

Chronic Wasting Disease



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BASICS

Chronic Wasting Disease (CWD) is a transmissible spongiform encephalopathy (TSE) causing **NEUROLOGIC DISEASE** in mule deer, white-tailed deer, elk, and moose. It is caused by an infectious prion, which is a misfolded protein.

CWD IS FATAL IN ALL CASES. Most animals will survive for a year or more, but death is inevitable.

CLINICAL SIGNS include decreased control of body movements and wide-based stances, head tremors, or carrying their head and ears lowered. Affected animals may walk in repetitive courses, sleep for excessively long periods of time, or be found near water sources or in riparian areas.

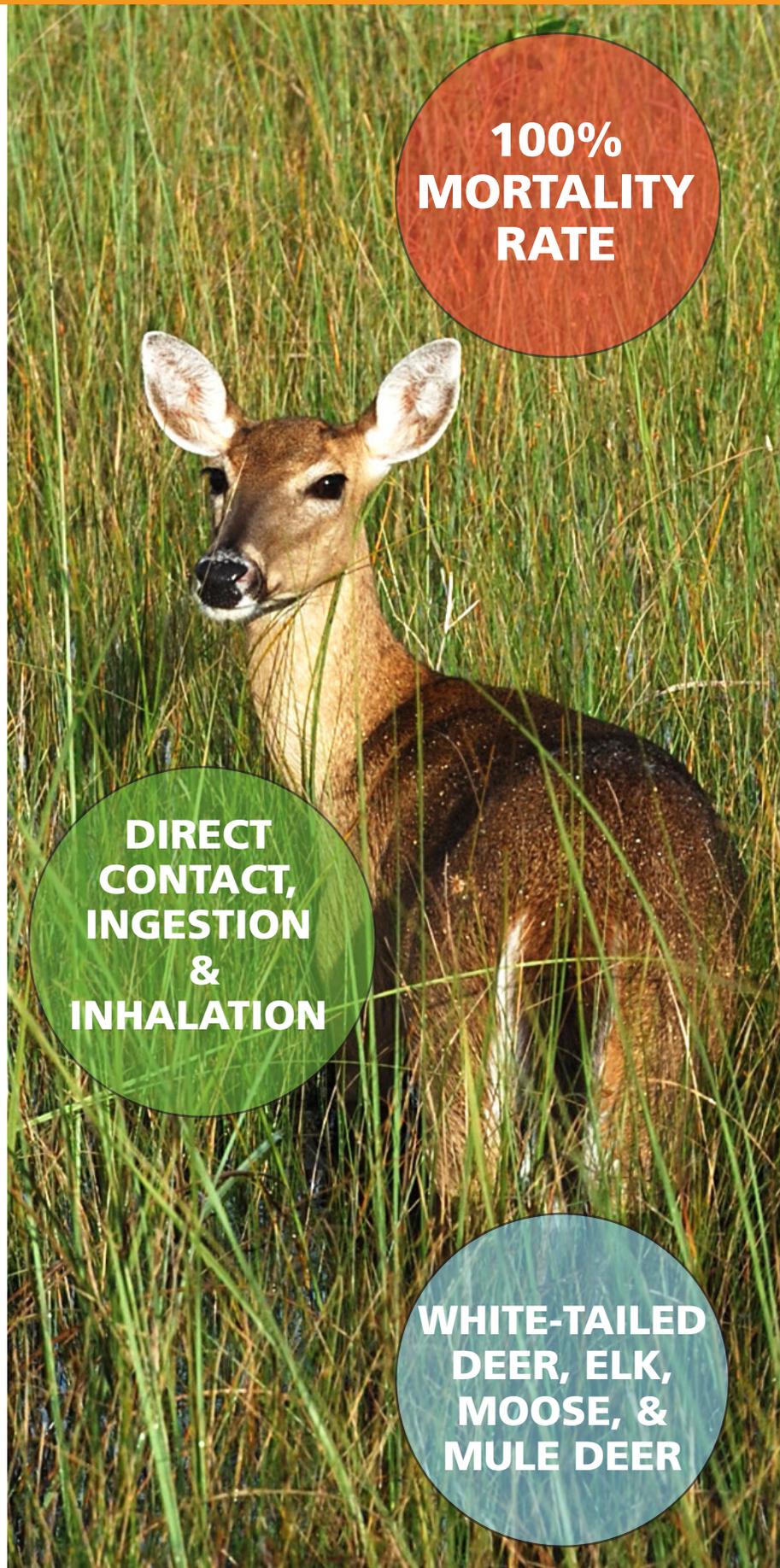
They will continue to eat but in decreasing amounts, which leads to a gradual **DECLINE IN BODY CONDITION.**

In the terminal stages, excessive drinking and urination are common as well as excessive salivation and drooling. Clinical signs are often more subtle and prolonged in elk.

TRANSMISSION occurs directly through contact with an infected animal or indirectly through contact with a contaminated environment. Live animals shed prions in saliva, feces, and urine, which can bind to soil and remain infectious.

DIAGNOSIS of CWD is most often done by testing the obex region of the brain or the retropharyngeal lymph nodes. Testing will determine if CWD prions are present or not detected.

There are **NO TREATMENTS** or vaccines available. Prevention is the most cost-effective control measure.



**100%
MORTALITY
RATE**

**DIRECT
CONTACT,
INGESTION
&
INHALATION**

**WHITE-TAILED
DEER, ELK,
MOOSE, &
MULE DEER**

DETAILS

HISTORY CWD was discovered in captive mule deer in 1967 in Colorado, but wasn't identified in the wild until 1981 when Colorado found an affected elk. The origin of CWD is unknown, but may have originated from scrapie. Scrapie, CWD, and "mad cow" disease are in the same family of diseases known as "transmissible spongiform encephalopathies."

CWD has now been found in 25 states and 4 Canadian provinces. CWD has been identified in South Korea, Norway, and Finland as well.

TRANSMISSION CWD prions can be spread directly from animal-to-animal contact or indirectly from infected carcasses, animal parts, product, or contaminated environments. Prions are found throughout the body and in saliva, feces, and urine. They are shed by live animals before they appear sick. Prions bind to soil and plants and remain infectious in the environment for years.

Species affected by CWD include white-tailed deer, mule deer, elk, red deer, reindeer/caribou, and moose, including subspecies. Carnivores and scavengers have not become infected although they have been shown to be able to pass infectious prions in their feces.

No human cases of CWD have been reported. However, the Centers for Disease Control and Prevention (CDC) recommends that no one knowingly consume CWD-



positive animals. In CWD-positive areas, the CDC recommends that hunters consider testing harvested animals before eating the meat. Cooking the meat does not inactivate the CWD prion.

CWD can negatively impact deer and elk populations. Once the prevalence (% of animals infected) reaches critical points, populations may begin to decline. Deer infected with CWD do not live as long as unaffected deer. Males (bucks) are more likely to be infected than females (does).

Prions are resistant to normal disinfection procedures that kill most disease agents like bacteria or viruses.

Once CWD is established in a wild population, it has been nearly impossible to eliminate the disease. When CWD is found in captive deer and elk herds, those animals are often euthanized to prevent further spread of the disease to wildlife.

2000



2010



2018



Progression of states and provinces where CWD has been detected, 2000-2018