Butte County Mosquito and Vector Control District

2009

Annual Report

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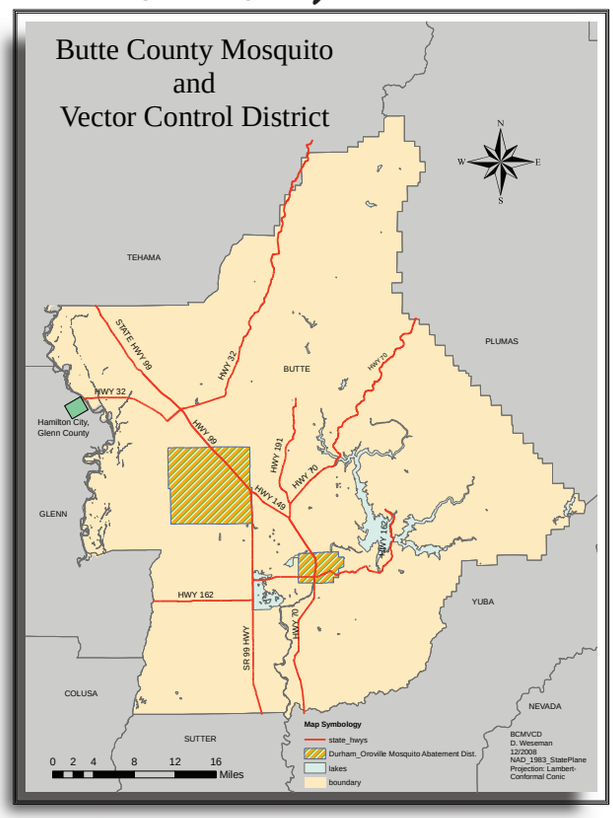
Contact Information

Butte County Mosquito and Vector Control District
5117 Larkin Road, Oroville, California 95965
(530) 533-6038 (530) 342-7350 Fax (530) 534-9916

Visit us on the web at www.BCMVCD.com

BCMVCD Jurisdiction

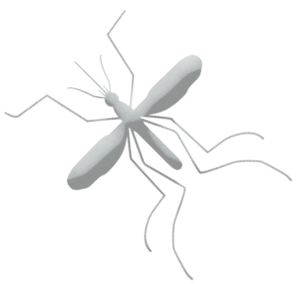


History

The Butte County Mosquito Abatement District was formed in June of 1948. The District covers 1600 square miles, and includes all of Butte County, except the small areas served by the Durham and Oroville Mosquito Abatement Districts, which were formed earlier. The District also includes the Hamilton City area of Glenn County. In April of 1994, “Vector Control” was added to the District name to reflect the additional disease surveillance and information now provided.

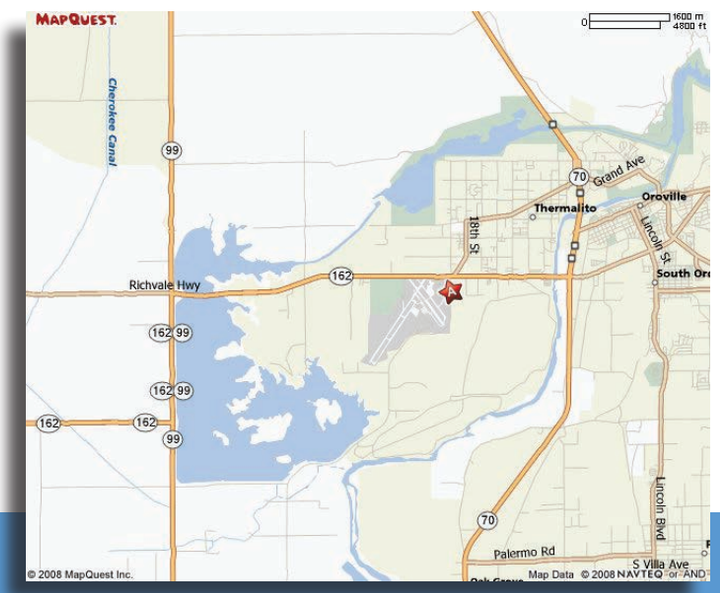
Mission

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



Office Location

5117 Larkin Road
Oroville, CA. 95965



Foreword

It is with great pleasure that I submit the 2009 Annual Report for the Butte County Mosquito and Vector Control District. The District had a very successful year serving the residents of Butte County and Hamilton City by utilizing an integrated pest management approach that included public education and outreach, vector surveillance, reduction of breeding grounds by physical and cultural control by altering the environment and/or management practices, and by using sound biological and chemical control methods. This report outlines the work conducted by the District to accomplish its primary goal of protecting public health.

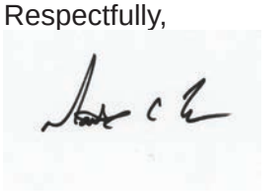
The prevention of vector-borne disease outbreaks remains the District's primary goal and it's most important responsibility to the public. West Nile virus (WNV) is now considered to be endemic in the state of California and remains our largest public health concern. The state observed a decrease from 445 WNV human infections to 105 in 2009. Butte County's human infection rate has decreased from 34 in 2006, 16 in 2007, 5 in 2008 to 2 in 2009.

With the emergence of a more urban-based mosquito-transmitted virus such as, WNV, the District was faced with a wide variety of new operational challenges such as urban mosquito-breeding sources. With the decline of the housing market continuing we again saw an increase in the number of vacant homes with abandoned swimming pools, spas, and other water features that were breeding mosquitoes. The District continues to aggressively control catch basins, storm drains, and retention / detention ponds and works in partnership with other local agencies and governments to maintain improper functioning utilities that breed mosquitoes. Regardless of drought conditions, the over watering of landscaped yards and environments continues to add to the mosquito breeding problems in urban mosquito sources and extends the length of our mosquito season. In addition to urban mosquito-breeding problems, the District continues surveillance and control in agricultural, rural, and wetland areas that breed mosquitoes.

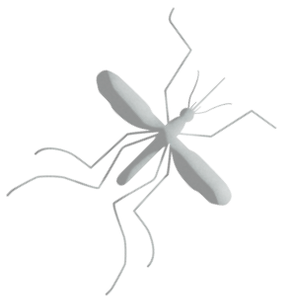
"The Mission of the Butte County Mosquito and Vector Control District is primarily to suppress mosquito-transmitted disease and to also reduce the annoyance levels of mosquitoes and diseases associated with ticks, fleas, and other vectors through environmentally compatible control practices and public education." To achieve this goal the District provides continual surveillance of mosquitoes and other vectors to ascertain the threat of disease transmission and annoyance levels and then uses integrated pest management methods to keep mosquitoes and other vectors below those levels. The District continues to work in cooperation with property owners, residents, social groups, and other governmental agencies to minimize mosquito breeding and to reduce the threat of mosquito-transmitted diseases.

The Board of Trustees and employees continue to plan for the future and search out better ways to improve our programs to be prepared for future disease outbreaks that would be a threat to the health of Butte County residents. We look forward to providing our services to you in the future and if you have any questions or need more information please visit our website at www.BCMVCD.com or call us at 530-533-6038 or 530-342-7350.

Respectfully,



Matthew C. Ball
District Manager



Board of Trustees

Back Row: President Al Beck, Bill Thebach, Vice President Lynn Vanhart, Assistant Secretary Charles Bird
Front Row: Jack Bequette, Allan Seefeldt, Jerry Ann Fichter, Terry Mallan
Seated: Secretary Tom Anderson
Not Pictured: Dan Hutfless

