

# BUTTE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT



3rd Quarter, 2021

Newsletter



Oroville, CA. 95965  
5117 Larkin Road  
Butte County Mosquito and Vector Control District

## MANAGERS MESSAGE

I'm humbled, honored, and privileged to have a dedicated group of employees (35 total employees) who were willing to step up to work long hours, nights, holidays, and remain committed to protecting the public's health. Even with the COVID-19 pandemic continuing throughout this mosquito season, the District's staff and Board of Trustees continued to operate, conduct business, and responded to 1370 service requests (to date), West Nile virus, a record number of *Culex tarsalis*, and a new invasive mosquito species. I am extremely grateful and appreciative for each and every one of my employees and the District's Board of Trustees. For all those that went above and beyond this season, I thank you!

Respectfully,  
Matthew C. Ball  
District Manager

## MISSION STATEMENT

The mission of the Butte County Mosquito and Vector Control District is primarily to suppress mosquito-transmitted disease and also to reduce the annoyance levels of mosquitoes and diseases associated with ticks, fleas and other vectors through environmentally compatible control practices and public education.

## CONTACT INFORMATION

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## "FIGHT THE BITE!"

This institution is an equal opportunity provider and employer.

## 2021 WEST NILE VIRUS ACTIVITY

West Nile virus (WNV) again proved to be very active in Butte County. As of September 27, 2021, the number of human WNV cases increased threefold from four cases at this time last year to twelve cases. However, more human cases could still be reported this year. In addition, there was one WNV death reported in the District this year. This is the first West Nile virus death in Butte County since 2018. This year's positive mosquito pool numbers (80) increased considerably from last year's numbers (31) and the sentinel chicken numbers were also up from last year's number with 26 chickens testing positive in 2021, compared to 23 in 2020. Dead bird numbers decreased in 2021 with 2, compared to 4 in 2020. Because of the human, trap, and chicken WNV numbers, the District once again ramped up its surveillance and control operations. As of September 27, 2021, the District's air operations treated 40,906 agriculture acres along with 6,754 wetland/duck club acres. The District has also aerially treated 115,200 acres using ultra-low volume, wide area spray. The lab trapped a high number of *Culex tarsalis* mosquitoes, which are a major vector of WNV. Since its arrival in Butte County in 2004, 265 residents have been confirmed with the virus, 10 of which lost their lives. WNV has been active each year in Butte County since its 2004 arrival.

## INVASIVE MOSQUITOES SPREAD TO NEW AREAS

The Butte County Mosquito and Vector Control District (District) continued detecting the invasive mosquito, *Aedes aegypti*, throughout Butte County. The *Aedes aegypti*, commonly known as the yellow fever mosquito, has spread to Thermalito and Gridley this year. These are new detection sites along with continued findings throughout Chico and Oroville. *Aedes aegypti* are capable of transmitting viruses such as chikungunya, dengue, yellow fever, and Zika. These viruses are not currently being transmitted by mosquitoes locally in Butte County. This year, invasive mosquitoes were first detected in July, earlier than last year when the initial detection came in late September. "The District is working to evaluate the extent of the infestation and we plan to do everything we can to eradicate this mosquito and to protect our residents from the potential disease risk of these invasive mosquitoes," said Matt Ball, District Manager. The District has sent an informative invasive Aedes mailer to each household and business within a 2 square mile radius of each detection. Over 21,952 houses/businesses received the mailer this year alone. The District's lab staff have added many surveillance traps throughout the county, and door-to-door inspection campaigns have been completed within each detection area. A door hanger was left wherever the employee was not able to access the yard. The District began performing Wide Area Larvicide Spraying (WALS) in detection sites and continued truck fogging regularly.

## 2021 PUBLIC EDUCATION CAMPAIGN

Managed wetland surveillance is a vital component of the District's Integrated Vector Management (IVM) Program. There are over 50,000 acres of managed wetlands within the District's service area. These wetlands consist of state, federal, and private entities. With wetlands covering such a large portion of the District, utilizing aircraft is the most effective way to conduct surveillance on these wetlands. During mosquito season, when the managed wetlands commence flooding and/or irrigations, the District's Pilot will navigate a District aircraft over these wetlands and remotely take pictures with a GoPro camera to identify any "new" flood water. After the pictures have been uploaded, they are distributed to each Mosquito and Vector Control Specialist (MVCS). The MVCS will then drive out to the field and "dip" the new source of water for the presence of mosquito larvae. Dipping consists of a 1-pint cup attached to a long handle. The MVCS gently dips this cup into the water, pulls it back out, and counts how many larvae are in the cup. The MVCS will do this dipping at several locations around the field. Once a MVCS has completed dipping the field, the MVCS will take the average number of larvae found and record it. If the number equals one or more larvae per dip a map of the field is sent to the office using Mapvision, the new District software. Once Air Operations at the office receives the map, a determination of the product application rate is calculated based on the surveillance data gathered. This is determined by how dense the vegetation in the field is, water depth and quality, larval dip counts, and by what larval instars are present. The Air Operations coordinator then forwards the map to the Pilot. The map contains a GIS based satellite map of the polygon that needs to be flown, the application rate, the fields GPS coordinates, and how many pounds of public health pesticide to load. Once the plane is loaded the pilot flies to the field and makes the application. When the Pilot completes the application and returns from the flight, the application information is entered into the District's database for record keeping and reporting purposes. For the reader's information, if an operator finds 10 mosquito larvae per dip, and a square foot contains 9 four-inch dippers, then in a 10-acre field (a 10 acre wetland field is considered small) there are approximately 3.92 million mosquito larvae (approximately 50% of these mosquito larvae will be female). With these numbers in mind, it quickly becomes apparent as to why the District must do aerial wetland surveillance and control.



Aerial Photographs of Wetland Areas

## 2021 PUBLIC EDUCATION CAMPAIGN

The District's 2021 public education campaign is well under way, and it already appears to be better, with more events than the 2020 campaign. The District had a public education table at the Gold Nugget Craft Faire in Paradise, the Red Suspenders Day in Gridley, the Butte County Fair, and the Salmon Festival in Oroville.

All the events that the District attends have an excellent insect display, as well as a mosquitofish and mosquito larvae display. At these events, the District also hands out, free of charge, fly/mosquito swatters, tick identification cards, recyclable shopping bags, and mosquito repellent.

The District also gives classroom presentations at local schools in Butte County. The classroom presentations include "Trouble with Ticks" and "Fight the Bite". The District has given four classroom presentations so far this year.

The District partnered with Stott Advertising on a billboard campaign. This year's slogan is "Fight the Bite!". The six billboards rotated throughout the county from May through September. The new billboard used the District's new website address "[www.ButteMosquito.com](http://www.ButteMosquito.com)".

The District has also contracted with Action News Now, for a 30 second mosquito awareness animated commercial. Also, the District continued with its radio advertising, and it's print advertising.



Public Education Photos