

## Rabies is on the Rise – Implications for Livestock

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The incidence of rabies in skunks is on the rise in Colorado! The best source for the statistics of rabies surveillance in Colorado is the Colorado Department of Public Health and Environment (CDPHE) rabies webpage which can be accessed at <http://www.cdphe.state.co.us/dc/zoonosis/rabies/>. The referenced webpage has many helpful resources for veterinarians, public health personnel, educators, and the public. Two important points are the following:

- Animal owners need to be aware that rabies is transferring from one species to another and they should monitor their animals for clinical signs
- Local veterinarians are a valuable resource to help decide the best course of action to protect livestock and pets from rabies.”

One very revealing statistic can be found comparing the number of rabies-positive skunks diagnosed from 2011 to the first five months of 2012. Last year in 2011, there were 23 rabid-positive skunks diagnosed in Colorado; as of May 11<sup>th</sup>, 2012 there have been 31 rabid-positive skunks diagnosed. Many of those rabid skunks have been diagnosed in counties close to the Front Range. Rabid-positive skunks is important as skunks are the most common species involved in the transmission of rabies virus to livestock. In addition, they are a major vector of transmission of rabies virus to other species such as cats and dogs too. Rabies is transmitted from infected animals to other species through a bite or by the introduction of virus-laden saliva into a fresh wound, cut or mucous membrane. A rabies-infected animal can expose owners, veterinary personnel, and many other people to rabies. There is no treatment for rabies once an animal becomes infected so veterinary medical and public health efforts have traditionally been focused on prevention. Veterinarians and public health professionals have always recommended vaccination of dogs and cats to prevent infection and to reduce the incidence of rabies in humans in whom it is also a fatal disease. When questions arise about rabies in horses, cattle, and other livestock; the answers are not black and white but it depends largely on that particular case.

The clinical signs in livestock are highly variable but can include some or all of the following:

- Depression with loss of appetite
- A low-grade fever
- Lameness and / or incoordination
- Neurological symptoms, including convulsions
- Increased sensitivity to being touched
- Abdominal pain or colic (straining to urinate or defecate)
- Swallowing problems and drooling
- Odd behavioral changes, nervousness, irritability
- Vocalizations
- Possible aggressiveness

Rabies or suspicion of rabies is a reportable disease in Colorado. Even if rabies has not been diagnosed, practicing veterinarians need to call the State Veterinarian’s Office at 303-239-4161 to report suggestive clinical signs of rabies. If it is after-hours, our office phone message will indicate which staff veterinarian is on call.

The 2011 *Compendium of Animal Rabies Prevention and Control* contains a section with recommendations on handling rabies issues in livestock. Here are some excerpts:

*Livestock, including species for which licensed vaccines are not available, that have frequent contact with humans (e.g., in petting zoos, fairs, and other public exhibitions) should be vaccinated against rabies. Consideration should also be given to vaccinating livestock that are particularly valuable.*

*All species of livestock are susceptible to rabies; cattle and horses are the most frequently reported infected species. Any illness in an exposed animal should be reported immediately to the local health and agriculture officials. If signs suggestive of rabies develop, the animal should be euthanized and the head shipped for testing...*

*(1) Unvaccinated livestock should be euthanized immediately. If the animal is not euthanized, it should be observed and confined on a case-by-case basis for 6 months.*

*(2) Livestock exposed to a rabid animal and currently vaccinated with a vaccine approved by USDA for that species should be revaccinated immediately and observed for 45 days.*

*(3) Multiple rabid animals in a herd or herbivore-to-herbivore transmission are uncommon; therefore, restricting the rest of the herd if a single animal has been exposed to or infected by rabies is usually not necessary.*

*(4) Handling and consumption of tissues from exposed animals might carry a risk for rabies transmission. Risk factors depend in part on the site(s) of exposure, amount of virus present, severity of wounds, and whether sufficient contaminated tissue has been excised. If an exposed animal is to be custom or home-slaughtered for consumption, it should be done immediately after exposure, and all tissues should be cooked thoroughly. Persons handling exposed animals, carcasses, and tissues should use barrier precautions. Historically, federal guidelines for meat inspectors required that any animal known to have been exposed to rabies within 8 months be rejected for slaughter. USDA Food and Inspection Service (FSIS) and state meat inspectors should be notified if such exposures occur in food animals before slaughter. Rabies virus is widely distributed in tissues of rabid animals. Tissues and products from a rabid animal should not be used for human or animal consumption or transplantation. Pasteurization and cooking will inactivate rabies virus (58); therefore, inadvertently drinking pasteurized milk or eating thoroughly cooked animal products does not constitute a rabies exposure.*

The Compendium also states “All horses should be vaccinated against rabies.” In addition, The American Association of Equine Practitioners (AAEP) has included rabies in their “core vaccinations” and defined a recommended vaccination schedule. According to the American Veterinary Medical Association, core vaccinations are the immunizations “that protect from diseases that are endemic to a region, those with potential public health significance, required by law, virulent/ highly infectious, and/or those posing a risk of severe disease. Core vaccines have clearly demonstrated efficacy and safety, and thus exhibit a high enough level of patient benefit and low enough level of risk to justify their use in the majority of patients.”

Often there are questions concerning how the Colorado Department of Agriculture (CDA) is involved with public health authorities when there is a rabies issue. Here is CDA’s protocol for response to possible exposure of livestock to suspect or confirmed rabid wildlife animals.

1. Confirmed rabid wild mammals: Where direct contact between the wild terrestrial mammal and livestock is highly likely, CDA will handle the situation on a case-by-case basis but will visit the site for an assessment within a timely manner. Vaccination, quarantine, and/or euthanasia may be implemented based on the most recent NASPHV Rabies Compendium. CDA will notify CDPHE and/or local public health on action taken. (Public health officials will notify local animal control when necessary).
2. Suspect wild mammal (unavailable for testing): Where direct contact is highly likely, CDA or local public health will handle the situation on a case-by-case basis and may request the owner to have a veterinarian examine and vaccinate livestock mammals, at the expense of the owner, within a timely manner. A home quarantine or euthanasia may be required, based on most recent NASPHV Rabies Compendium. CDA will notify CDPHE and/or local public health. (Public health officials will notify local animal control when necessary).
3. Suspect or confirmed rabid wild mammal with low risk for direct contact with livestock: CDA will coordinate with state or local public health officials to make recommendations to the owner for the management of the situation in a timely fashion.

Ultimately, the vaccination decision belongs to the owners and they will have to weigh the incidence of terrestrial wildlife rabies in their geographical location, the risk of human exposure, the possible financial costs, the potential loss of their animals, and the cost of the vaccination procedure. Your local veterinarian can provide the trusted guidance in helping you make that decision.