcher takes the initial call. Examples of basic relocation facilities would be fairgrounds, auction markets, or buying stations. Other livestock operations or farms are a possibility but this will present biosecurity situations. Biosecurity needs to be considered in decisions affecting relocation of animals.

There should be adequate facilities to confine, handle, and work the animals. Feeding management of these animals needs to be basic. Good-quality hay and fresh, clean water should be offered freely. The health regimen and follow-up care of these animals should be under the direction of a veterinarian.

A PACKING PLANT FOR A RELOCATION OPTION

Do not assume a local packing plant will take animals from an accident. There may be issues of carcass quality that resulted from the incident impacting the packers' ability or desire to take the animals. An example is bruising. Bruises are required to be removed from the carcass. Therefore bruising can present a significant financial loss to the packer. There are issues of ownership, and these animals can be of unknown origin for the packing plant. The US Department of Agriculture (USDA) prohibits processing of animals such as cattle that become non-ambulatory after they pass federal veterinary inspection, as of March 2009. Previously, if cattle passed veterinary inspection at a plant and subsequently became non-ambulatory, these cattle could be re-inspected to determine if they were fit for processing. This new rule ends that option. Additionally, the final rule requires that establishments notify inspection program personnel when cattle become non-ambulatory, disabled after passing the antemortem (pre-

slaughter) inspection. How many of these non-ambulatory cattle were/are there? Of the approximately 34 million cattle slaughtered in a year, fewer than 1,000 cattle are re-inspected and approved by a veterinarian for slaughter. This represents about 0.003% of the cattle slaughtered in the United States per year.

EMERGENCY RESPONSE PLANNING

Local or regional emergency plans may be in place in jurisdictions to address incidents involving animals. Depending on the location, specific local considerations (eg, zoos, game preserves) and frequency of incidents, plans may include very basic discussion or quite in-depth and detailed action plans.

No two incidents are ever the same, but past experience, training, and planning are keys to effective response and recovery efforts. If interested, contact your local emergency management agency and ask questions about their emergency animal response plans.

Plans may include procedures and protocols for dispatchers and responders. These can provide pre-arrival instructions for dispatchers at call centers to provide the initial caller, tools for collection of information to assist responders, activation of specially trained teams and resources to address the incidents needs. It will be helpful to know before arrival is this an incident involving 400- to 600-pound feeder cattle or rodeo bulls.

These plans also include mitigation information that is useful to responders. The locations of facilities to relocate animals to, trucks and trailers for taking cattle to these locations, sites and guidance for mortality disposal, and so on are predetermined and included in the plans.

The list of essential personnel and services needed should be prepared as part of the plan. This listing should include local veterinarians, local transporters, producers with tools and expertise, portable corrals, gates and panels for containment, persons trained in euthanasia of livestock, towing and wrecker services, and others as identified by the emergency plans.

After action assessment tools can be useful. This information is helpful in identifying deficits and direct future actions.

SECURITY/CONTAINMENT

Safety first. The scene must be secure for responders, the public and, of course, the animals involved. This also includes containment. The containment of the animals on the accident scene is a key to public safety. With the animals contained it will be much easier to keep the public and the media outside of the accident scene and prevent interference.

Public information officers (PIOs) should be assigned for incidents such as those involving livestock. The PIO can provide accurate information to the news media and public during and after the incident.

Securing the scene also includes the placement of barriers to prevent visual observation of the scene. Tarps, vehicles, and plywood are all items that can be used to obscure visual access. This, too, can be planned and practiced before an actual event.

Containment of animals can be one big challenge. Where containment is possible, plans can include iden-

tification of resources (local businesses and entities) that possess and can provide livestock handling equipment along with expertise and instructions to erect it. In some instances existing structures on the scene can be used to provide containment. Those resources that can be identified should be included in the plan.

In incidents in which trailers are involved, containment structures should be set up before extrication of livestock. In several documented cases, emergency responders or the general public were severely injured or killed because containment was nonexistent or inadequate.

ANIMAL HANDLING

Animals involved in a motor vehicle transportation accident or just loose from where it should be may react differently than a normal animal. There are many publications on low stress animal handling. It is important to remember that animals involved in incidents may be injured, frightened and/or highly stressed and may exhibit aggressive or threatening behavior toward people. Always approach these potentially fractious animals with caution.

Consideration of natural containment structures, if present (eg, nearby pastures, buildings, roadway fencing, street alleys), may be helpful. The identification of physical limitations that hinder collection, assembly and gathering of loose animals is important. The conditions may warrant that the roadway be shut down to decrease the possibility of additional injuries to the animals and general public.

As a cautionary note, situations may arise that deems it impossible to move or relocate animals without risking the health and safety of responders or others at the scene. Preparations may include, if safe, and competent handling and or sedation are not options, destroying the animals may be the most prudent action. This may prevent further injury or death to humans by these animals.

TRAINING OPPORTUNITIES FOR FIRST RESPONDER TEAMS

A bovine emergency response plan (BERP) was developed to offer a framework for local emergency responders to more appropriately address accidents involving cattle transport vehicles by a team of extension faculty from across the country. The plan includes standardized recommendations, suggestions, and materials for dispatchers and first responders in the areas of call taking, scene arrival and assessment, containment and security, extraction of cattle from the trailer, relocation of cattle involved, mortality disposal, securing the wrecked transport vehicle, humane euthanasia of cattle, and debriefing.