Staff

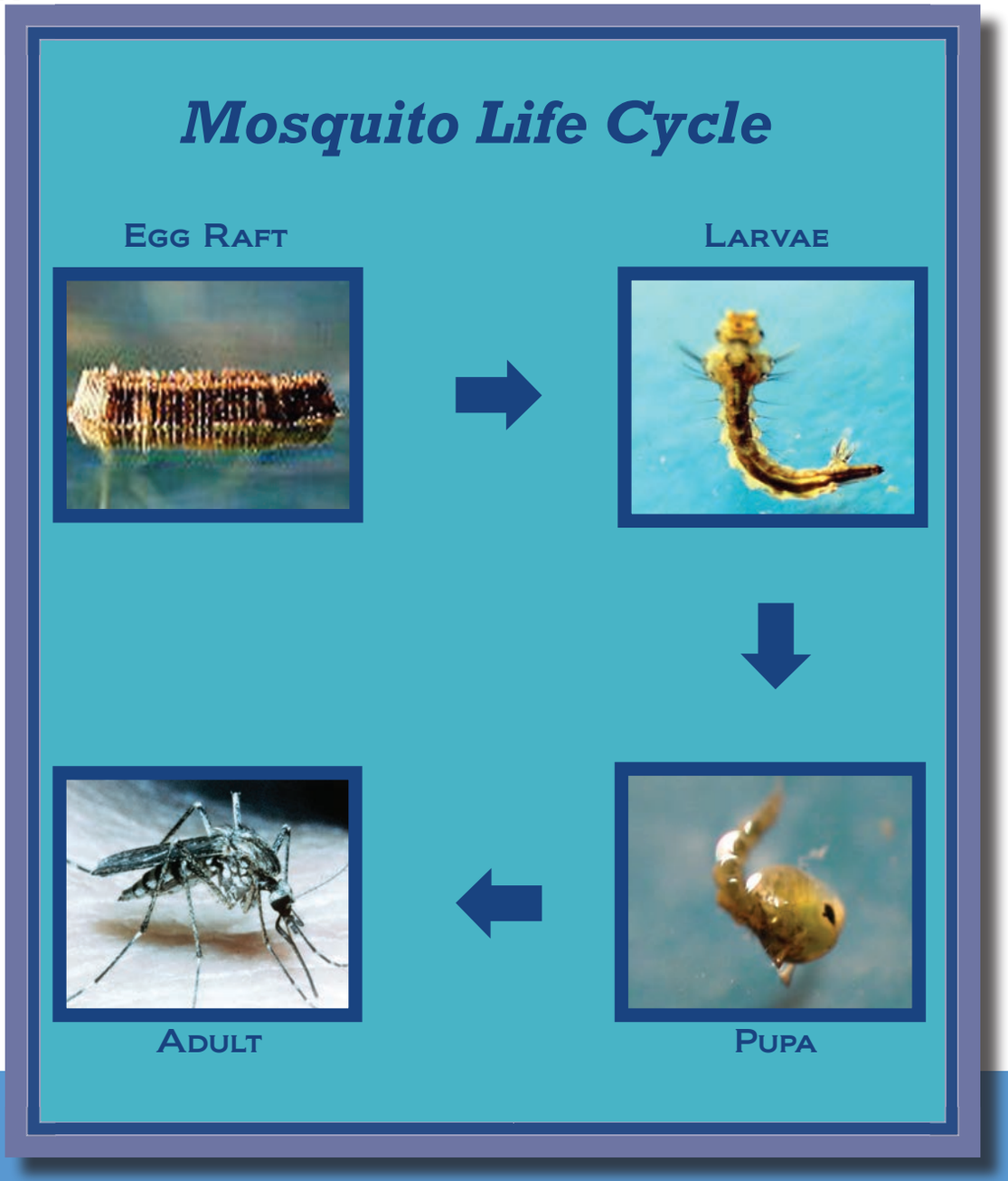
Left to right: Glen Williams, MVCS; Del Boyd, Pilot; Pete Gibson, Mechanic; Ryan Rothenwander, MVCS; Aaron Goff, MVCS; Phillip Henry, MVCS; Shane Robertson, MVCS; Bill Kunde, Regional Supervisor; Beth Vice, MVCS; AAron Lumsden, MVCS;
Not pictured: Don Lasik, MVCS; Jim Richards, MVCS
(MVCS: Mosquito and Vector Control Specialist)

Administrative Staff

Left to right: Doug Weseman, Public Information Officer; Jodi Sneeringer, Receptionist; Eric Gohre, Entomologist; Matt Ball, District Manager; Dan Moench, Assistant Manager; Darlene Starkey, Office Manager

Mosquito Biology and Development

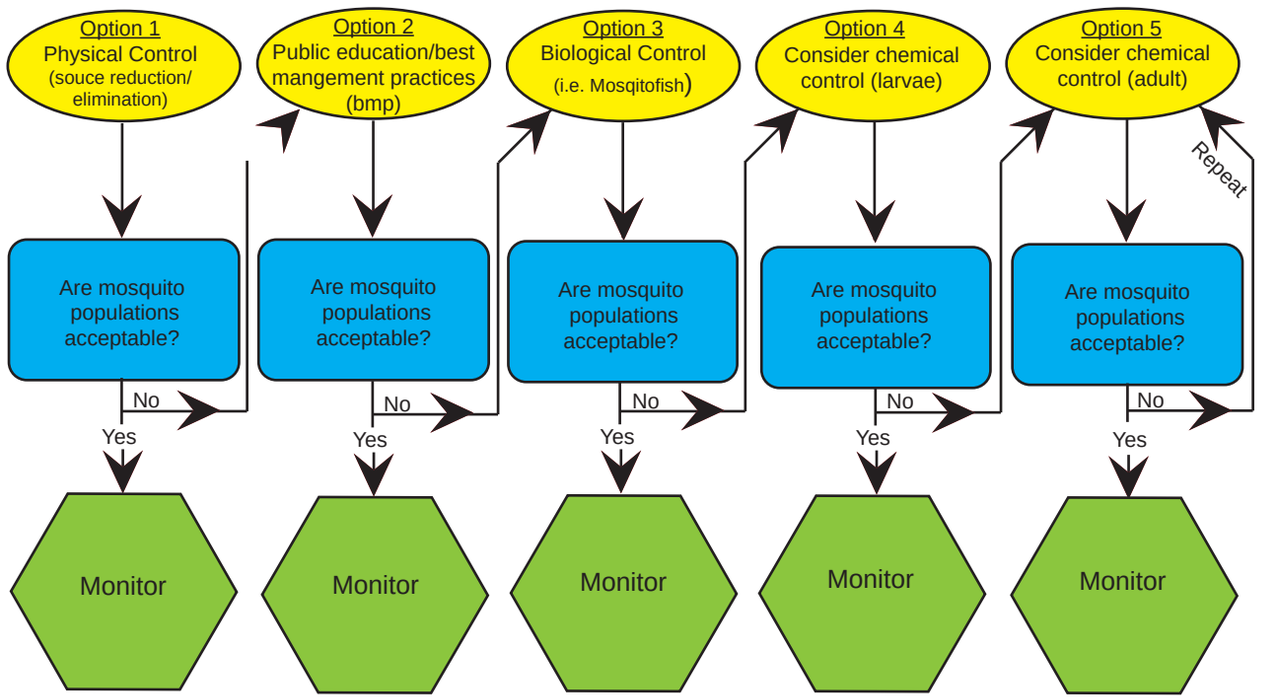
There are approximately 3,500 species of mosquitoes distributed worldwide. In California there are 53 species of mosquitoes and 25 of these are commonly found in Butte County. Mosquitoes, like other animals, must have water, food and some protection from the elements to survive. Mosquitoes undergo complete metamorphosis with four different life stages, egg, larva, pupa and adult. Mosquito eggs and pupa are unable to feed. Larvae and adults however must feed to survive. Adult female mosquitoes need a blood meal to produce eggs, while adult male mosquitoes feed on plant nectar and juices. The time it takes for a mosquito to develop from an egg to an adult varies with different species and environments. Generally, it takes 3-5 days under optimal conditions for a mosquito to complete its life cycle. The adult then lives between three weeks and one year. Some egg species have been known to survive for over fifty years. Female mosquitoes can have up to three or four broods of eggs in their lifetime.



Integrated Pest Management (IPM) Program

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common sense practices. The District's IPM program uses current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest nuisance and public health threats by the most economical means and with the least possible hazard to people, property, and the environment. The District's IPM includes public education, physical control (source reduction and/or elimination), biological control, chemical control, and monitoring.

Each time one of the District's state certified mosquito and vector control specialists locates a mosquito breeding source the site is accessed and the flow chart below is followed. If the mosquito breeding source can be eliminated then the flow chart stops and the source is monitored.



Neglected swimming pool surveillance

Seigning fish

Physical Control / Source Reduction and/or Elimination

The best method of mosquito control is source elimination (the complete removal of standing water). All mosquitoes need water to breed, unfortunately water is vital to keep lawns green, to grow crops, to sustain life, and to provide habitat for other aquatic insects and animals. District Mosquito and Vector Control Specialists actively work with property owners, land managers, and municipalities to reduce the amount of water needed for irrigation, to observe or consider best management practices when irrigation is needed, to actively participate in the design of new developments, and the overall reduction of standing water on a property.

Mosquito and vector control specialist pouring standing water out of a flower vase that was breeding mosquitoes

Public Education and Outreach / Best Management Practices (BMPs)

The District's mission is to protect residents from mosquitoes and other vectors that transmit disease. Public education and information is an important part in the success of combating diseases such as West Nile virus and Lyme disease. The District's education program consists of public appearances at local city and county fairs, participation in the state Mosquito and Vector Awareness week, and presentations to schools and local civic groups. In addition to the above, the public education and outreach strives to find new and more effective ways of better educating the public by arming residents with the knowledge to prevent mosquito bites and mosquito-breeding through informational pamphlets, website information, best management practice manuals, repellent suggestions, one on one interaction, and homeowner safeguards.

In 2009, the District created and the Board of Trustees adopted a working draft Best Management Practice to Reduce Mosquitoes (BMP) manual. The manual will provide property owners with tools and techniques to minimize mosquito populations through the proper use of land management practices while reducing the use of pesticides. The BMP's contained in the manual are assembled from a number of sources including scientific literature, state and inter-agency documents, and from experienced vector control professionals. The BMP manual will include general guidance to all properties that can, have, and will breed mosquitoes. The District plans on meeting and receiving feedback with several stakeholders and hopes to adopt a final version in early 2010.

