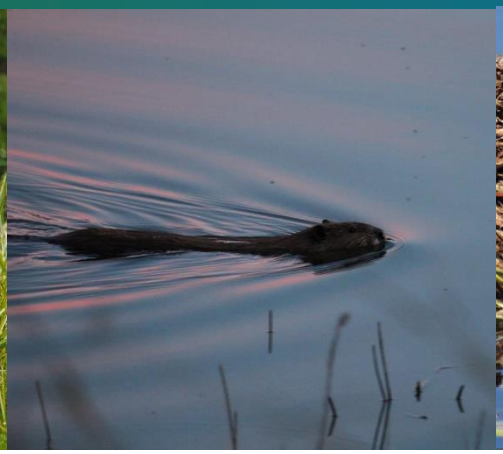
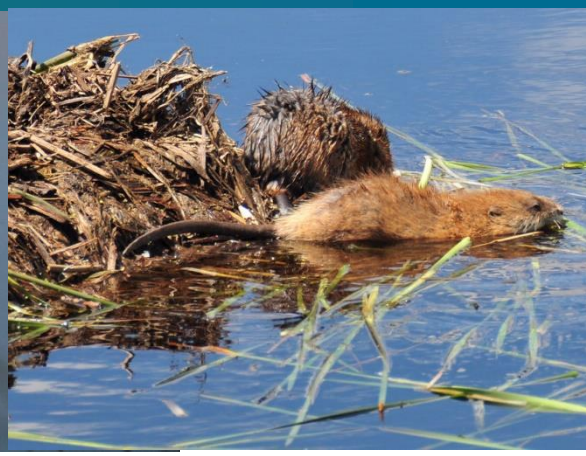
TULAREMIA

Office of Fish and Wildlife Health and Forensics





Introduction

Tularemia or “rabbit fever” is a highly infectious disease caused by the bacterium *Francisella tularensis*. Although mostly contained to rabbit and hare hosts, the bacteria can infect numerous host species, including wildlife, pets, livestock, and humans. Wild animals typically show little to no signs of disease, and the signs that do present are highly variable. Most wild animals are moribund by the time they are discovered.

Species Affected

The most commonly affected species are rabbits such as the eastern cottontail (*Sylvilagus floridanus)*. Additional species known to carry the bacteria are rodents such as muskrats, voles, and beavers.

Clinical Signs

Signs of *F. tularensis* infection are not obvious. Wild animals may exhibit lethargy, depression, staggering, and behavior alike to rubbing their nose into the ground. Some animals may have localized inflammation or enlarged lymph nodes. Species that are less sensitive to the bacteria may develop lesions if the infection lasts for a prolonged period. Most animals are found dead or dying, well after the onset of any signs of infection. The disease course in rabbits and hares typically lasts 2 – 10 days.

Transmission

F. tularensis is transmitted through biting insect vectors, including deer flies and several species of ticks, as well as through contact with infected animals. Some transmission can occur through aerosolized *F. tularnesis*.

Diagnosis

Tularemia must be diagnosed through bacterial culture and identification or serology.

Epidemiology

Tularemia has been split into distinct bacterial subspecies multiple times. These were historically based on geographic distribution and method of transmission. Presently, *Francisella tularensis* is split into four subspecies:

- *F. tularensis tularensis*
- *F. tularensis holarctica*
- *F. tularensis mediasiatica*
- *F. tularensis novicida*

In the United States, tularemia cases peaked at 2,291 in 1939 and have steadily declined since. During this century, there

have been less than 400 cases per year reported in the US. Some of this decrease is attested to changes in human activity and decreases in hunting and trapping activities. Additionally, some of the change has been geographic with a shift in the majority of cases from the eastern states to more of a southern and western focus.

Surveillance/Management

Tularemia is a Nationally Notifiable Infectious Disease. Human cases must be reported to the CDC and animal cases are reported to USDA and CDC.

Additional Resources

CDC Tularemia Statistics | CDC

USGS Report on Tularemia.pdf (usgs. gov)