2013-2014 MONTEREY COUNTY CIVIL GRAND JURY

INTERIM FINAL REPORT NO. 3

MOSQUITO ABATEMENT IN MONTEREY COUNTY

Mosquito Abatement in Monterey County

SUMMARY

Mosquitoes are an acknowledged public health threat, but it appears that unless there is an outbreak of disease, the public is not aware of the threat nor the measures that need to be taken to prevent and control outbreaks of mosquito born diseases. These diseases are debilitating and sometimes deadly to humans and animals.

The US Center for Disease Control (CDC) states that more than 30,000 people in the United States have been reported with West Nile virus disease since 1999, and of those almost 13,000 have been seriously ill and over 1,200 have died. Many more cases of illness are not reported to CDC, but it's likely that more than 300,000 people from almost every state have been sickened in the 12 years since West Nile virus came to the United States. In 2010, the California Department of Public Health released a report "The Best Management Practices for Mosquito Control in California" that summed up the situation in our state:

"California has a long history of mosquito borne diseases. Measures were first developed in the early 1900's to combat malaria and other diseases and to reduce populations of nuisance mosquitoes. Currently there are 12 mosquito borne viruses recognized in California, however only West Nile virus (WNV) and Saint Louis encephalitis (SLE) are significant threats to public health. Global trade and travel will continue to provide an avenue for introducing or re-introducing other mosquito borne pathogens and their vectors into California and the United States. The diseases of greatest concern include: Japanese encephalitis, dengue, yellow fever, Rift Valley fever, Chikungunya, Venezuelan encephalitis and malaria."

More recently the California Mosquito & Vector Control Association (an Association of California Mosquito and Vector Control Agencies) discovered that there are two new invasive mosquito species now found in California. New types of mosquitoes are making it more complicated for mosquito control districts to protect the public from the biting insects. At the same time, counties in nearly every region of the state are reporting the now familiar West Nile virus activity, including confirmed fatalities, as well as both mosquitoes and birds testing positive for the disease. (See Ex. A. Aedes albopictus and Aedes aegypti)

The 2013/14 Monterey County Civil Grand Jury decided to examine what Monterey County and the Northern Salinas Valley Mosquito Abatement District (hereinafter "District) are doing today to deal with mosquitoes, the level of public awareness of these activities, and what the future of mosquito abatement might look like in Monterey County. The following report is a result of the

Grand Jury investigation of the status and activities of the District and the Monterey Department of Health mosquito abatement program.

The District covers the Northern part of Monterey County, was created in the 1950's, and is funded by an ad valorem property tax and a parcel tax of $5 per parcel. This assessment is part of the property tax bill for residents within the District boundaries (Ex. B map of the District). The parcel tax provides $371,000 to the District each year, a significant part of their budget. The total 2013-2014 budget for the District is $1,365,993.The District spends approximately $740,472 on salaries and benefits, $488,200 on services and supplies, $8,000 for the West Nile Virus Lab, and $60,000 on fixed assets with a reserve fund of $40,000.

Mosquito control work in Monterey County is primarily done by the District, not the County, even though the District only covers north Monterey County. The District has assisted some areas outside of its boundaries, however, the majority of the County has no current mosquito abatement program, regular abatement activities, equipment or staff dedicated to mosquito control and eradication.

Unfortunately even the existing abatement activities provided by the District may not continue. The parcel fee assessed on real property within the District to support abatement services within the District is scheduled to sunset in 2016 unless renewed by District voters. Currently the District has prepared a mail ballot directed to property owners in the District. The purpose of this ballot is to determine whether or not to extend the parcel fee. The ballot was mailed March 15, 2014 and the results were tabulated during a public forum on April 29, 2014 and released at a public meeting on May 13, 2014.

If District voters fail to pass an extension of the parcel tax, mosquito abatement activities will not be continued at the current level, even within the District. There will be a lesser ability to provide assistance with requests for help with mosquito problems throughout the County. The Grand Jury believes that these services are important to public health and should be provided at the current level, not only within the current District, but throughout Monterey County.

