



# PROGRAM ACTIVITY REPORT (PAR)

## WILDLIFE DISEASE SURVEILLANCE

While medicine has long been aware of the factors which cause disease emergence, most of the efforts have been placed on addressing them from within the fields of human and agricultural medicine. Only recently have we begun to address the importance of considering the transmission of diseases among humans and domestic animals. We are even further behind in addressing the role



of fish, wildlife, and natural ecosystems in the emergence and trans-

mission of human and domestic animal diseases.

One reason diseases in wildlife have received limited attention, is because surveillance programs in wildlife are often much more difficult to implement than in humans and domestic animals. Estimation of even the most basic epidemiological parameters in wild-

life can be daunting. For example, prevalence of disease is relatively easily calculated in domestic animals, because we can confine them, count individuals, and collect the proper sample for testing. Alternatively, estimation of populations size (denominator) in wild populations is difficult at best.

The two pictures here, clearly illustrate this point. Even when livestock are spread out on expansive rangelands, we can usually round them up and count individuals.

Any number of people would likely come up with the same number of cattle in the picture on the left.

However, even if a photo is taken of a flock of wild birds, as is the case on the right, two people would be hard pressed to count the same number of individuals.

Other variables, such as lack of validated diagnostic tests for individual wildlife species, very few effective and practical vaccines, and confusing management authorities all contribute to the difficulties in conducting disease surveillance and control programs in wildlife.

In recent years, APHIS and other agencies and organizations have increasingly recognized the importance of disease surveillance in wildlife. The NWDP has played a key role in developing the US' capacity to conduct such activities. On average, the NWDP conducts monitoring and surveillance projects on 75 pathogens, syndromes, or toxins annually at local, regional, or national scales.



Also, collaborations with scientists at the NWRC, universities, State Agencies, other Federal Agencies have made significant contributions to improving our understanding of disease ecology at the human-agriculture-wildlife interface.

For additional information contact, Tom DeLiberto,

[Thomas.J.DeLiberto@aphis.usda.gov](mailto:Thomas.J.DeLiberto@aphis.usda.gov)

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