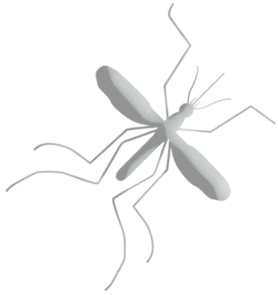
Public Education

In 2009 the Butte County Mosquito and Vector Control District's (District) Public Education Department had it's most sucessful public outreach campaign ever. While maintaining all of the Disrict's outreach programs of the past, including fair booths, service groups presentations, and classroom presentations, the District added some new public outreach activities and programs. The District teamed up with Stott Advertising for a county wide billboard advertising campaign. The billboards utilized the District's 2009 public outreach theme "Don't Be a Swatter, Drain Your Water". The billboards were placed in Chico, Gridley, Oroville, and Paradise and rotated throughout these cities during mosquito season. The District also partnered with Enloe Hospital on a newspaper advertising campaign aimed at West Nile virus prevention and mosquito-breeding reduction. The advertisements were placed in the Chico Enterprise Record and the Chico News and Review. The joint venture allows both partners to get twice as much advertising for their dollar and it promotes a unified public health message. The District also conducted a dog and cat heartworm prevention campaign. Thirteen different veterinarian offices throughout the county were randomly chosen to receive heartworm prevention brochures, brochure holders and a wooden mosquito model. The District observed the American Mosquito Control Associations (AMCA) "Mosquito Control Awareness Week" by holding an open house at the District Headquarters. Visitors were given a tour of the facilities as well as free brochures, a soft drink, and a fly swatter.

Public Education Highlights

2009 Silver Dollar Fair

- Butte County Fair, Gridley (Booth)
- Silver Dollar Fair, Chico (Booth)
- Gold Nugget Days, Paradise (Booth)
- Feather Fiesta Days, Oroville (Booth)
- Berry Creek Berry Festival (Booth)
- Salmon Festival, Oroville (Booth)
- Senior Fair, Chico Area Recreation and Parks (Booth)
- California Conservation Corps (Pesentation)
- Sons In Retirement, Paradise (Presentation)
- Kiwanis International, Gridley (Presentation)
- Lions Club, Chico (Presentation)
- Masonic Lodge, Oroville (Presentation)
- Lake Oroville Visitors Center (Presentation)
- K-6 Classroom Presentations Throughout the County



Billboard on highway 99 in Gridley

The Chevrolet Club enjoying their tour of the District facilities.

Students viewing mosquitofish eating larvae

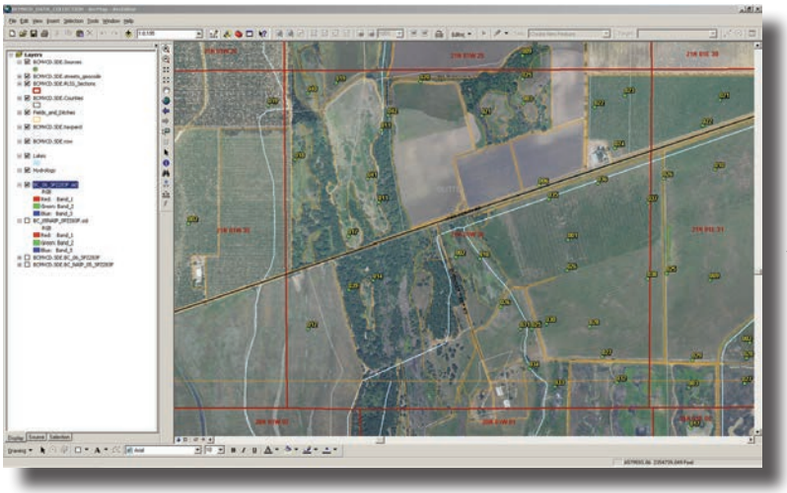
Public Information Officer Doug Weseman gives students a lesson on bees, mosquitoes, and ticks

Gold Nugett Days in Paradise

Heartworm prevention campaign

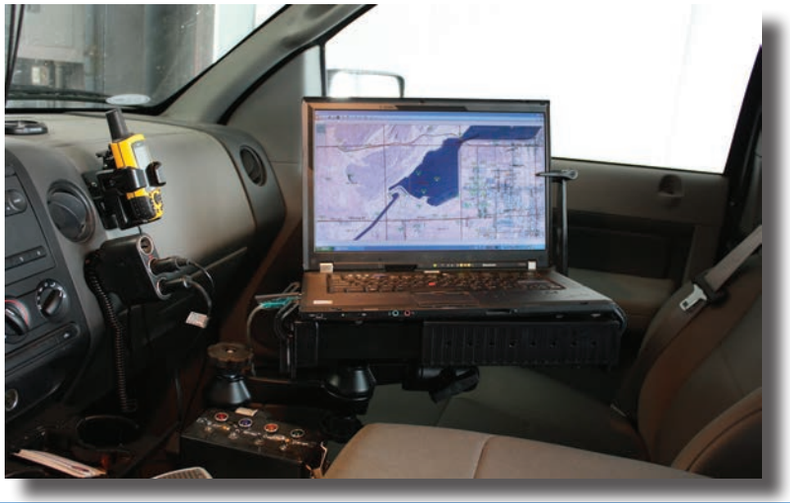
New GIS/GPS System

Over the past two years the District has formed a close partnership with the CSUC Geographic Information Center (GIC) in Chico, CA. to create a new geographic information system (GIS) for the District. GIS is a system that captures, stores, analyzes, manages, and presents data that is linked to a location (spatial data). This system will take the place of the current system which utilizes map books, handwritten reports, and outdated handheld electronic devices called “Timewands”. The new system will consist of a laptop computer for each Mosquito and Vector Control Specialist, including seasonal workers, that runs ESRI Corporations ArcMobile software and a GPS unit that connects to the laptop computer. The new GIS system also includes a data management server that is housed at the GIC in Chico and a new in-house computer that runs ESRI’s ArcGis version 9.2. This computer is used to manage source data collected from the laptops in the field and is also used as a link to the District’s Office Managers computer and the Microsoft Access database that it controls. The new system will increase accuracy, facilitate user friendly reporting, minimize data manipulation and corruption, and maximize time efficiency.



Screen-shot view of a laptop running the new GIS software

Laptop mounted inside vehicle



Email Notification System

In 2009 the District enhanced and greatly improved the mosquito fogging notification system. This was done to meet public concerns and expectations, to enhance media coverage, and to help inform other agencies who need to know when and where the District is mosquito fogging. The Chico Enterprise Record uses these fogging notifications in their newspaper to inform their readers of the fogging operations. To meet these needs the District used Constant Contact software, modeled after the award winning Contra Costa Mosquito and Vector Control District's email notification system, to compose and send out the fogging notifications via email. These email notifications are sent out, in most cases, 30 plus hours before a fogging operation takes place. The notifications include maps of the areas to be fogged, links to the labels and material safety data sheet of the public health pesticides used, the dates and times of the fogging operations, and a link to the District website. The public can sign up for email notifications on the District website, www.BCMVCD.com. The District website also has the fogging notifications as well as links to the public health pesticides. The District also makes phone calls to notify residents and agencies that do not use email or have access to a computer.

Butte County Mosquito and Vector Control District

Fogging Notification

Mosquito Fogging will take place on 09/17/2009 in the Gridley, East Gridley, and Hamilton City. Please see attached map for detailed information. If you are unable to open or view the map because of browser, memory space, or software problems please see the same maps at our website at http://www.bcmvcd.com/advisory.php. The fogging will take place from approximately 7:00 PM to 10:00 PM. Fogging operations may be canceled due to unfavorable weather conditions.

The product used in these areas will be Anvil 10 + 10 ULV

Links To:

Anvil 10 + 10 ULV
Label

MSDS

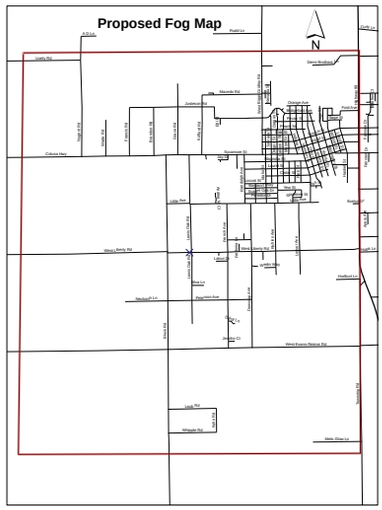
Additional information can be obtained by viewing the manufacturers websites at:
Clarke Mosquito Control
Adapco
McLaughlin Gormley King Company
Crop Data Management Systems

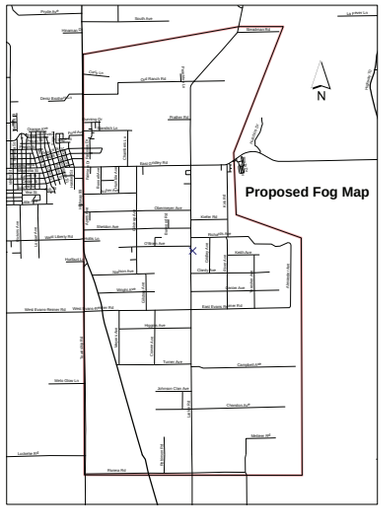
For more information please call the Butte County Mosquito and Vector Control District at (530) 533-6038 (from Oroville, Richvale, Biggs, Gridley, Berry Creek) or (530) 342-7350 (from Chico, Paradise, Cohasset, Forest Ranch) or visit www.bcmvcd.com

Thank you,

Butte County Mosquito and Vector Control District

Example of Constant Contact email notification





Sample Fogging Maps

Vector and Vector-Borne Disease Surveillance

The definition of a vector is any animal capable of producing discomfort or injury, including, but not limited to, mosquitoes, flies, other insects, ticks, mites, and rats but not including domestic animals according to the California State Health and Safety Code, Section 2002(K). Surveillance of vectors is a vital component of the District's Integrated Pest Management (IPM) Program and a considerable amount of time and effort is devoted to conducting vector surveillance. The District's surveillance program consists of a scientific approach for locating vector populations usually focusing on mosquito-breeding sources, monitoring mosquito populations, and mosquito-borne disease. Data collected from the surveillance program is analyzed to determine maximum and minimum risk periods of public exposure to mosquito-borne disease, evaluates control efforts, and seasonal changes in relative abundance of mosquito species. Surveillance data is collaborated in the District's database which will provides historical information on mosquito dynamics and mosquito-borne disease within the District.

