

PROGRAM ACTIVITY REPORT (PAR)



EHD & BTV UPDATE

Since the creation of the National Wildlife Disease Program (NWDP) in 2003, Wildlife Services has conducted surveillance for arboviruses (arthropod-borne viruses) across the United States. The NWDP has participated in surveillance for several arboviruses such as West Nile Virus, St. Louis Encephalitis, and Eastern Equine Encephalitis. In 2010, the NWDP started a small surveillance project with Agricultural Research Services (ARS) to detect blue-tongue virus (BTV) and epizootic hemorrhagic disease virus (EHDV) in various species of *Culicoides* that vector the pathogens. Collection sites were selected in Arizona and Indiana based on reports of recent outbreaks in these states. Wildlife Disease Biologists collected samples during the summer of 2010. Subsequently samples were sorted by *Culicoides* species and identified by NWDP and ARS scientists. Nine species of *Culicoides* were identified in samples provided by Indiana and seven species from Arizona. Samples were condensed into pools of 50 before testing. Diagnostics were conducted using a multiplex real-time reverse transcription polymerase chain reaction (rRT-PCR) developed by ARS scientists based in Manhattan, Kansas. Preliminary assays were able to detect and amplify virus from multiple *Culicoides* species; *C. sonorensis* from Arizona and *C. biguttatus* and *C. stellifer* from Indiana.

Surveillance for BTV and EHD was elevated to four new states during 2011. Collections sites were identified in Maryland, New Jersey, Montana, and



Maine due to recent outbreaks of EHDV in their local deer populations. This past August, Wildlife Disease Biologists initiated collected samples every week except during periods of inclement weather when *Culicoides* were unlikely to be present. All states experienced low insect trapping volume from their respective sites. Sorting was completed in October, 2011 and species identification is ongoing. Insects that were too difficult to identify were mounted, photographed, and sent to ARS for species confirmation. Testing for EHDV in these samples is scheduled for this coming spring.

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Arizona

<i>Culicoides</i> Species	# Collected
<i>C. sonorensis</i>	2250
<i>C. crepuscularis</i>	40
<i>C. defoliarti</i>	257
<i>C. mojave</i>	1
<i>C. reevesi</i>	2
<i>C. selfia</i>	8
<i>C. butleri</i>	1
Total	2559

Indiana

<i>Culicoides</i> Species	# Collected
<i>C. stellifer</i>	2064
<i>C. biguttatus</i>	2776
<i>C. verripennis</i>	529
<i>C. venustus</i>	45
<i>C. crepuscularis</i>	287
<i>C. haematopotus</i>	29
<i>C. obsoletus</i>	22
<i>C. piliferus</i>	20
<i>C. arboricola</i>	20
Total	5729

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

