



The 77th and 78th Report for the Alameda County Mosquito Abatement District



Treating Treehole Mosquitoes



Treating catch basins



Maintaining ditches to help water flow in and out of marshes



Controlling mosquito larvae in unmaintained pools



CO₂ Trapping of adult mosquitoes



Testing dead birds



Treating storm drains

Fiscal Years 2007-2008 and 2008-2009

Dedicated to the Memory of

Thomas L. Branan, Sr.
Pleasanton Depot Supervisor 1945-1978
Died March 5, 2010

Alameda County Mosquito Abatement District

BOARD OF TRUSTEES

John D. Hughes, President
Marisel Brown, Vice-President
Jan O. Washburn, Secretary
Dennis Bray
Edgar I. Centeno
James N. Doggett
T. David Edwards
Paul T. Garcia
Jim Golden
James Kohnen
Denny McLeod
Jim Prola
Ronald E. Quinn
William M. Spinola

John R. Rusmisl
District Manager
acmad@mosquitoes.org

March 10, 2010

The Board of Trustees of the
Alameda County Mosquito Abatement District

Dear Trustees:

The employees of the Alameda County Mosquito Abatement District present to you the District's Biennial Report covering fiscal years 2007/08 and 2008/09 as well as the operational data for 2008 and 2009. Operational data from past years is included for comparison.

West Nile Virus (WNV) has been detected in Alameda County every year since 2004 and has been found in birds, squirrels, horses and mosquitoes. We are still fortunate to report that there have been no locally acquired human cases of WNV even though all of the surrounding counties have had numerous cases and fatalities. Budget problems have curtailed the State from providing additional funding for WNV control. The world-wide economic downturn has resulted in hundreds of vacant homes due to foreclosures. Many of these homes have mosquito sources such as unmaintained swimming pools and fish ponds that are reported by neighbors or spotted by aerial surveillance. 2009 saw a reduction in WNV activity in Alameda County and the rest of California. See the Entomologist Report for a thorough review of WNV activity in Alameda County.

The District received additional funding through the passage of a benefit assessment in 2008. The assessment garnered a 70.19% approval from property owners in the County. The State, since 1992, has transferred 36 per cent of *ad valorem* taxes from our District funds to the Educational Revenue Augmentation Fund (ERAF). In 2009 the State borrowed another 8% of *ad valorem* tax revenue to make up for budget deficits. Having the new revenues provided by the benefit assessment allows the District to continue to provide a high level of mosquito control even in hard economic times.

Finally, there have been several recent legal decisions concerning National Pollutant Discharge Elimination System (NPDES) permits for pesticides. The State of California Water Board is developing a single NPDES permit for mosquito control pesticides used for both larval and adult mosquito control. The new permit is expected to be ready in April of 2011 and will require a more expensive permit fee and additional costs for monitoring of pesticides. The District has taken a leadership role in working with the State to develop a workable permit and monitoring plan for the future.

Respectfully submitted,



John R. Rusmisl
District Manager

TABLE OF CONTENTS

Governing Board.....	1
District Personnel.....	2
Operational Data.....	4
Operations Report.....	5
Entomologist’s Report.....	9
Alameda County Surveillance Locations.....	13
Public Outreach.....	14
NPDES Update.....	16
Benefit Assessment.....	17
Final Ballot Tabulation Results.....	19
Benefit Assessment Information Fact Sheet.....	20
Financial Report.....	22
Combined Balance Sheet.....	23

GOVERNING BOARD

The Alameda County Board of Supervisors and each of the elected councils of the 13 cities within the District appoint one trustee to represent its constituency on the governing board of the Alameda County Mosquito Abatement District. The Board of Trustees consists of individuals dedicated to community service and willing to accrue the knowledge required to effectively govern a mosquito abatement district. The current board members possess a variety of skills and expertise in business, government, civil engineering, electrical engineering, general contracting, automotive mechanics, agriculture, genetics, medicine, medical entomology, environmental health, scientific research, physics, public health and sanitary engineering.

The diversity of knowledge possessed by the trustees provides a broad, conceptual framework within which the Board decision-making occurs. In these ever-changing times, the knowledge base provided by the trustees is an invaluable resource.

The trustees serve two-year terms without compensation, but they do receive allowances for expenses incurred in attending business meetings of the Board. The regular Board meetings are held on the second Wednesday of each month at the District, 23187 Connecticut Street, Hayward at 5:00 p.m. and the meetings are open to the public.