The District utilizes an extensive surveillance program for both adult and immature (larval) mosquitoes. Throughout Butte County and the Hamilton City area of Glenn County, the District uses 26 New Jersey light traps, 20 gravid traps, over 40 CO2 traps, and 7 sentinel chicken flocks to monitor adult mosquito populations and virus activity. District Mosquito and Vector Control Specialists monitor larval mosquito populations throughout the entire District on a daily basis utilizing a standard one-pint dipper. District Mosquito and Vector Control Specialists spend the majority of their daily routine inspecting standing water such as rice, wetlands, storm drains, ponds, ditches, swimming pools, bird baths, fountains and other man made containers for larvae.

The District utilizes an entomology department (Lab) that is staffed with an entomologist and a lab technician. The District's entomology department is responsible for the identification of the trapped mosquito collections and reporting the population numbers to the California Department of Public Health. The lab conducts virus testing on live mosquitoes, dead wild birds, and sentinel chicken flocks. These tests are the Districts eyes to monitor and detect mosquito-borne viruses in and around the county. The lab also conducts scientific pesticide trials to monitor the chemicals effectiveness on targeted mosquitoes and to assess the possible effects of non-targets and trials on new chemical methodology and/or new chemicals. The lab is also at your service to identify ticks, arachnids, and other insects/arthropods of public health significance.

Entomologist Eric Gohre and helper Ryan Rothenwander testing new rotator trap

Did You Know?

An abandoned swimming pool can produce millions of mosquitoes.

Virus Surveillance

2009 Virus Surveillance Report

The District monitors for Western equine encephalitis (WEE), St. Louis encephalitis (SLE), California encephalitis (CE), and West Nile virus (WNV) activity by collecting blood samples from sentinel chicken flocks strategically placed throughout the county, collecting live mosquitoes trapped throughout the District, and collecting dead wild birds District wide.

Sentinel Chicken Flocks

Annually the District maintains seven sentinel chicken flocks of eleven birds each. The flocks are located in Palermo, Honcut, Gridley, Biggs, South Chico, West Chico, and Hamilton City. Bi-weekly blood samples are taken from the sentinel chickens by the entomology staff and sent to U.C. Davis for testing. The blood sample is tested for SLE, WEE, CE and WNV. In 2009, 36 sentinel chickens have tested positive for WNV from six flocks. Only one flock (Hamilton City) reported no positives for the 2009 season.

Mosquito Pools

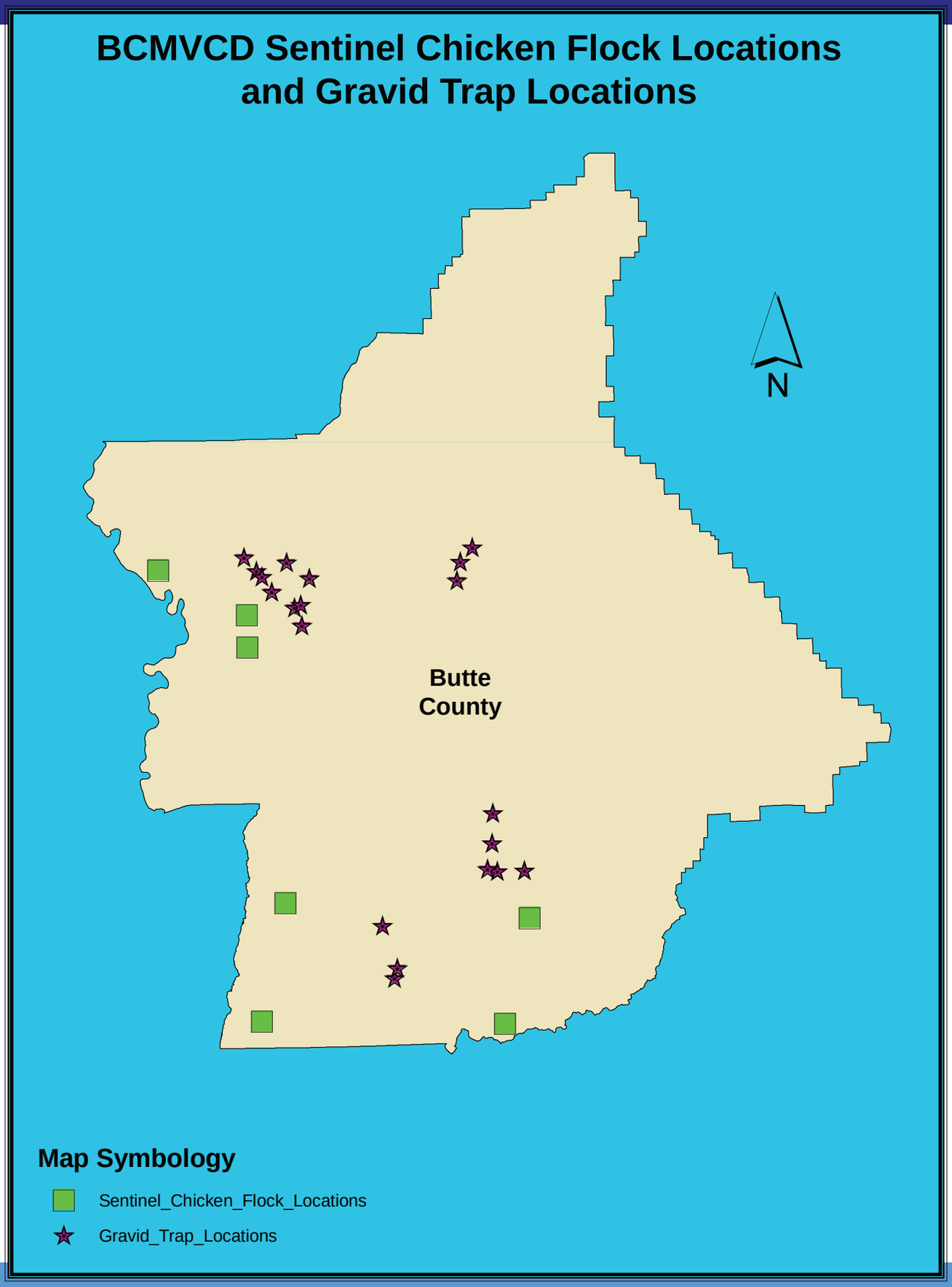
Each week the Districts entomology staff strategically place traps known as encephalitis virus surveillance (EVS) or carbon dioxide traps (CO2) around the District. Traps are posted overnight and retrieved the next morning and the collections are returned to the lab for identification. The entomology staff will identify and sort the trapped mosquitoes and pool the collections for virus testing. A pool consists of 1 to 50 adult female mosquitoes of the same specie. Pooled mosquitoes are transferred to numbered vials and sent to the Center for Vector-Borne Disease Research (CVBDR) at the University of California, Davis. At the CVBDR lab the pools are tested for WEE, SLE, CE, and WNV. In 2009 the District sent 73 mosquito pool samples with 5 returning positive for WNV.

