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## TECHNICAL ANIMAL RESCUE – ANIMAL BEHAVIOR AND FF SAFETY

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Developed by Engineer Gina Gonzales  
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- NFPA 1670



### DEFINITIONS:

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- **Technical Animal Rescue:** A technical rescue situation where the owner or animal is unable to free itself from an entrapment, trailer MVA, barn fire, or wildland fire evacuation. This is NOT to be confused with a business who runs as an “animal rescue”. These usually include neglect or abuse cases, or recumbent animals who are unable to rise. LFRA does NOT assist with these cases. Larimer County Humane Animal Control officers would be the contact for those.
- **Large animals:** Includes all hooved animals including, but not limited to, horses, cattle, mules, donkeys, goats, llamas, alpacas, pigs, sheep, emus, camels, domestic bison, etc. TEAR Team Veterinarians would be the contact for assistance with these animals.
- **Wild Animals:** Includes all hooved wild animals such as elk, moose, deer, big horned sheep, and antelope. The Colorado Division of Wildlife is considered the “owner” of these animals, and as such, will be the main contact for all treatment and rescue of these animals. **Predator wild animals such as bear, mountain lion, wolves, raptors, coyotes, etc will be dealt with on a case-by-case basis, with the DOW expressed request of our assistance.**
- **Small Animals or Household Pets:** These include ALL pets kept inside the home, poultry, and all small wild animals like raccoons, foxes, rabbits, waterfowl, etc. Larimer County Humane Animal Control officers would be the contact for assistance.
- **TEAR Team Veterinarian:** A large animal veterinarian who has specifically been trained to the Operations Level for TAR. (TEAR-Technical Emergency Animal Rescue)

## TRAINING LEVEL DESCRIPTION

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- Awareness Level: First responder or first due engine.
  - Recognizing the need for an animal technical rescue
  - Scene stabilization
  - Containment and capture of animals & medical assessment of the animal
  - Recognizing hazards and HazMat
  - Understanding the social and public safety issues
  - Requesting the appropriate assistance to determine if a technical rescue vs. a recovery will be conducted
- Operations Level: Special Operations Team Members
  - Shall meet all requirements of Operations Level training for Rope Rescue
  - Shall meet all requirements of Operations Level training for the specific rescue needed, ie Dive, Swift Water, Ice, Trench, Confined Space, Collapse, and HazMat.
  - Identify hazards to rescuers posed by the animal or the environment
  - Identify appropriate attachment points to the animal, and appropriate positioning with minimal injury to the animal and responders
  - Understanding animal behavior cues and recognizing the need to be adaptable in our actions to keep animal and rescuers safe
  - Utilizing our TEAR Team Veterinarians who are trained to the Operations Level in TAR
- Technician Level: Special Operations Team Members
  - Shall meet all requirements of Technician Level training for Rope Rescue
  - Shall meet all requirements of Technician Level training for the specific rescue needed.

## UNDERSTANDING SOCIAL AND PUBLIC SAFETY ISSUES

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- **Animals generate emotional responses in people. Over 85% of animal owners say they will risk their lives to save their animals. Animals represent family members to many people, and they are as concerned about them as if they were a child or parent.**
- **In FEMA guidelines, animals are considered PROPERTY.**
- Animal situations attract media coverage and bystanders. Never act aggressively toward an animal unless in self-defense. Use tarps to cover deceased animals until disposal.
- Because of the emotional attachment, show compassion and assist owners with potential critical incident stressors.

## FIREFIGHTER SAFETY CONSIDERATIONS INVOLVING TAR

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- We would never allow a parent to be in an extrication area with their trapped child and give us directions, so don't allow animal owners to do it either. They are a life risk to both themselves and us. Use your discretion, if the animal owner is remaining calm, and is actually helping the animal remain calm, you can utilize their help, as long as they are wearing the same PPE you are! **Helmet, gloves, and closed-toed shoes are a minimum.**
- Bystanders offer their help and expertise, and most often become a life safety risk for themselves and firefighters.
- On road accidents with animal trailers-
  - Animals are often safer kept inside the trailer until a post-rescue plan is in place.
  - Loose animals, traffic, and the potential for more accidents with loose animals is extremely high.
  - Bystanders offering the use of their trailers for post-rescue assistance. We don't let the public take victims to the hospital in their personal cars! So don't let a stranger take the animals!
- Barn Fires- **EXTREMELY HIGH LIFE RISK!** (Figure 1)
  - Most barns are fully involved within 5-7 minutes (open compartment with a lot of ventilation and high fire load)
  - Most jurisdictions don't require a permit to build a barn, so may not follow any fire code.
  - Roof collapse is imminent because most barns have exposed trusses and use gusset plates in construction.
  - Hazards are unknown but high likelihood (hay and/or straw storage, chemicals, gasoline, heavy equipment, dangerous & frightened animals, etc)
  - Consider that animals cry out if in distress. If the barn has no noise, are there any live animals?



Figure 1: Unprotected trusses, potential heavy fire loading, unknown hazards, locking mechanisms, trip hazards, and frightened, dangerous animals.