Trustees for the years 2008-2009

Trustee	Representing	Years of Service
Dennis Bray	County-at-large	6
Marisel Brown	Oakland	2
Edgar I. Centeno	Pleasanton	8
James N. Doggett	Livermore	32
T. David Edwards	Alameda	22
Paul T. Garcia	Hayward	24
Jim Golden	Emeryville	14
John D. Hughes	Fremont	25
James Kohnen	Dublin	6
Denny A. McLeod	Piedmont	10
James Prola	San Leandro	2
Ronald E. Quinn	Union City	8
William Spinola	Newark	27
Jan O. Washburn	Berkeley	16

DISTRICT PERSONNEL

Name of Employee	Position	Years of Service
Dereje Alemayehu	Vector Biologist (Zone 2)	10
John Busam	Vector Biologist (Zones 9 & 10)	7
Lyle Cain	Vector Biologist (Zones 5 & 7)	9
Cornelius Campbell	Mosquito Control Technician (Zone 8)	6
Erika Castillo	Environmental Specialist	7
Joseph Huston	Vector Biologist (Zones 3 & 4)	18
Bruce Kirkpatrick	Entomologist	11
Clarence Lam	Administrative/Financial Manager	7
Gregory Leipzig	Vector Biologist (Zone 6)	3
Sharon Mead	Systems Specialist	23
John Rusmisl	Manager	30
Michelle Sheen	Mosquito Control Technician (Zone 1)	1
Patrick Turney	Field Operations Supervisor	29
Gregory Wood	Mechanical Specialist	10

Seasonal Employees

2008

Joseph Gay
 Christopher Lucchesi
 Jessica Sund

2009

Erik Baxter
 Miguel Cardenas
 Joseph Gay
 Dennis Mead



Representation Activities

The District is one of 63 agencies that conduct mosquito control in California and belong to the Mosquito and Vector Control Association of California (MVCAC). The District participates in the activities of the MVCAC, the Society of Vector Ecologists (SOVE) and the American Mosquito Control Association (AMCA) to promote coordination of our common activities and to increase our knowledge of mosquito control. The following is a list of District trustees and employees who have participated in regional, statewide or national activities:

Bruce A. Kirkpatrick Ph.D.

Chair of the MVCAC Coastal Region Continuing Education Committee 2008 & 2009, member Coastal Region Vector Ecologist committee, and member of the AMCA, SOVE, and ESA (Entomological Society of America). Participated in a nationwide mosquito education project with Yale University's Peabody Museum.

Erika Castillo

Attended 2009 State of the Estuary Conference, Represents the District at the Hayward Area Shoreline Planning Agency (HASPA) Technical Advisory Committee meetings

James Kohlen Ed.D.

California Special Districts Association Region 3 Representative

Jan O. Washburn Ph.D.

Member Entomological Society of America, 2009 MVCAC Proceedings editor

John R. Rusmiser

Member AMCA, 2009 President of the MVCAC and member of the Legislative and Vector Control Research Committees, member of the Society of Vector Ecologists, 2008 Vice President of the Alameda County Chapter of the California Special Districts Association, and member South Bay Salt Pond Restoration Stakeholder Forum

Sharon S. Mead

Member Bay Area Automated Mapping Association, Member MVCAC Information Technology Committee

