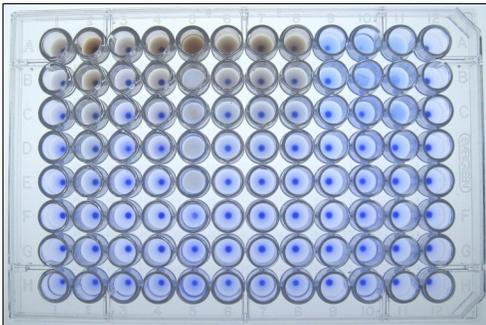




PROGRAM ACTIVITY REPORT (PAR)

IMPLEMENTING A MICROAGGLUTINATION ASSAY FOR DETECTING EXPOSURE TO TULAREMIA

Tularemia is a bacterial disease caused by *Francisella tularensis*. The organism infects and induces disease in a broad range of mammalian hosts, including humans; it is also a biodefense threat and work with the agent is highly regulated. The NWDP coordinates a national surveillance program for tularemia by monitoring antibody levels to



F. tularensis microagglutination assay

F. tularensis in wildlife. These data are used as an index for tracking the distribution of the organism across the country and potentially to enable prediction of outbreaks. The microagglutination assay, conducted by the Centers for Disease Control and Prevention (CDC), is used for detecting antibodies to *F. tularensis*. However, the CDC will have only limited ability to test future samples for the NWDP. Consequently, Colorado State University is in the initial stages of establishing an in-house assay for detecting antibodies for *F. tularensis*. The initial exploratory stage was to prepare formalin-killed *F. tularensis* (LVS strain) that was stained with crystal violet. This

antigen preparation was initially tested using control mouse serum and sera from mice that had been vaccinated and challenged with virulent Schu4 strain organisms. Antibodies were readily detected in mice experimentally-infected with *F. tularensis* but not in control mice. Seven of eight seropositive coyote samples eluted from Nubuto strips provided by the NWDP tested positive and 10 of 10 seronegative samples were negative. If this test continues to prove sensitive and specific for *F. tularensis* antibodies, the NWDP will incorporate it into our national surveillance program. For more information please contact Dennis Kohler,

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SURVEILLANCE FOR HPAI H5N1 IN GREENLAND

Recent research has shown that there are distinct lineages of Eurasian and North American avian influenza viruses and transmission between the regions is rare. But there is evidence of occasional intercontinental exchange of low pathogenic avian influenza (LPAI) virus, although the carriers are not known. Large numbers of birds from Asia and North America mingle on breeding grounds and staging areas in far eastern Russia and Alaska each summer. Thus, the potential risk of highly pathogenic avian influenza (HPAI) H5N1 to be carried into the U.S. by migratory birds has been considered highest along the Pacific Fly-

way. With the emergence of HPAI H5N1 in Europe in 2006, however, the possibility of wild birds carrying the virus to North America via the northern Atlantic Flyway became an increasing concern. Similar to Alaska, Greenland is an interface for contact between migratory waterfowl from western Europe and eastern North America. To support the program mission of early detection of diseases, the NWDP began collaborating with Danish scientists in 2007 to sample wild birds in Greenland for HPAI. Since then Danish, Greenland and Wildlife Services biologists have collected over 4800

AI samples from wild birds in Greenland, and by September 2011 the total will exceed 6000 samples. Some of the samples come from very remote areas rarely visited by people. While some LPAI has been found, to date, no HPAI has been detected. By collaborating with scientists in Denmark and Greenland, the NWDP has effectively expanded the range of our HPAI early detection surveillance network by 1000 miles beyond our northeastern border. For more information, contact John Baroch,

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