INVESTIGATIVE METHOLOGY

The investigation of this District was conducted through interviews of representatives from: LAFCO, Northern Salinas Valley Mosquito Abatement District Board and staff members, Monterey County Health Department, and the Fresno Westside Mosquito Abatement District. Grand Jury Committee members also performed background research using the District website, Vector control websites, CDC, and sites specific to mosquito and mosquito control. We reviewed the Monterey County Health Department West Nile Virus and Mosquito Vector Borne Disease Response Plan July 2004, and other written materials provided by the District.

FACTS

The District was established in 1950 and covers 458 square miles. It was created because of mosquito proliferation around the Elkhorn Slough, it has a current staff of 6 people, reduced from 13, and is governed by a Board of Directors that is appointed by each city council from the cities within the District. The Monterey County Board of Supervisors appoints members to represent the unincorporated areas of the county that lie within the District.

Mosquitoes carry West Nile Virus, and many other diseases that affect humans as well as some diseases or conditions that affect animals (ex. heartworm in dogs and equine encephalitis in horses). Unfortunately a very dangerous, aggressive and disease carrying mosquito, "Aedes aegypti" has now been found in San Mateo County, and the District is in contact with that County to track the spread of this species in California. Three primary diseases carried by this new species are Yellow fever, Dengue and Chickuguyna.

The primary daily activities of the District involve source reduction, weed abatement and mosquito control. The District is also involved in responding to service calls, eradication, monitoring, trapping mosquitoes, raising and providing mosquito eating fish to individuals and public agencies. They also maintain two "sentinel" chicken flocks to help detect the presence of West Nile virus. These are pro-active activities to prevent disease and the spread of disease within the District. Monterey County Health Department does not have a formal mosquito abatement program so the majority of the County must rely on the good will and cooperative nature of the District Board and employees if mosquito problems need to be addressed in areas not within District boundaries.

The Federal Clean Water Act requires States to develop and implement non-point source pollution management programs. California has law and regulations to comply with this Federal mandate. Developers, road builders, and individual construction activities now build "storm water holding ponds". Standing water is the breeding ground for mosquitoes; it is reasonably foreseeable that additional mosquito activity could result from the creation of these ponds as construction projects occur throughout Monterey County.

FINDINGS

F1. Mosquitoes in Monterey County carry diseases that can infect humans and animals, including but not limited to West Nile virus and equine encephalitis.

F2. The requirements for construction of holding ponds, continuing and growing irrigation of vineyards and other agricultural crops in the County create mosquito breeding locations.

Additionally, with a growing population, global trade, and tourism, new mosquito species traveling into new regions, present an increasing potential for humans and animals to contact mosquito borne disease throughout Monterey County.

F3. Coordination and communication between the District staff and the Monterey County Health Department staff has been infrequent, somewhat limited to instances of disease out-breaks. A large working group of stakeholders was established during the West Nile outbreak in 2004 but it no longer meets on a regular basis.

F4. The District has a competent and hardworking staff but unfortunately the public does not seem to be aware that the District exists, what they do or why it is important that mosquito abatement activities continue. Preventing disease simply does not attract public notice, active support or media attention, although it is the most cost effective measure for preventing disease, human misery and death.

F5. Should the proliferation of mosquitoes and mosquito borne disease increase, it will not only have an impact on the health of residents but will also negatively impact tourism thus affecting the whole economy of Monterey County.

RECOMMENDATIONS

R1. County Board of Supervisors, The District, and the Monterey County Health Department should work together to develop a coordinated plan for mosquito control, including a budget for countywide mosquito management, whether the parcel tax passes or does not pass.

R2. The District and the Monterey County Health Department should establish regular and routine communication regarding mosquito abatement and control issues. They should work to find ways to maximize resources of both groups to broaden the reach of mosquito control throughout the County when possible.