OPERATIONAL DATA 2004-2009

	2004	2005	2006	2007	2008	2009
Physical control operations						
Maintenance of ditches (lineal feet)	18937	22410	0	12056	10231	8082
Mosquitofish operations						
Total number of sites stocked with <i>Gambusia</i>	1694	1440	1203	1053	1211	1023
Total number of fish planted	36146	25347	20303	22662	26527	20685
Chemical control operations						
Golden Bear 1111 larvicidal oil (gallons)	3292	5154	2479	1158	1462	1190
Scourge adulticide (resmethrin) (ounces)	0	14	8	0	101	0
Agnique MMF monomolecular film (oz)	57	19	8	0.5	0.5	35
Biorational larvicides						
Bacteria based						
<i>Bacillus thuringiensis israelensis</i>						
Vectobac 12AS liquid concentrate (pints)	510	963	1474	458	767	558
Vectobac G granular (pounds)	6078	0	8743	3726	3421	3964
FourStar 150 day Briquets (pounds)					0.07	
<i>Bacillus sphaericus</i>						
Vectolex CG (pounds)	0	0	4824	2440	3057	2796
Vectolex WSP (pounds)	169	187	95	225	88	105
Vectolex WDG (pounds)	1	18	2	5	139	248
<i>Bacillus thuringiensis israelensis and Bacillus sphaericus</i>						
Vectomax CG (pounds)						2
Insect growth regulator (methoprene)						
Altosid Liquid Larvicide 20% (ounces)	543	948	1390	442	728	600
Altosid Briquets (each)	10460	20809	6849	7985	5691	5141
Altosid XR Briquets (each)	2887	3912	4663	5874	2702	3974
Altosid Pellets (ounces)	7421	10078	4566	2582	2884	4208
Altosid SBG (ounces)				87	0	0
Altosid WSP (ounces)				28	32	10
