

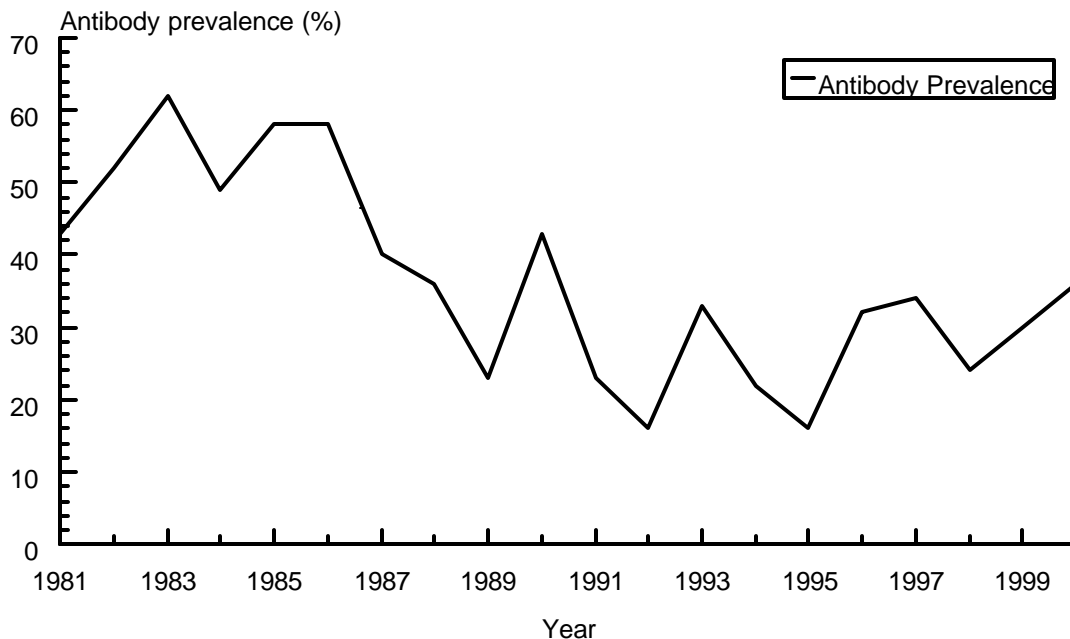
VS Persistence on Ossabaw Island

SCWDS Briefs, April 2001, 17.1

Georgia's Ossabaw Island has the distinction of being the only confirmed enzootic focus of the New Jersey serotype of vesicular stomatitis virus (VSV-NJ) in the United States, and the barrier island has served as an outdoor laboratory for research on the epidemiology of VSV-NJ since the early 1980s. VSV-NJ activity on Ossabaw Island initially was detected in the 1960s by serologic testing of feral swine and white-tailed deer. But it was not until 1983 that the virus was isolated from a feral pig with vesicular lesions. From then through the early 1990s, VSV-NJ was isolated on several occasions from the sand fly vector (*Lutzomyia shannoni*) and from additional feral swine, with and without clinical disease.

White-tailed deer (WTD) represent the only species at this site that have been under continued surveillance since 1981. WTD have proven to be a reliable indicator of VSV-NJ activity, despite the fact that naturally occurring vesicular stomatitis has never been observed in WTD, and there have been no isolations of VSV-NJ from free-ranging WTD. From 1981 through 2000, SCWDS has tested blood samples from more than 1,800 hunter-killed WTD as shown on the Figure below, and seropositive deer have been detected every year.

Antibodies to VSV-NJ in white-tailed deer Ossabaw Island, GA 1981-2000



The prevalence of antibodies to VSV-NJ appears to be decreasing, but it is possible that this represents variations in sampling rather than an actual decrease in activity. For example, it is known that VSV-NJ is associated with the old-growth maritime forest on Ossabaw Island, and since 1981 the area under surveillance has been enlarged to include less favorable VSV-NJ habitats due to expansion of the public deer hunting zone.

These data indicate that VSV-NJ is alive and well on Ossabaw Island, and its continual detection solely through wildlife surveillance has important implications to developing integrated animal disease detection systems. SCWDS work on Ossabaw Island clearly demonstrates that important livestock pathogens, such as VSV-NJ, can persist in the absence of domestic animal hosts and, that in such areas, detection of the virus would escape conventional surveillance systems based on domestic animal species alone. This focus of VSV-NJ infection would still be unknown if active surveillance directed at wildlife had not taken place. This observation could have relevance to other diseases of domestic animal. (Prepared by Dave Stallknecht)