Dead Bird Surveillance and Testing

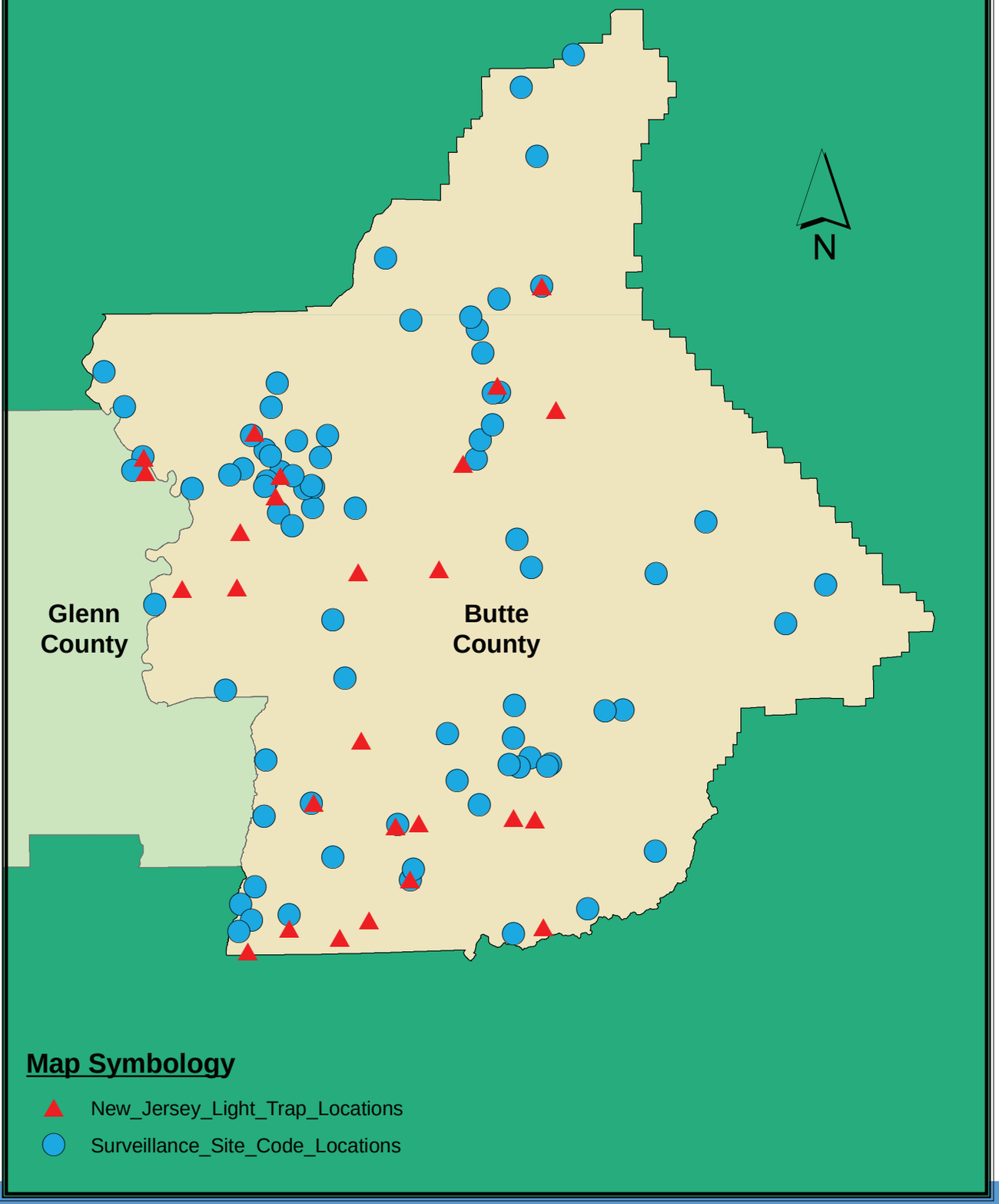
For more than five years the District has participated in the California Department of Public Health's (CDPH) WNV dead bird testing program. County residents participate in the program by calling CDPH's dead bird hotline (1-877-WNV-BIRD) each time they find a dead bird in the county or by submitting an online form at one of these two websites, (***www.westnile.ca.gov***) or (***www.bcmvcd.com***). After a dead bird has been reported, CDPH notifies the District and District staff retrieves the bird and submits it for WNV testing.

Butte County West Nile Virus Statistics

Year	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens	Squirrels
2004	7	18	118	1	50	0
2005	25	7	79	4	15	0
2006	34	0	40	1	49	1
2007	16	0	27	5	32	0
2008	5	0	38	5	31	0
2009	2	0	13	5	36	0
Total	**89**	**25**	**315**	**21**	**213**	**1**

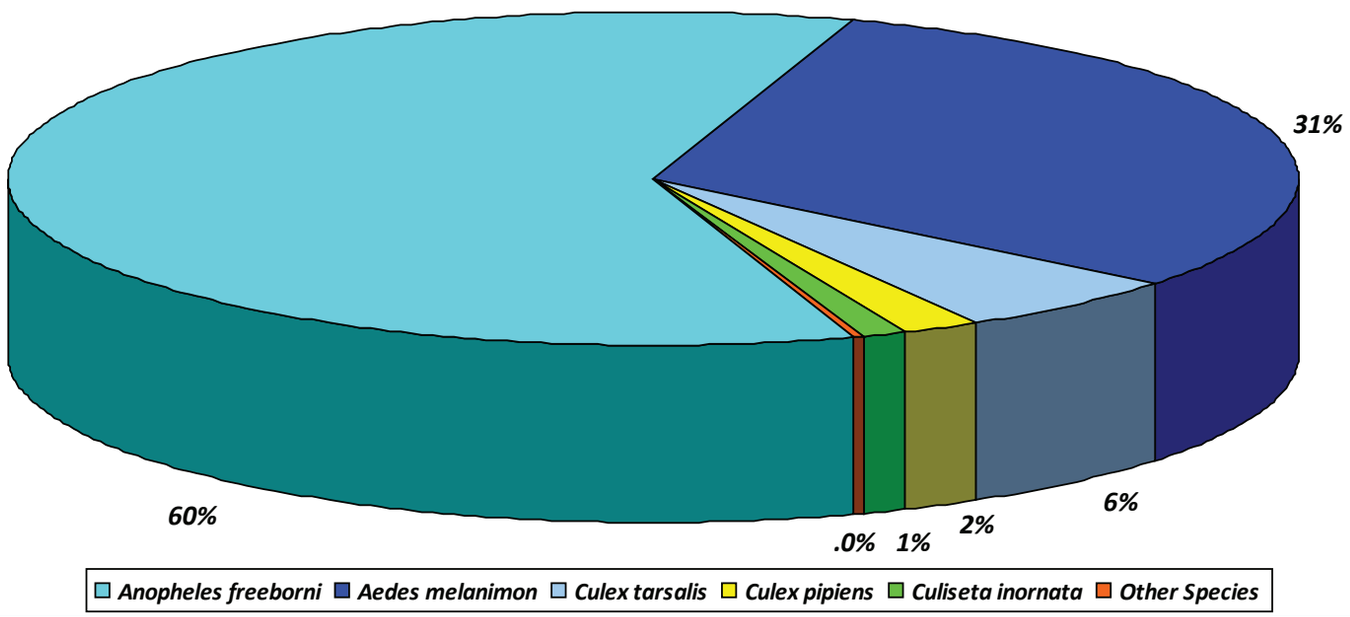

BCMVCD Sentinel Chicken Flock Locations
and Gravid Trap Locations
N
Butte
County
Map Symbology
Sentinel_Chicken_Flock_Locations
Gravid_Trap_Locations

