

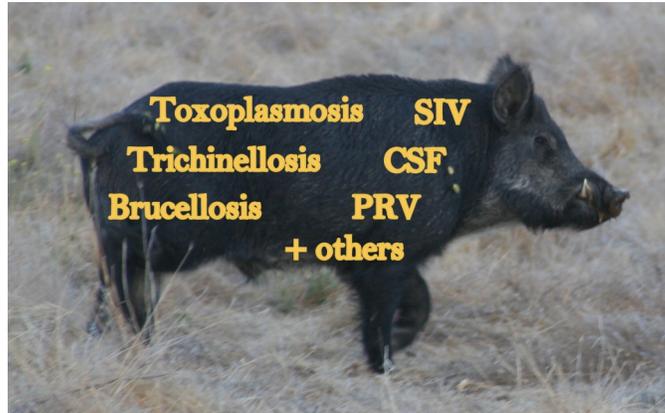
PROGRAM ACTIVITY REPORT (PAR)



Leveraging the Value of Feral Swine Samples

The cost of obtaining serum and tissue samples from feral swine (*Sus scrofa*) is the same regardless of how many diseases are subsequently monitored with the samples; however, the value of the samples increases dramatically when they are used to monitor multiple diseases. The NWDP is constantly exploring new collaborative opportunities to get the most value from samples collected in the field.

Since feral swine sampling began in 2007, the NWDP has partnered with Veterinary Services to identify and monitor a core group of diseases in feral swine. These diseases initially included classical swine fever, swine brucellosis, and pseudorabies. Later, toxoplasmosis, trichinellosis, swine influenza, Hepatitis E, and leptospirosis were included in the list of monitored diseases. More specifically, the NWDP collaborates with several other federal agencies and universities in a surveillance effort that seeks to increase our understanding of the dynamics of type A influenza viruses in feral swine populations. Hepatitis E is monitored using an ELISA serology based test by the National Institutes of Health in Maryland. Leptospirosis testing is conducted in collaboration with Colorado State University.



A number of other diseases have been the subject of short-term monitoring or research studies. A study on lesions caused by experimental infection with foot-and-mouth disease in feral swine was completed in 2010, in collaboration with the Foreign Animal Disease Diagnostic Laboratory at Plum Island, New York. Results were presented in a pocket field guide illustrating foot and mouth lesions in feral swine. Two diagnostic negative cohort studies, on foot-and-mouth disease and African Swine Fever in feral swine, were conducted in partnership with several National Animal Health Laboratory Network laboratories during 2010 and 2011. In addition, a retrospective study on two swine respiratory diseases, porcine reproductive and respiratory syndrome virus and porcine circovirus type 2, was conducted in collaboration with the Rollins Diagnostic Laboratory in North

Carolina, National Veterinary Science Laboratory, and others, in 2011. Feral swine lymph nodes were used to culture *Brucella* at the National Veterinary Science Laboratory during 2011 and 2012 in an attempt to distinguish between *Brucella abortus* and *Brucella suis*. The Agricultural Research Service in Beltsville, Maryland, is extracting *Trichinella* larvae from feral swine tongues, and *Toxoplasma* tissue cysts from feral swine hearts, for genotyping analyses.

More recently, the NWDP began a collaborative pilot project with the University of Montreal to screen feral swine serum for several diseases of concern to the pork industry. These diseases include *Mycoplasma hyopneumoniae*, *Actinobacillus pleuropneumoniae*, and *Salmonella* species. Feral swine tonsils have also been submitted to test for the presence of a zoonotic disease, *Streptococcus suis*. NWDP expects the list of wildlife diseases monitored to continue to change, and likely grow, in the future as we learn more about the role of feral swine in animal and human health.

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