

PROGRAM ACTIVITY REPORT (PAR)



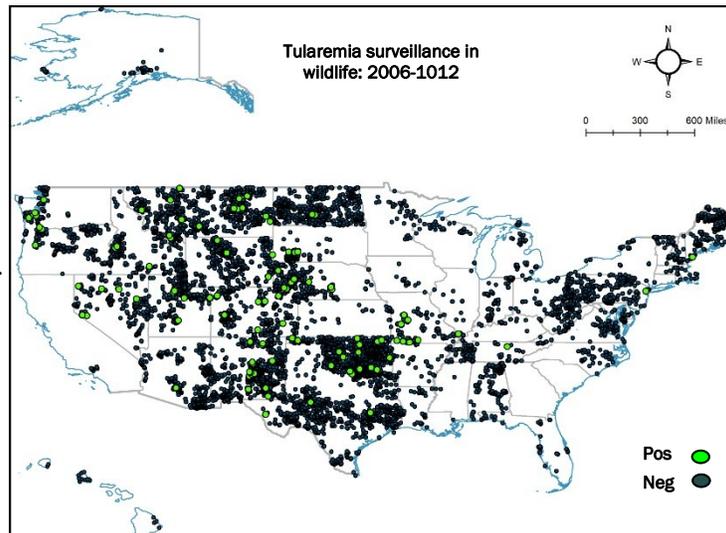
Tularemia Surveillance Update

Tularemia is a highly infectious zoonotic disease caused by the bacterium *Francisella tularensis*. It is considered to be one of the most infectious pathogens ever studied. The bacterium has the ability to readily aerosolize, and to cause morbidity and mortality in wildlife, domestic

animals, and people. It also has the potential to serve as a bioterrorism agent. Human tularemia cases are still reported every year in the United States, with an average of 150 cases per year, most of which are associated with tick bites. For these reasons, tularemia is a disease of concern for animal and public health officials, as well as for biosecurity agencies.

Despite the potential risks, relatively little is known about tularemia transmission and ecology. This is in part because more than 200 species have been documented with naturally occurring tularemia infections, and multiple vectors (e.g., ticks and biting flies,) are thought to be involved in transmission. It is also believed

capable of persisting in the environment under ideal conditions (e.g., moist soil and water). In short, *F. tularensis* could potentially be ubiquitous in the environment, in arthropod vectors, and in mammalian host species.



The NWDP, with assistance from the Centers for Disease Control (CDC), have been implementing a national monitoring system for *F. tularensis* in wildlife. Blood samples collected by NWDP wildlife disease biologists are tested for evidence of *F. tularensis* antibodies. While testing has been reduced in recent years, several hundred samples are still screened

annually from areas where limited data is available and from areas where human tularemia cases are a concern. Of 21,768 samples tested since 2006, 161 were *F. tularensis* antibody positive, resulting in a relatively low seroprevalence of 0.7% across multiple species. Coyotes are one of the species with the highest exposure rates overall.

In 2012, NWDP biologists collected nearly 5,000 wildlife samples that were either placed in the National Nobuto Storage Archive or sent to the CDC for testing. Additional wildlife data were also provided by the Washington State Department of Health. The seroprevalence of 2012 samples tested to date is

0.2% (n=353). One of the samples was from a beaver with an extremely high *F. tularensis* titer, possibly indicating recent exposure or re-exposure to the pathogen.

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The original artwork on this page was created by the National Wildlife Disease Program's Erika Kampe and Sarah Goff