BCMVCD New Jersey Light Trap Locations and Surveillance Site Code Locations

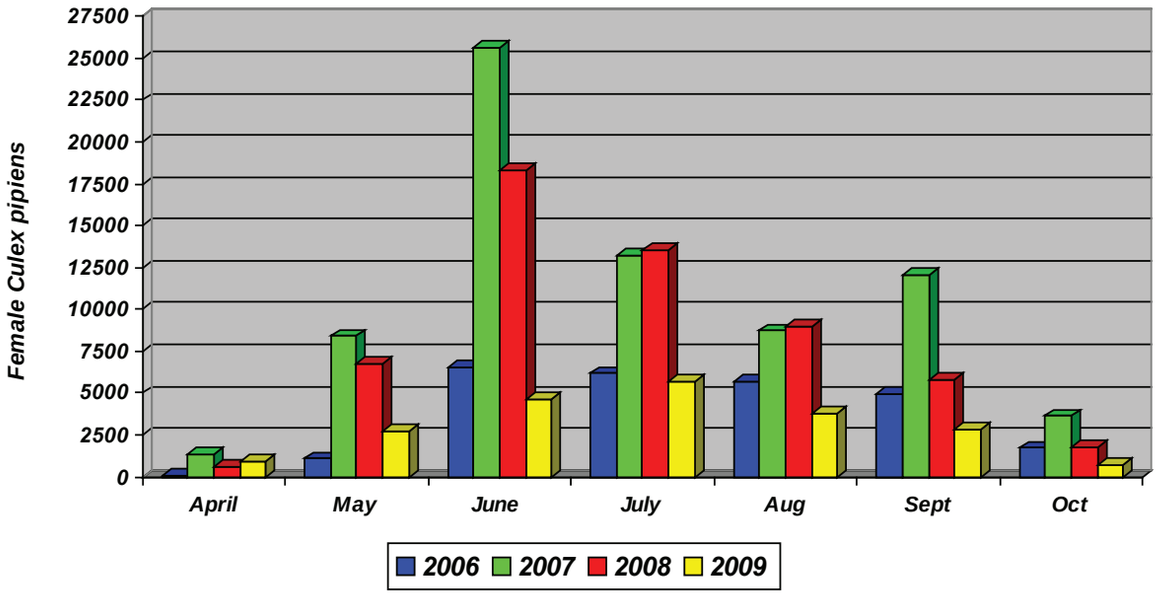


2009 New Jersey Light Trap Collections (Females only)
March 2009 – November 2009

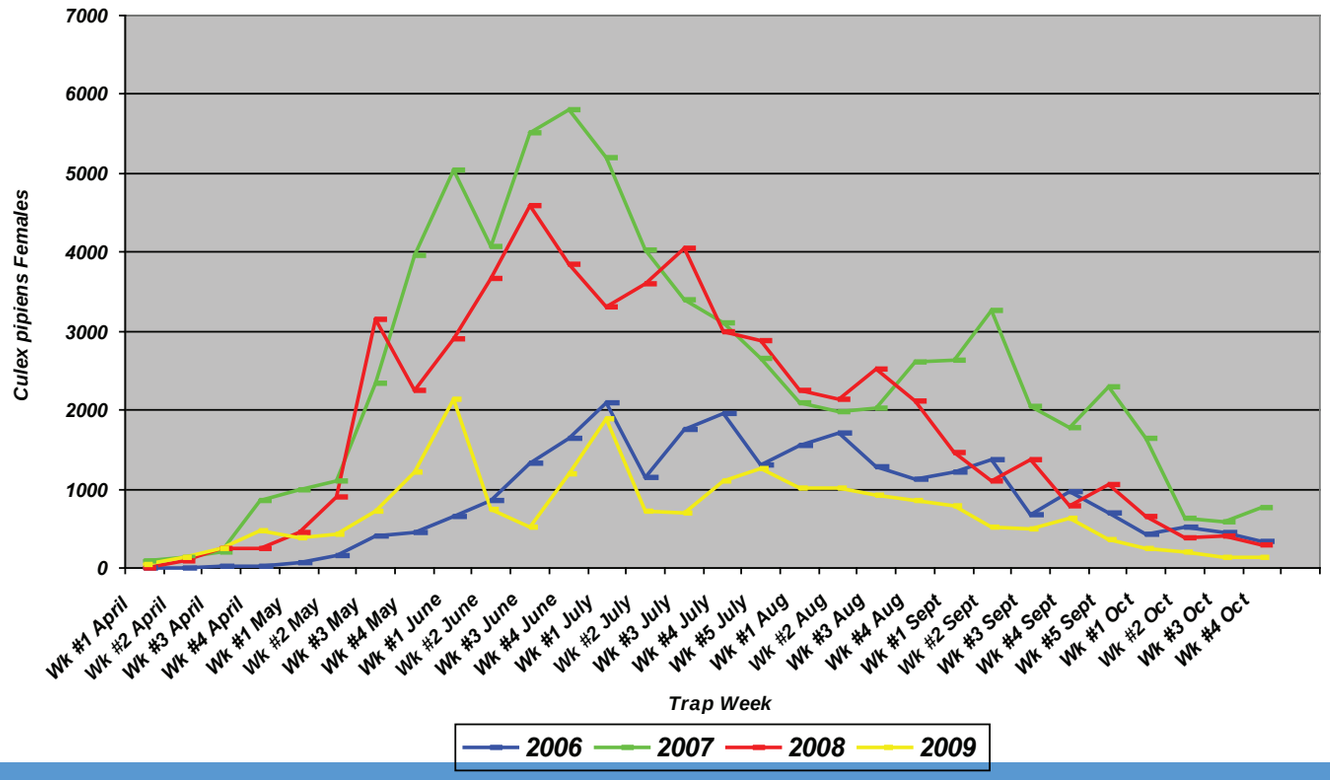
Ranking	Mosquito Species	Number Collected	% of Collection
1	*Anopheles freeborni*	212,750	60.0868%
2	*Aedes melanimon*	108,728	30.7080%
3	*Culex tarsalis*	20,688	5.8429%
4	*Culex pipiens*	7,231	2.0422%
5	*Culiseta inornata*	3,757	1.0611%
6	*Anopheles punctipennis*	299	0.0844%
7	*Culiseta incidens*	252	0.0712%
8	*Aedes washinoi*	174	0.0491%
9	*Aedes sierrensis*	51	0.0144%
10	*Aedes nigromaculis*	47	0.0133%
11	*Culex stigmatosoma*	33	0.0093%
12	*Anopheles franciscanus*	32	0.0090%
13	*Culex erythrothorax*	29	0.0082%
14	*Aedes vexans*	0	0.0000%
15	*Culex boharti*	0	0.0000%
16	*Culex thriambus*	0	0.0000%
17	*Culex restuans*	0	0.0000%
18	*Culiseta particeps*	0	0.0000%
19	*Aedes dorsalis*	0	0.0000%
20	*Aedes sticticus*	0	0.0000%
	Total Identified =	***354,071***	***100.00%***



Gravid Trap Fluctuation by Month

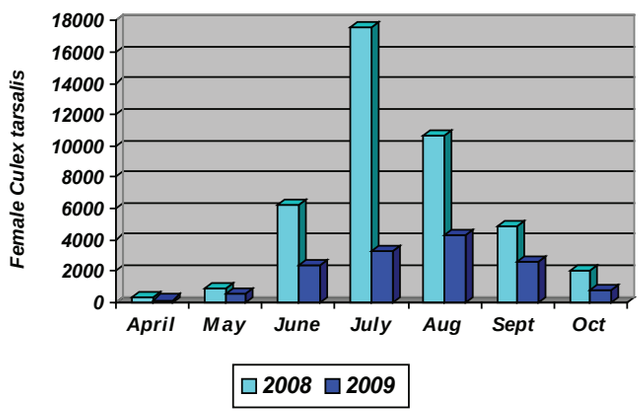


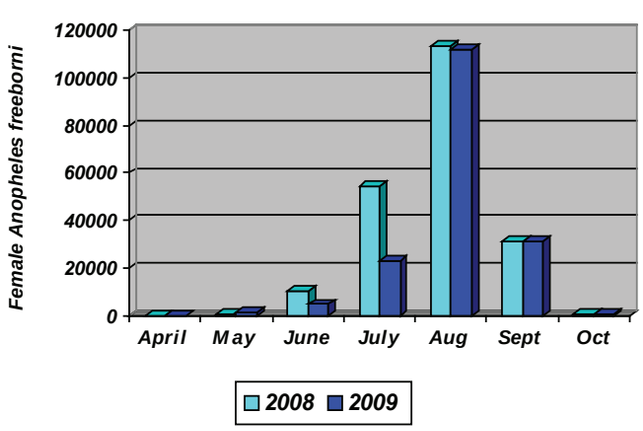
Gravid Trap Fluctuation by Week

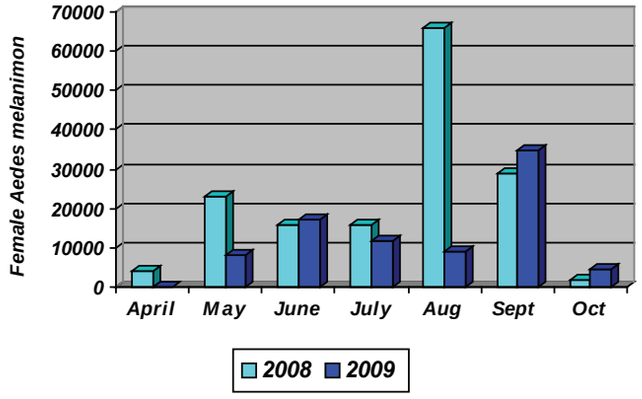


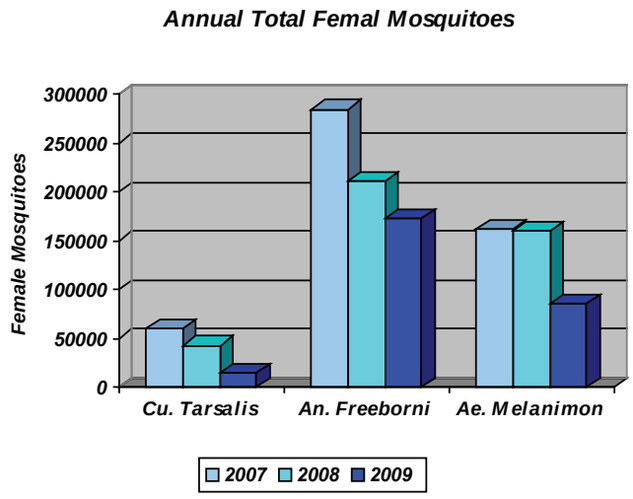
Mosquito Numbers in Butte County 2008 Versus 2009

Seasonal Fluctuation in Numbers of Mosquito Vectors of Disease in Butte County in 2009 Virus Surveillance Season New Jersey Light Traps