Altosid XR-G (ounces)					4	1544
Total hours of District effort						
Physical control	804	735	88	314	267	337
Mosquitofish plants	943	838	642	575	695	555
Biorational control	1948	2334	1928	1511	1460	2127
Chemical control	1191	1276	650	708	372	438
Monitoring and surveillance	6347	6600	7267	7424	6958	7610
Public Relations	2277	1923	1836	1342	1240	1651
Equipment and facilities maintenance	2490	2471	2303	1699	1744	1972
Administration, training and safety	11559	10846	11230	11421	10776	12121

OPERATIONS REPORT

Service Requests

Service requests for our District may be categorized into three main groups: fish calls, mosquitoes biting, and reports of standing water (classified as “prevent”). Figure 1 summarizes 23 years of these service requests. Beginning in 1992, the average number of service requests increased from approximately 1000 calls per year to 1,500 calls per year. This was the year that the District created an active public education program. In 2002, an increase in public awareness and widespread media coverage about the dangers of West Nile Virus (WNV) resulted in an increase in requests for service. Since 2006, WNV is no longer generating larger than normal calls. However, numbers of “prevent” calls remain significant, in large part due to the number of neglected swimming pools from foreclosed homes.

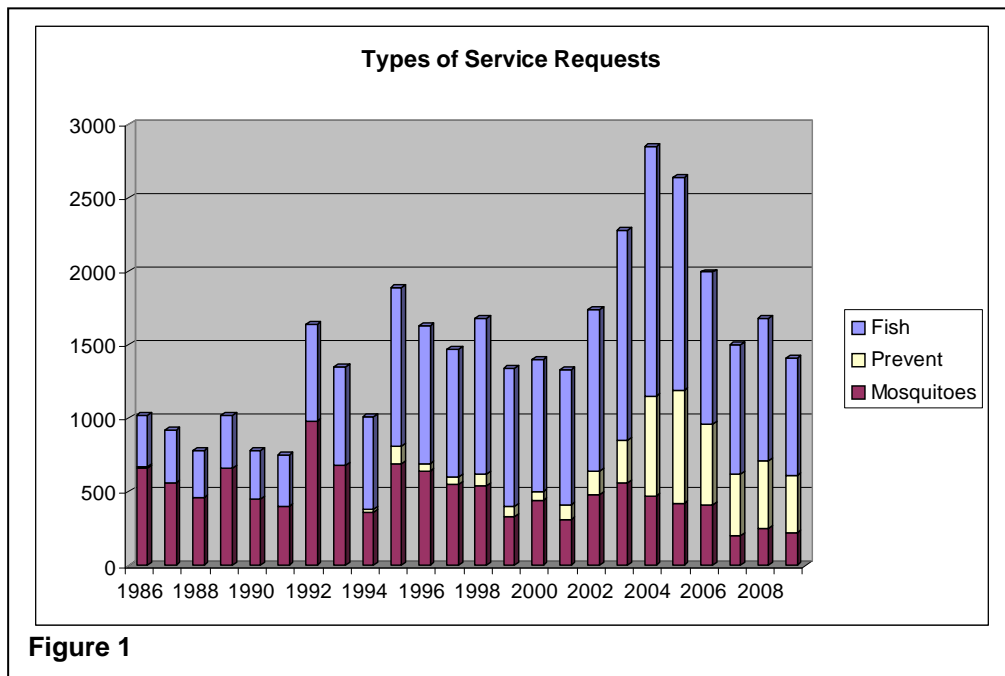
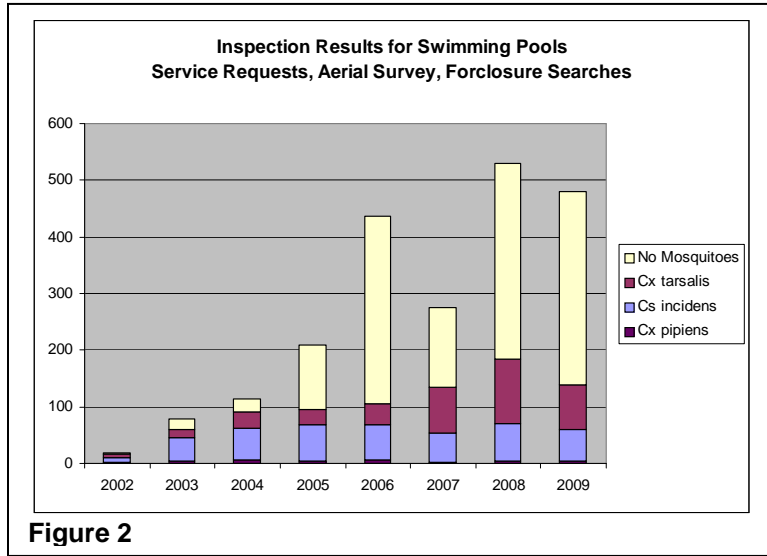