From this plan, materials were assembled and resources secured. To date three 1-day programs have been presented in West Virginia and Tennessee. Participants from 5 states have received classroom training, table-top exercises, demonstrations, and practicums. The training was directed to first responders and others with an interest in responder safety, public safety, and animal care and welfare.

Pre/post-tests showed an increase in knowledge gained. Program surveys noted the value of the program

to first responders, including fire, EMS, law enforcement, veterinarians, and local emergency planners. Communities are offered the tools to assist in planning and preparing for these incidents with an emphasis on responder safety, public safety and animal care.

The BERP Training for First Responders is designed to be an 8-hour (1-day) course providing an overview of response and issues present during incidents involving bovines and other large animals. Instruction is presented in lectures including background and response actions, biosecurity, proper animal care and handling, humane euthanasia, mortality handling and disposal. Hands-on practical training provides knowledge in animal handling, euthanasia, and triage and containment.

This training is intended for first responders (including fire service, law enforcement and EMS), emergency management, public health, public safety communicators, governmental administrative, veterinarians, and others who may provide support, assistance, or aid to those dealing with bovine and large animal emergencies.

The agricultural or traditional responders will answer the call to incidents involving bovines or other large animals within their jurisdiction. When responding to these incidents they will face unique hazards and situations and could assume the immediate role of incident commander until the local ICS and emergency response plans have been implemented. At the conclusion of the training the responders/participants will:

1. Recognize some of the unique hazards and responder safety issues associated with bovine motor vehicle incidents.
2. Be reminded of ICS and the application of protocols to be implemented in response to bovine and large animal emergencies.
3. Understand the issues and concerns of bovine and large animal incidents.
4. Know proper animal care and handling methods and humane euthanasia techniques.
5. Possess skills that will be beneficial when responding to these incidents.

Pre/post tests showed an increase in knowledge gained (Figure 1). Program surveys also noted the value of the program to first responders, including fire, EMS, law enforcement, veterinarians, and local emergency planners. With this training communities are offered the tools to assist in planning and preparing for these incidents with an emphasis on responder safety, public safety and animal care and well-being.

AN OPTION FOR FUNDING EMERGENCY RESPONSE TRAINING

Financial support for training is available from various sources. Local or state emergency management agencies, and Department of Homeland Security (DHS) funding has been secured to support trainings. Additional support can come from other governmental sources

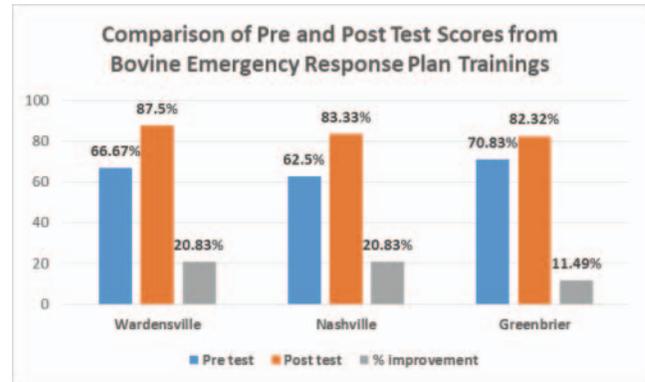


Figure 1. Comparison of Pre- and Post-Test Scores from Bovine Emergency Response Plan Trainings held in Wardensville, WV, Nashville, TN, and Greenbrier, WV.

(county commissions, state departments of agriculture, state educational institutions and agencies, animal control boards, etc.) Some other sources may include Farm Bureau, Grange, and other groups that support animal care. Registration fees can also be used to cover program costs. These are excellent programs for first responders.

SUMMARY

All jurisdictions must deal with loose animals and other animal emergencies. Emergency plans should have specific guidelines for dealing these emergencies. Having a plan in place that can aid responders in dealing with the many facets of the animal emergency is beneficial to them. Training for first responders and those involved in emergency management have been planned and conducted. For more information on the Bovine Emergency Response Plan Training for First Responders, contact Lisa Pederson, (lisa.pederson@ndsu.edu), David J. Workman (djworkman@mail.wvu.edu), or Dr. Steve Boyles (boyles.4@osu.edu).

REFERENCES

1. Boyles S, et al. Cattle handling and working facilities. The Ohio State University Extension Bulletin No. 906. <http://ohioline.osu.edu/b906/>.
2. Duckworth B. Truck accidents linked to early morning hauling. The Western Producer. 2007:75.
3. Ontario Farm Animal Council. Livestock Transport Emergency Guide. www.ofac.org.
4. Shearer JK, Nicoletti P. Procedures for the Humane Euthanasia of Sick, Injured, and/or Debilitated Livestock. Iowa State University Extension Bulletin. <http://vetmed.iastate.edu/sites/default/files/vdpam/Extension/Dairy/Programs/Humane%20Euthanasia/Download%20Files/EuthanasiaBrochure20120810.pdf>
5. The Humane Society of the United States. An HSUS Report: The Welfare of Animals in the Meat, Egg, and Dairy Industries. www.humanesociety.org/assets/pdfs/farm/welfare_overview.pdf.