## ANIMAL BEHAVIOR

- Flight or fight instinct is high if the animal is injured or wild. They will react and either run or attack much faster than you can react to get out of the way. Situational awareness is paramount.
- Most domestic livestock, horses, mules, and donkeys think of us as part of their herd, so if you remain calm, they will too.
- Approach the animal in a calm manner, at an angle, so as not to look like a predator.
- **DO NOT APPROACH ANY WILD ANIMAL WITHOUT THE DIRECTION OF THE COLORADO DIVISION OF WILDLIFE AND THE BATTALION CHIEF APPROVAL.**
- Large animals and prey wildlife have their eyes on the side of their heads and can see around themselves almost 360 degrees. They will turn their ears in the direction they are looking. The only blind spots they have are directly behind their rear, and about 3 feet right in front of their face where their eyes can't cross, so they must turn their heads to see those areas. **(Figure 2 & 3)**
- Stay as close as possible to the animal's body, or outside of its' striking zones. The animal can strike with their teeth, head, and any leg, and may use their bodies to push you. **(Figure 2)**
- Never reach or stand under an animal or between its legs. Just like a vehicle at an MVA, consider the areas just in front, behind, and directly at the sides to be the most dangerous.
- An aggressive animal will lay its' ears against its neck, and will try to look as big as possible. They may charge at you more in fear, than trying to actually hurt you. **(Figure 3)**

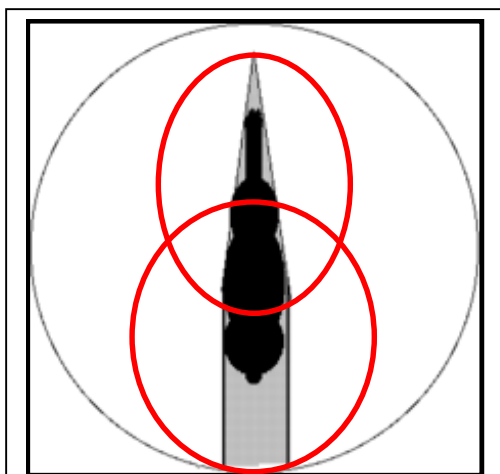


Figure 2: Visual & striking ability for livestock and prey wildlife. Grey area is their blindspots. Upper red circle is striking distance for head & front legs. Lower red circle is striking distance for hind end.



Figure 3: The horse on the right is very aggressive, pinning its ears and coming forward, while the horse on the left is looking at him, pointed ear toward him, and beginning to move away.

- A calm animal might lick its lips or yawn as a sign of acceptance and relaxation.
- If the animal has been trapped for an extended amount of time, offering it water or food will be beneficial. Not only to help re-hydrate, but can have a calming effect when they are eating.
- Stroking an animal's face or rubbing an animal's skin just behind the ears or along the neck can be calming for the animal.
- A large animal with its legs trapped will swing its head violently to try to loosen its legs. Keeping the animal calm will help prevent it from causing further harm to itself.

## MEDICAL ASSESSMENT FOR LARGE ANIMALS

- The table below gives the normal vital parameters for a few different sized animals. These vital signs are commonly referred to by veterinarians as TPR (Temperature, Pulse, Respiration). Capillary refill time (CRT) is also an important assessment. Notice, the larger the animal, the slower the normal heart rate. With wild animals, consider that an elk is about the size of a cow, so would have approximately the same normal vital signs. An antelope is about the size of a llama, and so on. Also note that baby animals' heart and respiration rates will be higher due to the smaller body size.

<i><b>Normal Vital Signs for Large Animals</b></i>			
<i><b>Animal</b></i>	<i><b>HR</b></i>	<i><b>RR</b></i>	<i><b>Rectal Temp in °F</b></i>
Horse	28-40	8-16	99.5-101
-Foal (Baby)	60-100	20-40	99.5-101
Cattle	40-70	10-30	100-103
Sheep	60-90	12-20	102-104
Llama	60-90	10-30	100-102
Pig	60-100	8-18	100-104

- Heart rate** is easiest taken on the mandibular artery under the jaw. Count beats for 6 seconds and multiply by 10. **(Figure 4)**
- Respiration rate** can be done by watching the flaring of the animal's nostrils.
- Temperature** is only assessed by rectal thermometer for both large and small animals.
- Assessment of perfusion and shock is easiest done with **capillary refill time (CRT)**. While holding the bridge of the nose with your fingers, use your thumb to lift the lip. Press your thumb against the gum just above one of the teeth. Count the seconds it takes for the color to come back into the pressed skin. This is the CRT. Note the color and condition of the mucous membranes. **(Figure 5)**
  - Pink and moist- normal
  - Blue- hypoxic
  - Purple- septic or cyanotic
  - White- shock



Figure 5: Assessment of capillary refill time (CRT)



Figure 4: Assessing heart rate



## MEDICAL ASSESSMENT FOR SMALL ANIMALS

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- The table below gives the normal vital parameters for cats and dogs. Puppies and kittens will have a higher heart and respiration rate, again, due to smaller body size.

<i><b><u>Normal Vital Signs for Large Animals</u></b></i>			
<i><b><u>Animal</u></b></i>	<i><b><u>HR</u></b></i>	<i><b><u>RR</u></b></i>	<i><b><u>Rectal Temp in °F</u></b></i>
Dogs	70-160	15-30	100-102.5
Cats	140-220	20-30	100-102.5

- Heart rate is easiest assessed with a stethoscope on the chest just behind the left elbow.
- Respiration rate for small animals can be done with the stethoscope. If a small animal is panting, this indicates severe stress, pain, overheating, or exhaustion.
- Assessment of perfusion and body temperature is the same as for large animals.

## REFERENCES

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- NFPA Standard 1670, Chapter 17, Annex K
- Technical Large Animal Emergency Rescue, 2008. Rebecca and Tomas Gimenez.