R3. The Northern Salinas Valley Mosquito Abatement District Board should allocate resources to public information and outreach, including but not limited to; managing the website, social media and written materials explaining the role of mosquitoes in human and animal disease and the resources available to members of the public trying to control mosquitoes on their own property.

R4. The District and Monterey County Health Department staff should mutually and quickly explore and report on a path to extend the mosquito abatement activities throughout the County and report their findings to the Board of Supervisors.

RESPONSES REQUIRED

Pursuant to Penal Code Section 933.05, the Grand Jury requests a response *as indicated* below, from the following governing bodies:

- Northern Salinas Valley Mosquito Abatement District and the District Board of Trustees: All Findings and Recommendations

- Monterey County Board of Supervisors:
  Findings: F1, F2, F3, F5 and Recommendations: R1, R2, R3, R4

-END-

AEDES ALBOPICTUS AND AEDES AEGYPTI MOSQUITOS

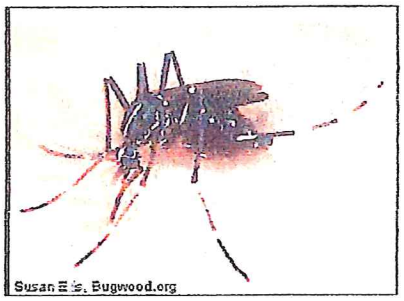
LAST UPDATED ON MONDAY, OCTOBER 21, 2013. FIRST PUBLISHED ON MONDAY, OCTOBER 21, 2013.

Aedes aegypti is an aggressive, day-biting mosquito and has the potential to transmit several viruses, including dengue, chikungunya, and yellow fever. However, none of these viruses are currently known to be transmitted within California. The eggs of the *Aedes aegypti* mosquito have the ability to survive being dry for long periods of time which allows eggs to be easily spread to new locations.

Aedes albopictus probably was introduced into Hawaii late in the last century from Asia. Until its discovery in Houston, Texas, in August 1985, this species was unknown in the New World. By 2000, it was believed to be established in 866 counties in 26 states in the continental U.S. *Aedes albopictus* is most well known for transmitting dengue and chikungunya viruses, but it has also been found infected in nature with West Nile, Eastern equine encephalitis, and Japanses encephalitis. It can also transmit dog heartworm parasites.

Aedes aegypti has been detected in the California counties of Fresno, Los Angeles, Madera, and San Mateo. While neither of these mosquitos have been detected in Monterey County, public health officials urge residents to apply repellants containing EPA registered ingredients such as DEET, picaridin, oil of lemon eucalyptus, or IR3535 to exposed skin and/or clothing (as directed on the product label). Wear long sleeve shirts, long pants, socks and shoes when mosquitoes are most active. Be sure window and door screens are in good repair to prevent mosquitoes from entering your home.

Aedes aegypti



Aedes albopictus

LINKS TO MORE INFORMATION ON THE INTERNET:

- North Salinas Valley Mosquito Abatement District
- Centers for Disease Control and Prevention

READ MORE ABOUT IT IN THESE RELATED ARTICLES:

- Dengue Frequently Asked Questions
- Monterey County Health Officials remind residents to protect themselves from mosquitoes
- West Nile Virus: What you need to know
- Yellow Fever Frequently Asked Questions

THIS ARTICLE IS REFERENCED IN THESE TOPICS:

- Dengue
- Yellow Fever
- Mosquitos

OPERATIONAL UNITS ASSOCIATED WITH THIS ARTICLE:

