

# Epidemiology of Eastern Equine Encephalitis in South Carolina

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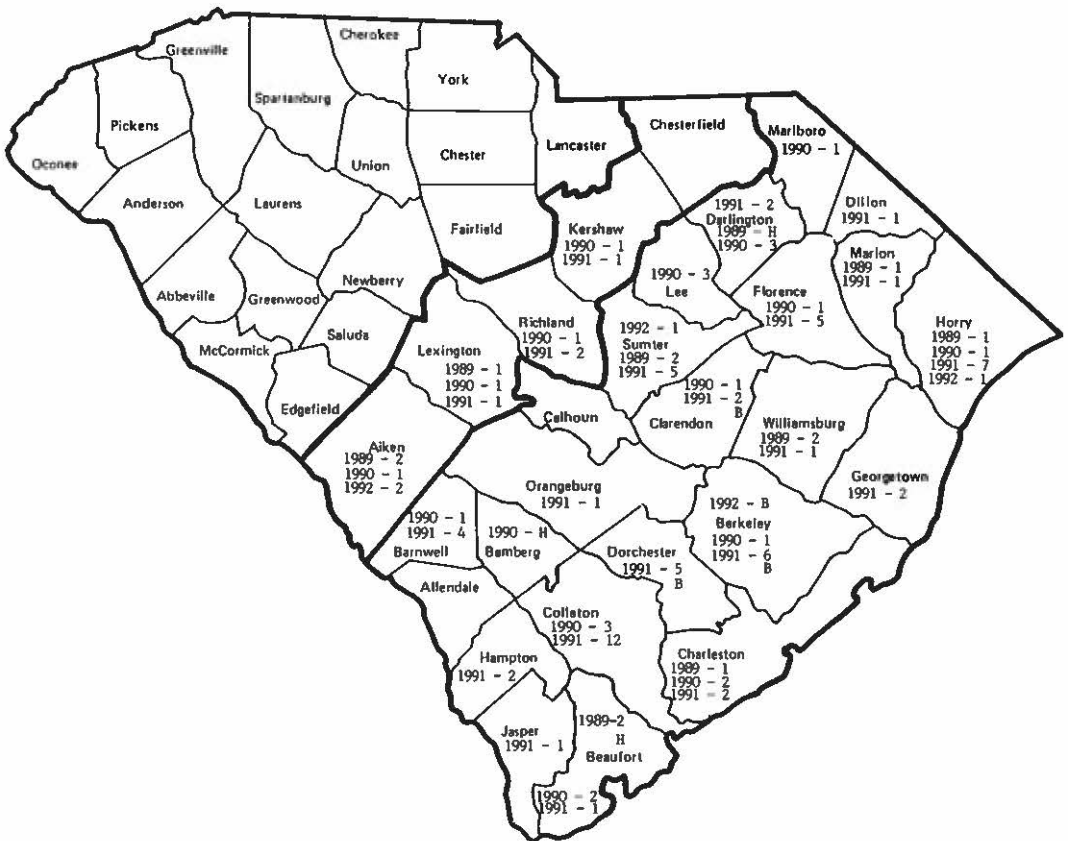
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A few cases of Eastern Equine Encephalitis are reported in horses almost every year in South Carolina. Human cases, however, appear to be rare. Since 1969, there have been only 5 reported cases in humans.

Because of this relatively low reported incidence of the disease in South Carolina, there has not been a great deal of research and investigation on EEE. The most definitive review of EEE in South Carolina was done in 1982 by Mac Tidwell at The International Center for Public Health Research

(The Wedge).<sup>1</sup> Some additional investigation was done by CDC in 1969 following Hurricane Hugo. No EEE virus was isolated from 28 species of mosquitoes that were collected in Dr. Tidwell's study site. EEE virus was isolated from only one species of mosquitoes collected by CDC following Hurricane Hugo. This virus was isolated from *Culex salinarius*.<sup>2</sup>

There does exist, in South Carolina, the necessary components to maintain a natural cycle of EEE virus. The highest incidences of reported cases in horses, humans,



Laboratory Confirmed Cases of EEE - 1989 - 1992

and birds are in the Sandhills and Coastal Plain regions of the state. These areas are located east and south of a line running from Aiken County to Chesterfield County. Freshwater hardwood swamps are common in these regions and *Culiseta melanura* is readily collected by the mosquito control programs in the area. In addition, species of mosquitoes that have been implicated as vectors of EEE virus to humans and horses are collected in large numbers by control personnel. Especially prevalent are *Aedes vexans*, *Psorophora ciliata*, *P. columbiana*, and *Culex restuans* inland and *Aedes sollicitans* and *Aedes taeniorhynchus* on the coast.

South Carolina primarily depends on reports of cases of EEE in horses to act as sentinels for disease activity. Horse and game bird cases are compiled by the state veterinarian at the Clemson Livestock Laboratory in Pontiac, right outside Columbia. Human cases of EEE are reported to the Division of Communicable Disease Con-

trol, Bureau of Preventive Health Services at SCDHEC. Whenever the Division of Vector Control, SCDHEC, receives reports of cases of EEE from Pontiac or from the State Epidemiologist, we contact the mosquito control program and the health department of the county in which the cases occur. The locations of the cases are visited to determine the species of mosquitoes in the area, their breeding sites, and appropriate control measures. Because there is no statewide operational mosquito control program in South Carolina, mosquito control efforts must be supplied by a county or municipality. The Division also distributes news releases to alert horse owners as well as the general populace of the threats of the disease. The news releases contain information on mosquitoes and control measures that individual homeowners can employ.

A summary of horse, bird and human cases from 1969 to 1992 follows:

EEE Cases Reported in South Carolina

Year	Horse	Gamebird*	Humans
1969-1986	200	4*	1 (Beaufort County)
1987	0	0	1 (Horry - Sept. 7 yr. old male)
1988	0	0	
1989	12	0	2 (Darlington - Aug. - 60 yr. old male) (Beaufort - Oct. - 16 yr. old male)
1990	23	0	1 (Bamberg - June - 58 yr. old female)
1991	60	3**	
1992	4	1***	

\*There were 4 cases of EEE reported in birds between 1969 & 1982 in pen raised quail & pheasant.

\*\*Pheasant - 2, chuckas - 1

\*\*\*Pheasant

## REFERENCES

<sup>1</sup>Tidwell, M. A., D.M. Forsythe, Margaret A. Tidwell, Richard L. Parker, & A. J. Main, 1984. Eastern Equine

Encephalitis Virus Activity in South Carolina. *Journal of Agricultural Entomology* 1 (1):43-52.

<sup>2</sup>Moore, C. G., 1990, Personal correspondence. CDC, Fort Collins, CO.