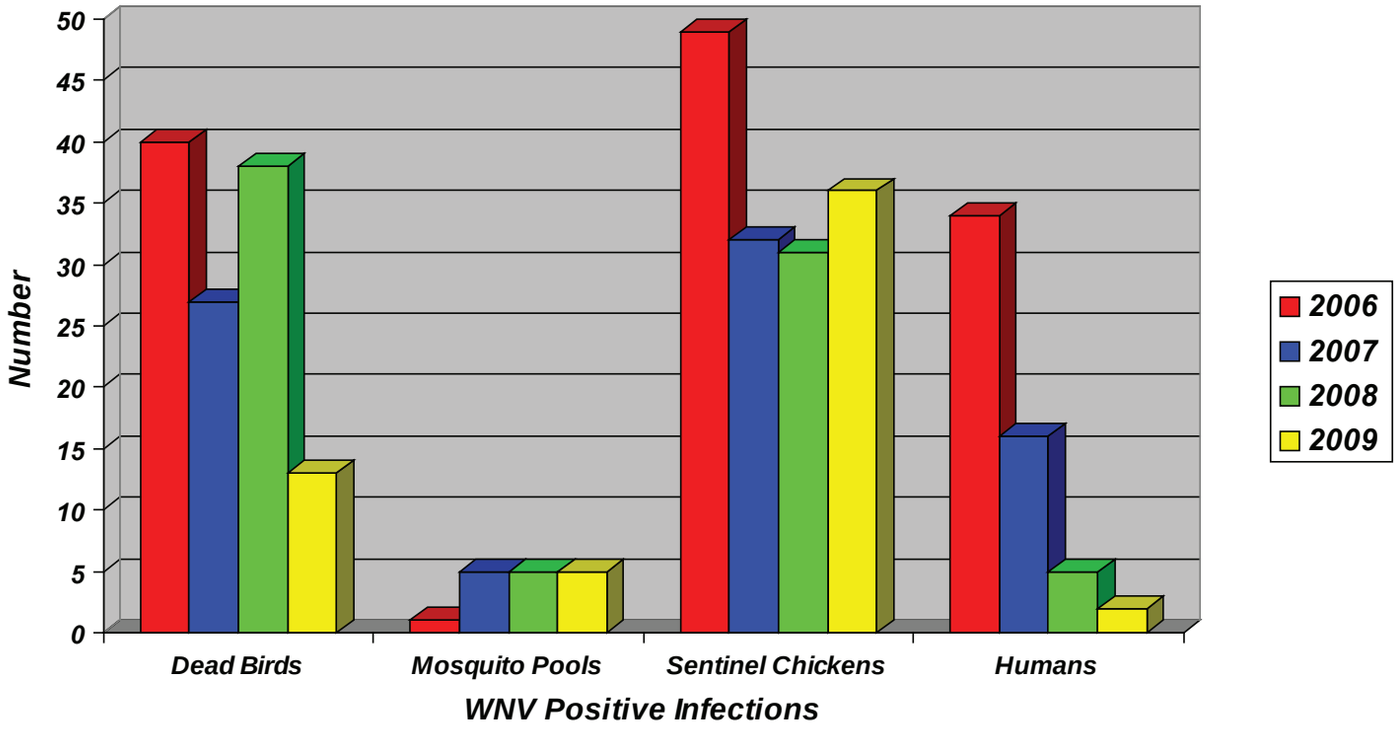








West Nile Virus Activity



West Nile Virus Symptoms

Serious Symptoms in a Few People

About one in 150 people infected with West Nile virus (WNV) will develop severe illness. The severe symptoms can include high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness, and paralysis. These symptoms may last several weeks, and neurological effects may be permanent. WNV infection can be fatal.

Milder Symptoms in Some People

Up to 20 percent of the people who become infected will display symptoms including fever, headache and or body aches, nausea, vomiting, and sometimes swollen lymph glands or a rash on the chest, stomach, and back. Symptoms can last as little as a few days to several weeks.

No Symptoms in Most People

Approximately 80 percent of people (about 4 out of 5) who are infected with WNV will not have any symptoms at all.

Biological Control

Biological control is the intentional use of mosquito pathogens, parasites or predators to reduce the size of target mosquito populations to tolerable levels. The most popular and successful biological tool that is used by the District is the mosquitofish, *Gambusia affinis.* The District has tried other biological control methods and will continue to fully explore any new options that come along, but the most effective biological tool the district currently uses is the mosquitofish. Butte County Mosquito and Vector Control District maintains six fishponds at the Oroville Headquarters. These ponds produce hundreds of pounds of mosquitofish each year. The mosquitofish are routinely stocked and planted by District Mosquito Control Specialists to control mosquito populations in sources such as irrigation ditches, industrial, ornamental and artificial ponds, un-maintained swimming pools, semi-permanent and permanent urban sources, and at times in rice fields and wetlands. Mosquitofish are omnivorous and have a voracious appetite for mosquito larvae. The flattened head and protruding mouth enable the fish to readily prey on surface feeding mosquito larvae and pupae. A large female can consume up to 500 larvae per day! All ages, sexes, and sizes of these fish eat mosquito larvae, other small aquatic invertebrate insects, and algae. The fish are visual predators and feed during daylight hours. Due to insecticide resistance and environmental concerns associated with chemical control methods, biological control methods are expanding as an effective tool used in the control of mosquito populations.

Mosquitofish (*Gambusia affinis*) 2009

Mosquito Breeding Source Treated	Pounds of fish Planted	Acres Treated	Applications Made
Wetlands	0	0	0
Natural Sources/Wildlife Areas	24.5	361	19
Irrigation Ponds	10.7	21	21
Canals	2.31	12.6	6
Retention and Detention Ponds	2.31	4.7	13
Freeway Road Drains	0.47	0.94	9
Streams/Creeks	5.65	18.6	20
Dredger Pits and Ponds	3	6.1	11
Water Troughs	18.9	32.3	96
Sloughs	0.34	1.56	3
District Grounds/Fish Ponds	260	520	170
Natural Sources/Ponds	58.4	98	75
Residential Misc. Containers	31.4	14.5	158
Sewage Ponds	1.7	3.46	8
Duck Clubs	170	2394	78
Ornamental Ponds	0.92	1.91	16
Swimming Pools	9.47	18.1	109
Depressions	0	0	0
Field Drains	32.4	117	100
Fish Ponds	1.5	2.88	32
Industrial Misc. Containers	0	0	0
Nurseries	2.4	0.19	5
Waste Ponds/Drains	0.8	2.5	3
Ditches	46.9	108	141
Wells	0	0	0
Totals	***684.07***	***3739.34***	***1093***

Mosquitofish eating mosquito larvae

Did You Know?

Mosquito biting activity increases **500** times with a full moon.

Chemical Control

Chemical control is the use of target specific insecticides to reduce immature and adult mosquito populations. These chemicals are only applied when physical control, public education and biological control methods are unable to keep mosquito populations tolerable or when emergency control measures dictate the use of chemicals to rapidly terminate or disrupt the transmission of disease to humans. There are two categories of chemicals used by the District, larvicides and adulticides. Larvicides target mosquito larvae and pupae. Adulticides target adult mosquitoes. The chemicals used by the District are registered with the United States Environmental Protection Agency (EPA), as well as the California Environmental Protection Agency (CAL EPA). The District relies mainly on larviciding as the primary means of chemical mosquito control. However, there are limitations to larviciding as a main control strategy. In Butte County where mosquito breeding occurs over large areas, the practical application of larvicides is not feasible and periodic adulticiding is necessary to protect nearby communities from the attack of adult mosquitoes. Also, there are areas that are environmentally sensitive and limit the use of larvicides. In these areas peripheral adulticiding is the only available option.

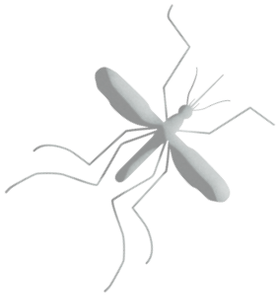
Ag-Cat flying a rice field in Biggs for mosquitoes

Truck mounted fogger in the wetlands west of Gridley.

Did You Know?

There is no vaccine that can prevent West Nile virus in humans.

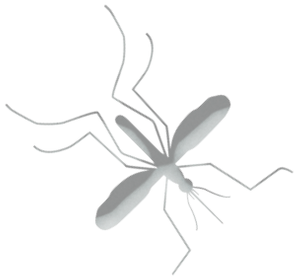
MATERIALS USED



Materials	Amount of Materials	Acres Treated	Number of Applications
Larvicides			
Abate 4E	0.028	2.5	2
Aqnique MMF	3.209	9.815	162
Altosid Briquettes	6.87	4.56	92
Altosid SR-20	0.128	17	15
Altosid Pellets	86.5335	57.25	100
Altosid Pellets WSP	130.393	124.657	872
Altosid SBG	54424.5	6794	162
Bactimos Briquettes	2.887	1.32	8
Golden Bear	1288.78	441.775	1204
Vectobac 12AS	1438.19	22692.2	413
Vetolex WDG	5.563	12.25	16
	2730.179 gal.	***30157.327***	***3046***
	54656.9025lbs.		
Adulticides			
Anvil 10+10 ULV	277.873	89815.1	788
Anvil 2+2 ULV	11.936	3007.91	32
Aqualhalt	184.741	36635.3	134
Baygon 1.5	0.125	0.07	1
Prentox 3%	13.805	2359.4	46
Pyrethrin 5%	28.434	5283.3	78
Pyrethtrin 12	60.854	80690	187
Trumpet EC	358.91	59938.5	176
	936.678 gal.	***277729.58***	***1442***
Barrier Sprays			
Baytex 7lb	1.368	2.824	41
Dursban 4E	0.121	0.41	3
Suspend SC	1.48	4.293	51
	1.601 gal.	***7.527***	***95***
	1.368 lbs.		
Yellowjacket Control			
Drione	0.844	0.18	6
	0.844 lbs.	***0.18***	***6***
Herbicides			
Glyphosate Pro	0.4505	0.88	5
Glypro Plus	0.378	1.12	5
Round Up Pro	2.237	2.5	16
	3.0655 gal.	***4.5***	***26***
	Totals = 3671.5235 gal.	***307,899.11***	***4615***
	54659.1145 lbs.		

Aircraft Spraying

Total Sources Sprayed	866
Total Acres Treated	126,060
Total Acres Rice	22,358
Total Acres Duck Clubs	6,794
Total Acres ULV	96,573
Total Acres Other	0



District Shop

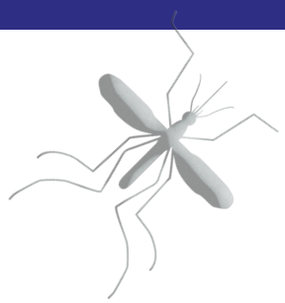
At the Oroville facility, the District employs one full time mechanic and one seasonal shop assistant. The District's shop provides the maintenance and repairs for 30 vehicles, 2 forklifts, 1 backhoe, 3 ATV's, 2 amphibious Tritons, 1 nurse truck and 4 utility trailers. Additionally, the shop is responsible for the maintenance and repairs to the District's electric ULV foggers, gas ULV foggers, back cans, power sprayers, small engines such as chain saws, weed eaters, lawn mowers, etc. and other mechanical items.
The shop is also responsible for repairing and installing improvements to the District facilities and grounds when and where necessary. Often the shop will repair the Districts security system, lighting fixtures, plumbing fixtures, and others as needed.