- Communicable Diseases
- Environmental Health Bureau

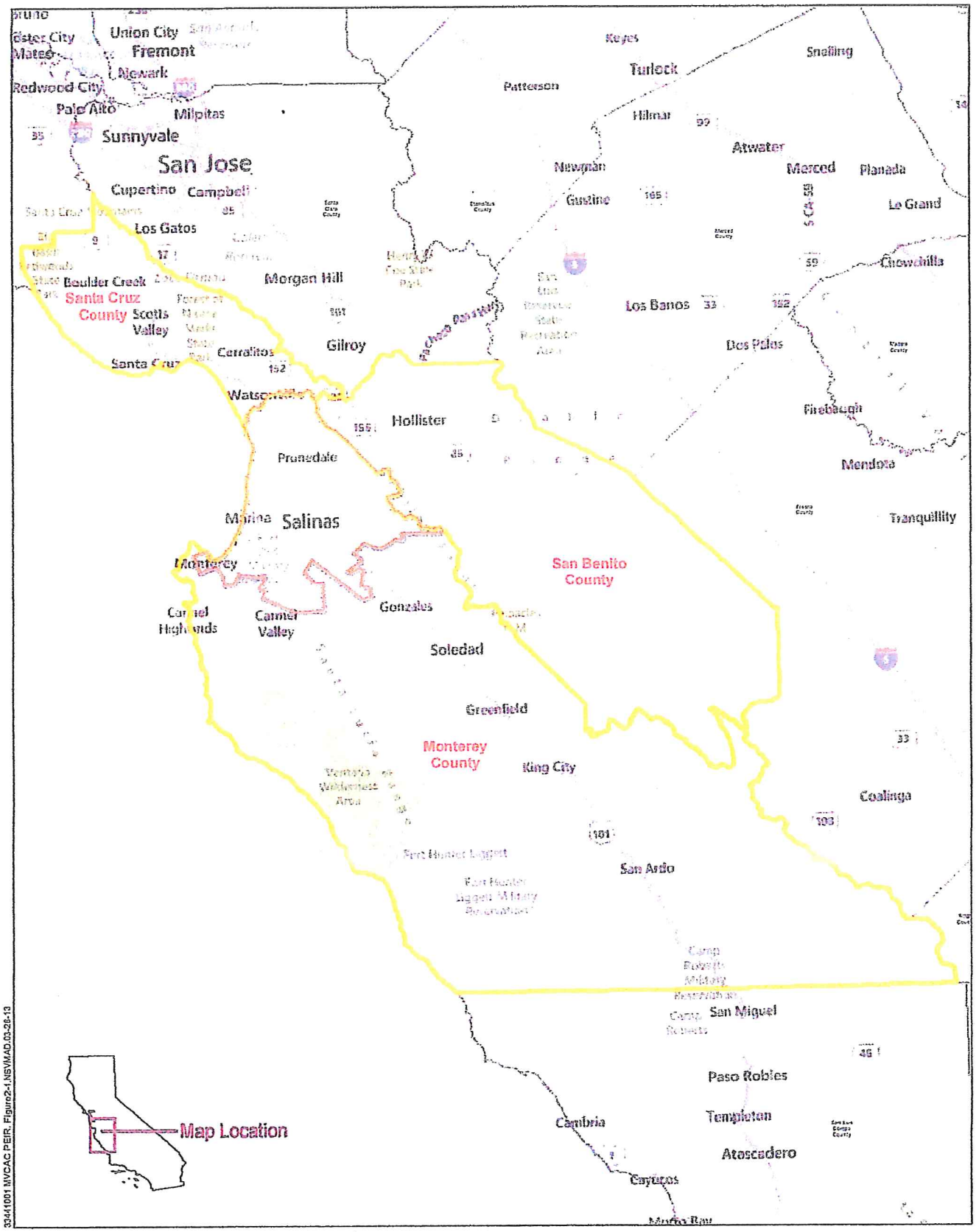
THIS ARTICLE WAS POSTED IN THESE CATEGORIES

- Communicable Disease News

WAS THIS ARTICLE HELPFUL? PLEASE RATE IT:

0.0/5 rating (0 votes)

EXHIBIT A



Source: Cardno ENTRIX, 2013

Service Area

Adjacent Counties

0 10 20

Scale in Miles

N

INTEGRATED MOSQUITO MANAGEMENT PROGRAM

Northern Salinas Valley Mosquito Abatement District

Figure 2-1 - Program Area

EXHIBIT B