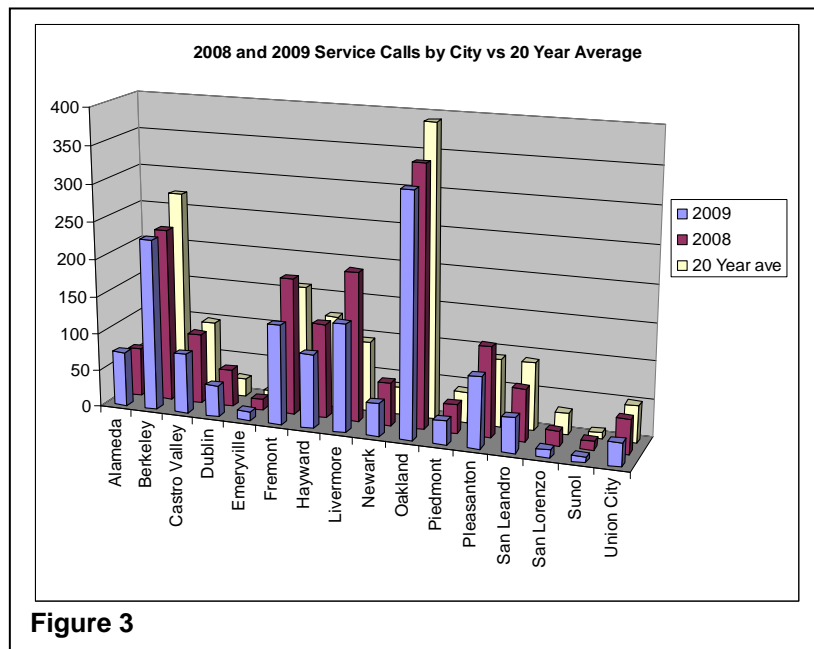
Figure 1

Our District has spent considerable effort locating and treating neglected swimming pools. Green pools are found via aerial photography, searching foreclosures listings in real estate databases, and relying on service calls from the public. Figure 2 illustrates the increase in the number of pool inspections over the last eight years, and what species, if any, are found. Although the majority of inspected pools are not breeding mosquitoes, those that do breed are capable of producing tens of thousands of adults. *Culex tarsalis*, an effective vector of West Nile Virus, is most commonly found in these circumstances.



City Breakdown

Figure 3 shows a city comparison of the last two years total service requests, and compares them to each of their 20-year averages. Areas with the greatest population density, Oakland and Berkeley, consistently generate the most calls, followed by Livermore and Fremont. For most cities, 2008 and 2009 generated fewer requests for service compared with their 20-year average. Livermore and Pleasanton have seen slight increases in service requests compared to their 20-year averages. This may be due to increases in population in these areas. When we look at a city comparison of the last two years mosquito complaints only (no fish or prevent calls) compared with their 20-year averages (Figure 4), nearly all cities showed a steady decline in complaints. The ongoing drought and addition of seasonal employees to treat catch basins are likely responsible for this decline.



