# "Mosquitoes & Arboviruses in Northeast Massachusetts: A Fifteen-Year Retrospection"

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## ABSTRACT

Before 2000, issues confronting the Northeast Massachusetts Mosquito Control District dealt almost exclusively with nuisance mosquitoes. Salt marsh mosquitoes, primarily ***Aëdes sollicitans*** and ***Aë. cantator,*** were the great scourge of the Essex county coastal region. But the aerial salt marsh mosquito larvicidal program, commencing in the mid 1980's, reduced significantly their populations. Other nuisance species, such as ***Coquillettidia perturbans***, were managed by ground-based adulticiding. Disease agents transmitted by mosquitoes in Essex County were practically unknown. Only very sporadic appearances by Eastern Equine encephalitis virus were observed.

All that changed after the turn of the 21st Century. West Nile virus (WNV) was first detected in 2000 in birds, then in mosquitoes the following year and every year since. Eastern Equine Encephalitis virus (EEEV) also began making almost annual appearances beginning in 2004. Three hundred and twenty mosquito pools have been found infected with one of these viruses or in rare instances, both. There have been eight human cases and with two fatalities, from diseases caused by these viruses. Changes have been observed in mosquito abundance and diversity after 2000 as well. ***Aëdes japonicus*** appeared for the first time in District in 2001 and quickly become established in Essex County. Two species non-native to Massachusetts have also been observed once each within the past ten years (***Culex tarsalis*** and possibly ***Aëdes albopictus***). A salt marsh species not found for many years until recently has been ***Aëdes taeniorhynchus***. Changes in population abundance and distribution have been noted for other mosquito species and may indicate disturbing changes in their bionomics and/or ecology. These observations will be discussed in more detail in this presentation.