District Hangar

At the Oroville facility, the District employs one full time Advanced Pilot II and has an additional pilot on standby for emergency needs. On average the planes make applications to over 150,000 acres each year. During down time, the 3 planes receive repairs and technological improvements such as new instruments and instrument panels, installation of new technology (altimeter, Satloc, Ag-Nav), repainting, replacing engine parts, and routine annual maintenance. The Advanced Pilot II also is responsible for renting a passenger plane and providing aerial surveillance flights over seasonally flooded wetlands and duck clubs for the District's Mosquito and Vector Control Specialists.

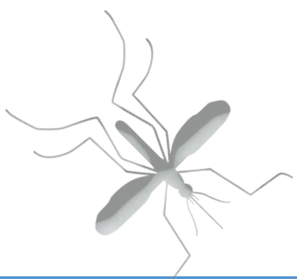
District Administration

Greeted by a nice smile and a pleasant tone, professional and courteous customer service is the number one priority for the District's administration staff. The District employs one full time Office Manager and one full time Receptionist. The tasks of the administrative personnel involve serving the residents of Butte County and Hamilton City as well as the employees of the District. Accounting, budgeting, responding to telephone inquiries, maintaining public records, coordinating policies, and reporting to the Board of Trustees are just a few of the many duties the department performs.



2009 FINANCIALS

Butte County Mosquito and Vector Control District For The Year Ended June 30, 2009				
				Variance Favorable
		Budgeted	Actual	(Unfavorable)
Revenue		$ 2,212,050	$ 2,678,725	$ 466,675
SALARIES & BENEFITS				
Salaries		$ 1,139,000	$ 982,246	$ 156,754
Workers Compensation		$ 33,000	$ 29,482	$ 3,518
FICA & U I		$ 100,000	$ 88,322	$ 11,678
Health Insurance		$ 245,000	$ 204,181	$ 40,819
PERS		$ 156,000	$ 135,836	$ 20,164
	TOTAL	$ 1,673,000	$ 1,440,067	$ 232,933
SERVICES & SUPPLIES				
Gas & Oil		$ 120,000	$ 84,188	$ 35,812
Repairs & Parts-Airplane		$ 10,000	$ 11,072	$ (1,072)
Repairs & Parts		$ 20,000	$ 29,922	$ (9,922)
Office Supplies		$ 11,000	$ 10,490	$ 510
Education & Publicity		$ 3,000	$ 5,453	$ (2,453)
Insecticides		$ 330,000	$ 272,955	$ 57,045
Expendable Equipment		$ 20,000	$ 18,167	$ 1,833
Communications		$ 11,000	$ 9,734	$ 1,266
Travel		$ 7,500	$ 9,868	$ (2,368)
Utilities		$ 13,000	$ 11,253	$ 1,747
Rent		$ 10,500	$ 10,125	$ 375
Special Services		$ 50,000	$ 64,533	$ (14,533)
Trustee Allowance		$ 12,000	$ 11,400	$ 600
General Insurance		$ 85,000	$ 76,903	$ 8,097
Employee Trng & Dues		$ 17,000	$ 15,058	$ 1,942
Miscellaneous		$ 12,000	$ 13,280	$ (1,280)
Research Supplies		$ 20,000	$ 19,071	$ 929
Alternate Technology		$ 4,000	$ 595	$ 3,405
Special Discretionary		$ 40,000	$ 25,492	$ 14,508
Gambusia		$ 1,000	$ 1,986	$ (986)
	TOTAL	$ 797,000	$ 701,545	$ 95,455
CAPITAL OUTLAY				
Bldg & Improvements		$ 15,000	$ 12,130	$ 2,870
Vehicles		$ 40,000	$ 41,813	$ (1,813)
Spray Equipment		$ 10,000	$ 17,987	$ (7,987)
Aircraft		$ 22,000	$ 7,651	$ 14,349
Office Equipment		$ 3,000	$ 5,407	$ (2,407)
Laboratory Equipment		$ 2,000	$ -	$ 2,000
Shop Equipment		$ 4,000	$ -	$ 4,000
Education & Publicity		$ 4,000	$ 3,636	$ 364
Miscellaneous		$ 7,000	$ -	$ 7,000
Communications		$ 55,000	$ 51,694	$ 3,306
	TOTAL	$ 162,000	$ 140,318	$ 21,682
Appropriation for contingencies		$ 654,500	$ -	$ 654,500
Grand Total		$ 3,286,500	$ 2,281,930	$ 1,004,570
Excess(Deficiency) of Revenue over Expenditures		$ (1,074,450)	$ 396,795	$ 1,471,245
Fund Balance 2008			2,884,264	
Fund Balance 2009			3,251,706	
annual report 6-30-09				



Butte County Mosquito and Vector Control District
Balance Sheet
Governmental Funds
For The Year Ended June 30, 2009

	Assets	
Cash and Investments		2,703,710
Accounts receivable		12,287
Interest receivable		20,657
Inventories		603,106
	Total Assets	3,339,760
	Liabilities and Fund Balance	
Liabilities		
Accounts payable		33,734
Accrued salaries and Benefits		54,320
	Total Liabilities	88,054
Fund Balance		
Reserved for imprest cash		1,100
Reserved for inventories		603,106
Reserved, other		70,000
Reserved for aircraft engines		30,000
Unreserved, reported in:		
General Fund		2,547,500
	Total Fund Balance	3,251,706
	Total Liabilities and Funds Balance	3,339,760

Reconciliation of the Balance Sheet of Governmental Funds to the Statement of Net Assets:

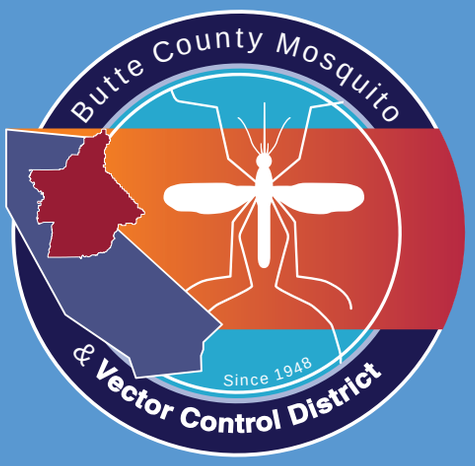
Capital assets used in governmental activities are not financial resources and, therefore, are not reported in the funds	946,951
Long term liabilities are not due in the current period and, therefore, are not reported in the governmental fund.	(241,252)
Net Assets of Governmental Activities	3,957,405

2009 Butte County Mosquito and Vector Control District
Board of Trustees

Name	Title	Area Represented	
Lynn Vanhart	Board Vice President	County District 1	Bill Connelly
Dan Hutfless	Board Trustee	County District 2	Jane Dolan
Charles Bird	Board Assistant Secretary	County District 3	Maureen Kirk
Jack Bequette	Board Trustee	County District 4	Steve Lambert
Allan Seefeldt	Board Trustee	County District 5	Kim Yamaguchi
William Thebach	Board Trustee	City of Biggs	Peter Carr
Albert Beck	Board President	City of Chico	Tom Lando
Jerry Anne Fichter	Board Trustee	City of Gridley	Jack Slota
Terry Mallan	Board Trustee	Town of Paradise	Frankie Rutledge
Tom Anderson	Board Secretary	Hamilton City	Bd of Supervisors
Vacant		City of Oroville	City Council

2009 Butte County Mosquito and Vector Control District
Employees

Name	Title	
Matt Ball	Manager	
Dan Moench	Assistant Manager	
Del Boyd	Advanced Pilot II	
Darlene Starkey	Office Manager	
Bill Kunde	Regional Supervisor	
Doug Weseman	Public Information Officer	
Pete Gibson	Mechanic	
Eric Gohre	Entomologist 1	
Beth Vice	Mosquito Control Specialist	Zone 1
Jim Richards	Mosquito Control Specialist	Zone 3
Aaron Goff	Mosquito Control Specialist	Zone 4
AAron Lumsden	Mosquito Control Specialist	Zone 6
Ryan Rothenwander	Mosquito Control Specialist	Zone 8
Glen Williams	Mosquito Control Specialist	Zone 9
Phillip Henry	Mosquito Control Specialist	Zone 10
Shane Robertson	Mosquito Control Specialist	Zone 11
Don Lasik	Mosquito Control Specialist	Zone 14
Jodi Sneeringer	Receptionist Clerk	
Justin VanGIlder	Seasonal Helper	Zone 1
Andy Lemenager	Seasonal Helper	Zone 3 & 12
David Martinez	Seasonal Helper	Zone 3 & 12
Elliott Santos	Seasonal Helper	Zone 3 & 12
Zach Santos	Seasonal Helper	Zone 3 & 12
Jerad Martinez	Seasonal Helper	Zone 6
Alicia Strang	Seasonal Helper	Zone 6
Jason Haller	Seasonal Helper	Zone 8
Ryan Berryman	Seasonal Helper	Zone 10
Joe Garcia	Seasonal Helper	Zone 11
Kurtis Upton	Seasonal Helper	Zone 14
Pat Self	Seasonal Helper	Shop/yard



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