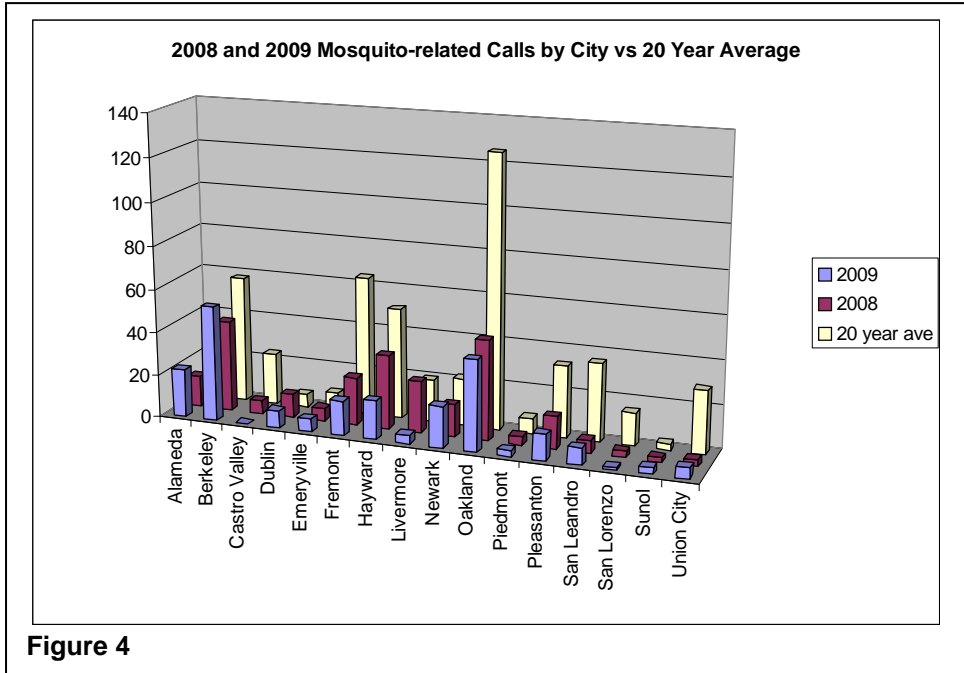
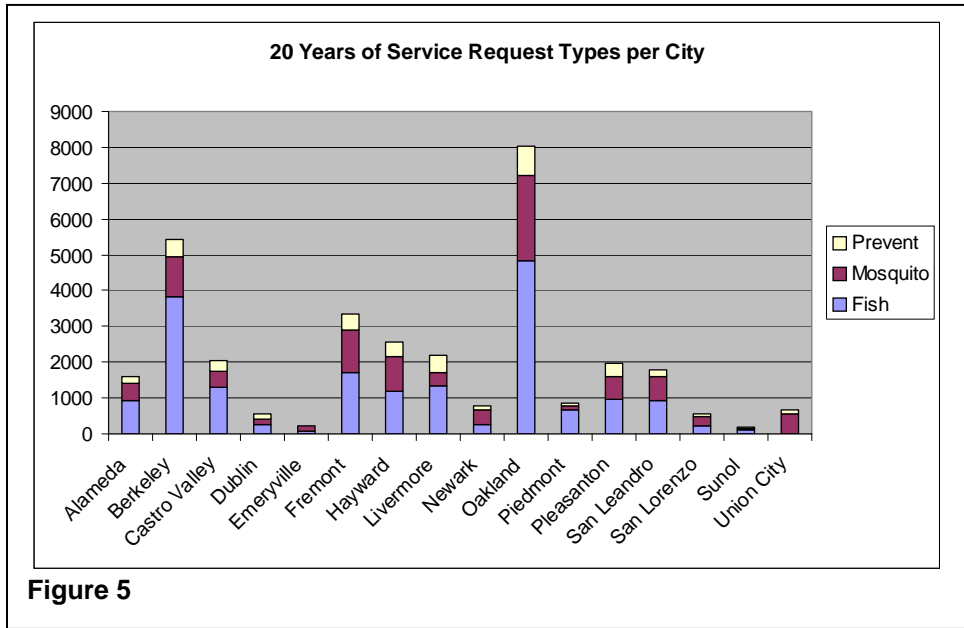


Figure 5 summarizes 20 years of service request data for each city. Oakland has shown the most activity, generating more fish requests and mosquito complaints than any other city, followed by Berkeley and Fremont. Greater populations in these areas are responsible for this trend.



