

# Disease of Wild Ruminants III

# Bullwinkle Deer Disease

- Seen in the white-tails.
- The swollen snouts of afflicted deer result from **chronic (long-term) inflammation** of the tissues of the nose, mouth and upper lip.
- All of the cases involved similar *colonies of bacteria* in the inflamed tissues, but isolating the guilty bacteria has been difficult due to poor sample condition and contamination from many other non-guilty bacteria.
- How and where deer acquire the Bullwinkle bacteria is still unknown.
- While the Bullwinkle infection is no doubt uncomfortable for the patients, it doesn't appear to be lethal.

# Giraffe Skin Disease

- Giraffe Skin Disease is a disorder of the skin that is characterized by crusty lesions that form on various parts of a giraffe's body.
- Large greyish-brown lesions

# Giraffe Skin Disease

- Giraffe Skin Disease was recorded in seven **African countries** – Kenya, Uganda, Tanzania, Namibia, Botswana, Zimbabwe and South Africa.
- The disease is most prevalent in East Africa, where it affects 86% of the giraffes in Ruaha National Park, **Tanzania**.
- The disease can break out **in different parts of a giraffe's body** depending where they're located. *For example, in Tanzania giraffes' legs are affected while in Uganda it tends to be the neck and shoulders.*

# Giraffe Skin Disease

- No mortality
- Limited mobility could lead to lower survival or reproduction if climate, habitat, or predation factors change from current conditions.

# Chronic Wasting Disease (Zombie Deer Disease)

- Chronic Wasting Disease (CWD) is a **contagious neurological disease** affecting **deer, elk and moose**.
- It causes a **characteristic spongy degeneration** of the brains of infected animals resulting in emaciation, abnormal behavior, loss of bodily functions and death.

# Chronic Wasting Disease (Zombie Deer Disease)

- Drastic weight loss (**wasting**)
- Stumbling
- Lack of coordination
- Listlessness
- Drooling
- Excessive thirst or urination
- Drooping ears
- Lack of fear of people

# Chronic Wasting Disease (Zombie Deer Disease)

- CWD belongs to a group of diseases known as **transmissible spongiform encephalopathies** (TSEs).
- Within this family of diseases, there are several other variants that affect domestic animals: *scrapie*, which has been identified in domestic sheep and goats for more than 200 years, *bovine spongiform encephalopathy (BSE)* in cattle (also known as “**mad cow disease**”), and transmissible mink encephalopathy in farmed mink.



# Chronic Wasting Disease (Zombie Deer Disease)

- Chronic wasting disease (CWD) is a [prion disease](#) .
- The prion *protein* is an *abnormal* isoform of a host-encoded glycoprotein.
- It has been found in some areas of North America, including Canada and the United States, Norway and South Korea.
- It may take over a year before an infected animal develops symptoms, which can include **drastic weight loss (wasting)**, stumbling, listlessness and other neurologic symptoms.
- Most animals with the disease die within several months of illness onset, sometimes from aspiration pneumonia.
- CWD can affect animals of all ages and some infected animals may die without ever developing the disease.
- CWD is fatal to animals and there are no treatments or vaccines.

# Chronic Wasting Disease (Zombie Deer Disease)

- The mode of transmission among deer and elk is not fully understood.
- No cases of CWD have been reported in humans, but studies have shown it can be [transmitted to animals](#) other than deer, including primates.
- Scientists believe CWD proteins (prions) likely spread between animals through body fluids like **feces, saliva, blood, or urine**, either through **direct contact or indirectly** through environmental contamination of **soil, food or water**.
- Once introduced into an area or farm, the CWD protein is contagious within deer and elk populations and can spread quickly.
- Experts believe CWD prions can **remain in the environment for a long time**, so other animals can contract CWD from the environment even after an infected deer or elk has died.

# Chronic Wasting Disease (Zombie Deer Disease)

- The CWD prion has been shown to experimentally infect squirrel monkeys, and also laboratory mice that carry some human genes.

# Hemorrhagic Disease (HD)

- The causative agent is still unknown.
- HD is the most important infectious disease of **white-tailed deer** in the Southeast United States
- HD is caused by two closely related viruses, *epizootic hemorrhagic disease (EHD)* or *bluetongue virus*. There are 2 subtypes of EHD virus and 5 subtypes of bluetongue in North America. Because disease features produced by these viruses are indistinguishable, a general term, hemorrhagic disease, often is used when the specific virus is unknown.

# Hemorrhagic Disease

- HD is not spread by direct contact. It is transmitted by tiny biting flies in the genus *Culicoides*.

# Hemorrhagic Disease

- Outward signs in live deer depend partly on the virulence (potency) of the virus and duration of infection.
- Many affected deer appear normal or show only mild signs of illness.
- When illness occurs, the signs change as the disease progresses.
- Initially animals may be depressed, feverish, have a swollen head, neck, tongue, or eyelids, or have difficulty breathing.
- With highly virulent strains of the virus, deer may die within 1 to 3 days.
- More often, deer survive longer and may become lame, lose their appetite, or reduce their activity.

# Hemorrhagic Disease

- Peracute, acute, chronic
- **Peracute**: very rapid form, shows edema of the neck, head, tongue, eyelids, and lungs
- **Acute** (classic hemorrhagic form): have edema and also hemorrhages or congestion in heart, pulmonary artery, oral mucosa, rumen, abomasum, or intestines.
- Erosions or ulcerations on the dental pad, tongue, palate, rumen, omasum, and abomasum can be seen.

# Hemorrhagic Disease

- **Chronic:** this form is typified by growth interruptions of the hooves and possible sloughing of the hoof walls.
- Other chronic lesions include oral ulcerations, papilla loss and scarring of rumen mucosa.



# Other Diseases in Wild Ruminants

- Malignant Catarrhal Fever
- Babesiosis
- White muscle disease
- Poxvirus....

can be seen!!!