



Impact of Vector-borne Diseases and the Role of Mosquito Control in California

THE MOSQUITO IS THE DEADLIEST CREATURE ON THE PLANET

- Mosquito-borne disease is the cause of death in more than 1 million people every year worldwide.
- In the United States, at least nine types of viruses, including West Nile virus (WNV), Zika, dengue, chikungunya, and malaria are transmitted by mosquitoes.
- Mosquito-borne diseases can have debilitating effects, such as Zika virus which has been associated with microcephaly and Guillain-Barré syndrome.

WEST NILE VIRUS IS A SERIOUS THREAT

- Infected mosquitoes spread WNV – which can cause serious, life-altering consequences and death. Since 1999, more than 45,000 people in the United States have been reported as sick with WNV. There is no cure for WNV.
- In 2016, 426 human cases of WNV were reported from California. Of these, 315 developed the more severe neuroinvasive form of the disease resulting in 18 fatalities.
- West Nile virus has become entrenched in the environment of California and the US and will remain a public health threat in 2017 and beyond.

MOSQUITO-BORNE DISEASES HAVE SIGNIFICANT ECONOMIC IMPACTS

- Patient treatment costs can be high, including costs for inpatient and outpatient medical care, loss in productivity, miscellaneous costs such as nursing home, transportation, home health aides, and childcare costs. For example, the medical costs and lost productivity associated with the 163 human WNV cases from Sacramento and Yolo Counties in 2005 were estimated at nearly \$3 million in medical costs and lost productivity.

MOSQUITO CONTROL WORKS

- In 2012, the WNV outbreak in Texas and the state's lack of a good mosquito control program, brought attention to the importance of having established, efficient mosquito control programs to prevent widespread outbreaks of disease. This unfortunate event reinforced the importance of mosquito surveillance and control as a cost-effective use of public funds to protect public health and the environment.
- In many parts of California, residents have voted to form local mosquito control programs or agencies and allocate necessary funding. As a result, approximately half the land area and 85% of California's population are within the boundaries of a mosquito control program.
- Mosquito control agencies in California have protected public health against mosquito-borne disease and maintained quality of life by controlling nuisance mosquitoes for over 100 years. The introduction of exotic mosquitoes into California and mosquito-borne diseases such as West Nile virus, chikungunya, dengue, and Zika reinforce the need to support these public health agencies into the future.