Mosquito Species and Habitats

Figure 6 shows which mosquito species are responsible for complaints for each city for 2008 and 2009. *Culiseta incidens* is most common in Oakland and Berkeley. This

species breeds in neglected fishponds and prefers the cooler temperatures found in these areas. *Culex* species, on the other hand, thrive in warmer climates, and are seen in greater numbers in cities such as Livermore and Pleasanton. Figure 7 shows which habitats are likely to breed mosquitoes. This graph summarizes District initiated inspections from known sources. Catch basins, creeks/canals/ditches, and marshes are most likely to be found breeding mosquitoes.

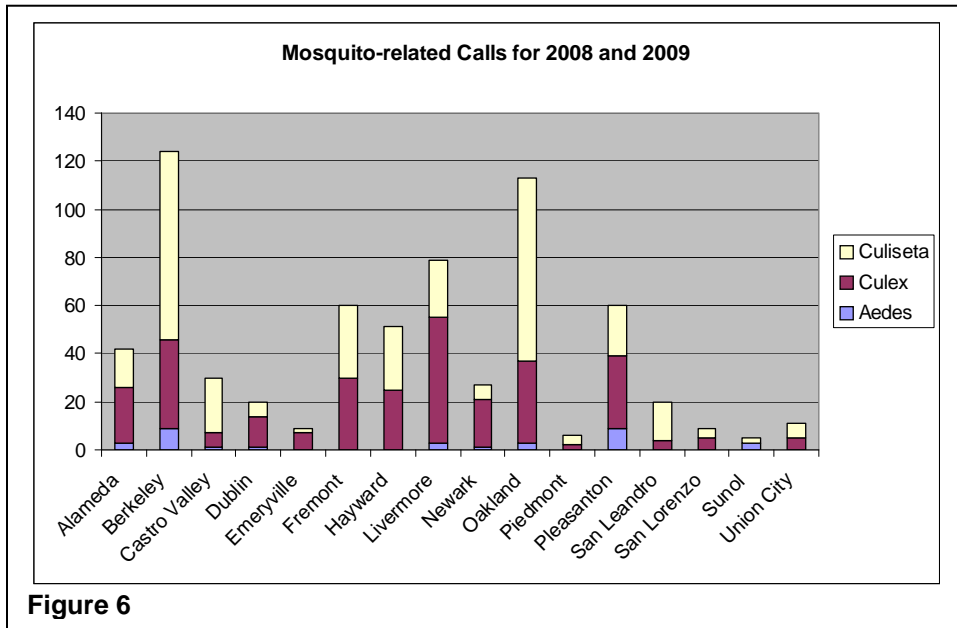


Figure 6

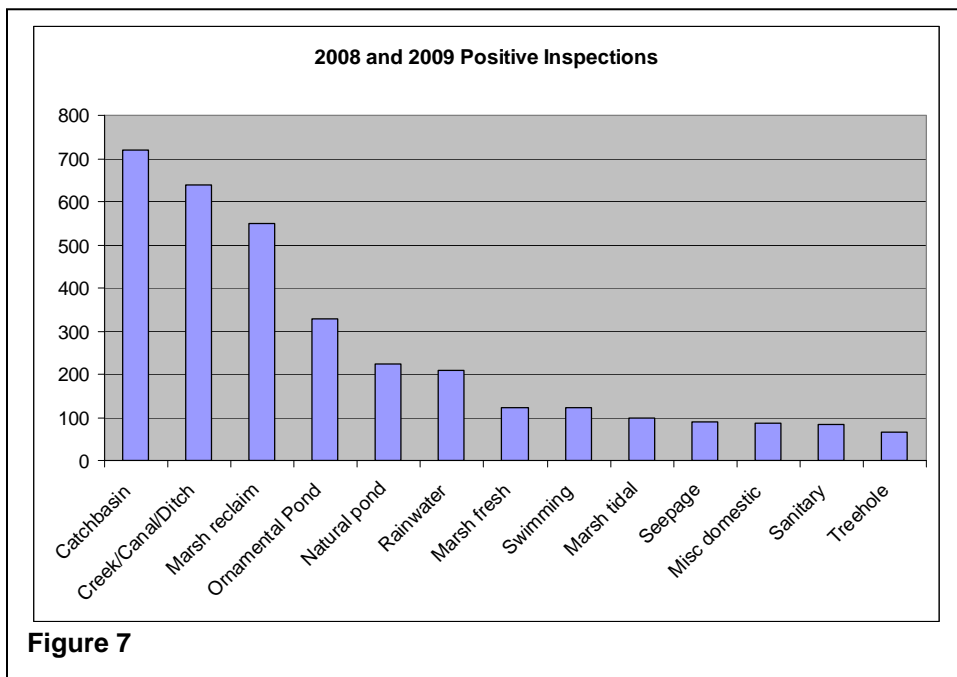


Figure 7

ENTOMOLOGIST'S REPORT

2008 & 2009 Mosquito Seasons

Alameda County continued to experience below average rainfall in 2008 and 2009 (Figure 1). The lower rainfall totals have had an impact on the abundance of mosquitoes collected in our CO₂ (carbon dioxide) traps and New Jersey Light Traps. For example, in 2009, the two most important vectors of West Nile Virus (WNV), *Culex pipiens* and *Culex tarsalis*, were typically collected at much lower numbers than the 5-year average (see Figure 2). The 2008 CO₂ trapping season collected fewer *Culex* species than any of the previous six seasons (Table 1). Although 13 WNV positive dead birds were collected in 2008, no distinct cluster of WNV activity developed (Dead bird clusters are considered areas of high WNV risk to humans). On August 11th, 2008, a single “pool” (a collection of mosquitoes tested as a group) of *Culex tarsalis* from Fremont tested positive for WNV.

In 2009, only 10 WNV positive birds were collected. Five of these were American crows that were collected within a 24-hour period at a small apartment complex in Livermore. Such “tight” clusters are unusual, and this is the first time we have experienced this in our County. Subsequent trapping in the area collected few mosquitoes, and all tested negative for WNV. Later that summer a flooding event in the community of Mountain House produced abundant *Culex tarsalis*, and one pool of these tested positive for WNV. This season also saw the return (in two separate trapping nights) of *Aedes nigromaculis*. Although not an uncommon species, it has been many years since it appeared in our County. In addition, this season also saw a significant increase during the late summer and fall of the summer salt marsh mosquito, *Aedes dorsalis*. While trap numbers and service requests attributed to this species have been minimal the last several seasons, a series of very high tides in the summer of 2009 triggered localized outbreaks.

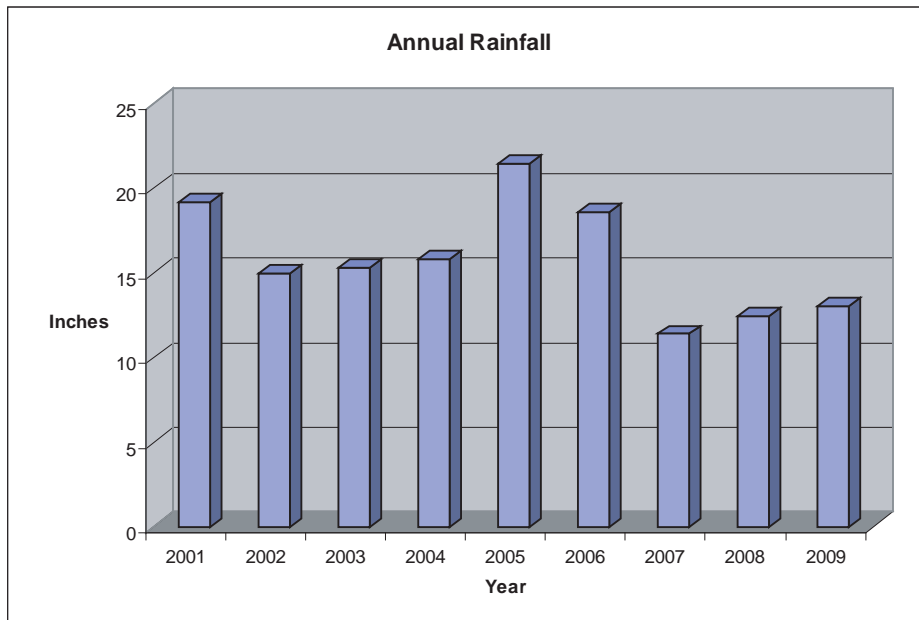


Figure 1

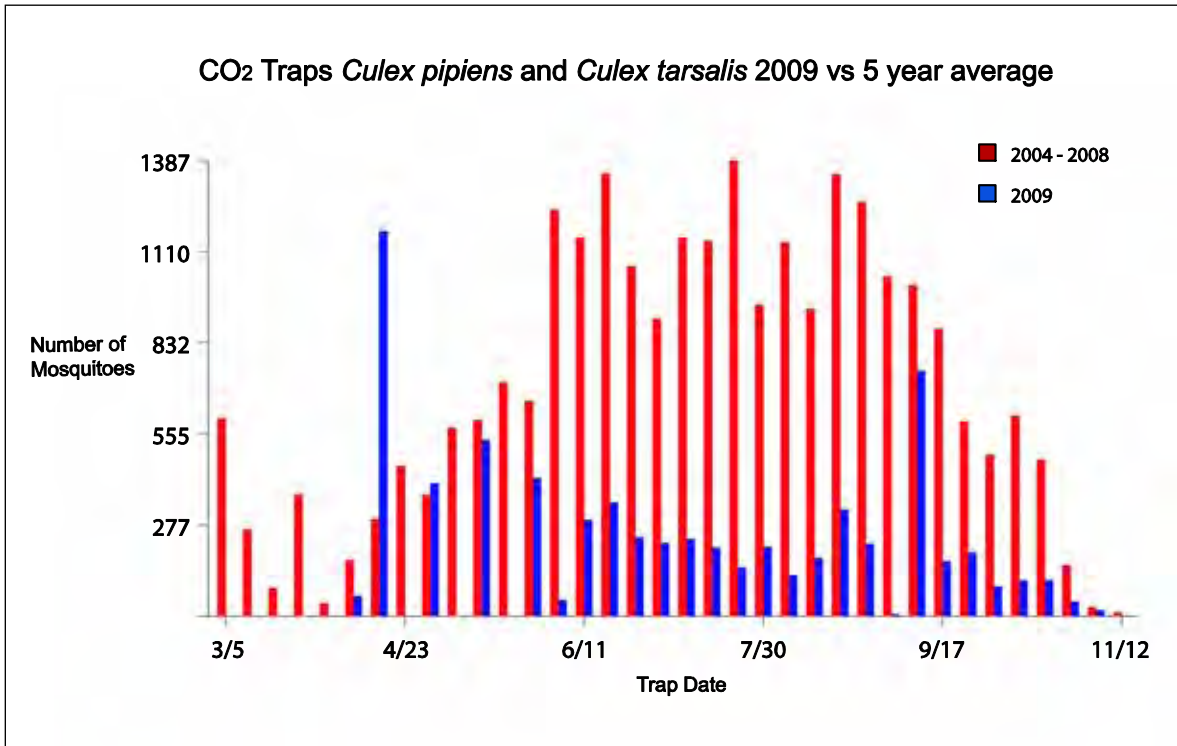


Figure 2

West Nile Virus Retrospective

The years 2008 and 2009 mark the 5th and 6th years respectively since West Nile Virus (WNV) made a significant appearance in Alameda County (2004). Over the last six years, WNV activity in Alameda County has markedly decreased (See Figure 3). Although we had single imported horse and human cases in 2003, WNV did not become locally transmitted in our County until 2004. At that time, the virus was detected only in birds and tree squirrels. Interestingly, nearly half of the positive birds in 2004 were raptors (mostly hawks and owls). Since then, the number of positive raptors has dropped off significantly, and corvids (crows and scrub jays) remain the prominent bird species collected as positive. Thus far, 2005 has turned out to be the most active year, with the greatest number of birds, tree squirrels, horses, and mosquitoes testing positive. Since then, activity has gradually declined. A number of factors are probably responsible for this decline, including: 1) Ongoing drought. Lower rainfall totals have produced fewer breeding areas, and thus lower adult populations. This will have a greater impact on *Culex tarsalis* abundance, which prefers open marsh areas. Lower rainfalls would have less of an effect on *Culex pipiens*, which typically breed in urban storm drain lines. 2) Horse vaccination. Since 2001, an effective vaccine has been available, and this has been largely responsible for a decline in horse cases. 3) Avian herd immunity. Researchers are discovering new interactions between WNV and the role of various bird species in the transmission cycle. Most species that are susceptible to infection will either die (and thus be unavailable for amplifying future virus transmission), or display an immunity that may be passed on to future generations. This combination of bird die-off and localized bird immunity has been cited as the primary reason for the nationwide decline in WNV activity. 4) Public education. The

arrival of a new mosquito-transmitted virus in the USA resulted in an enormous public education program. As the threat of contracting a mosquito-borne illness became a potential reality, many became empowered to eliminate mosquito breeding on their own properties and take preventive measures to avoid mosquito bites.

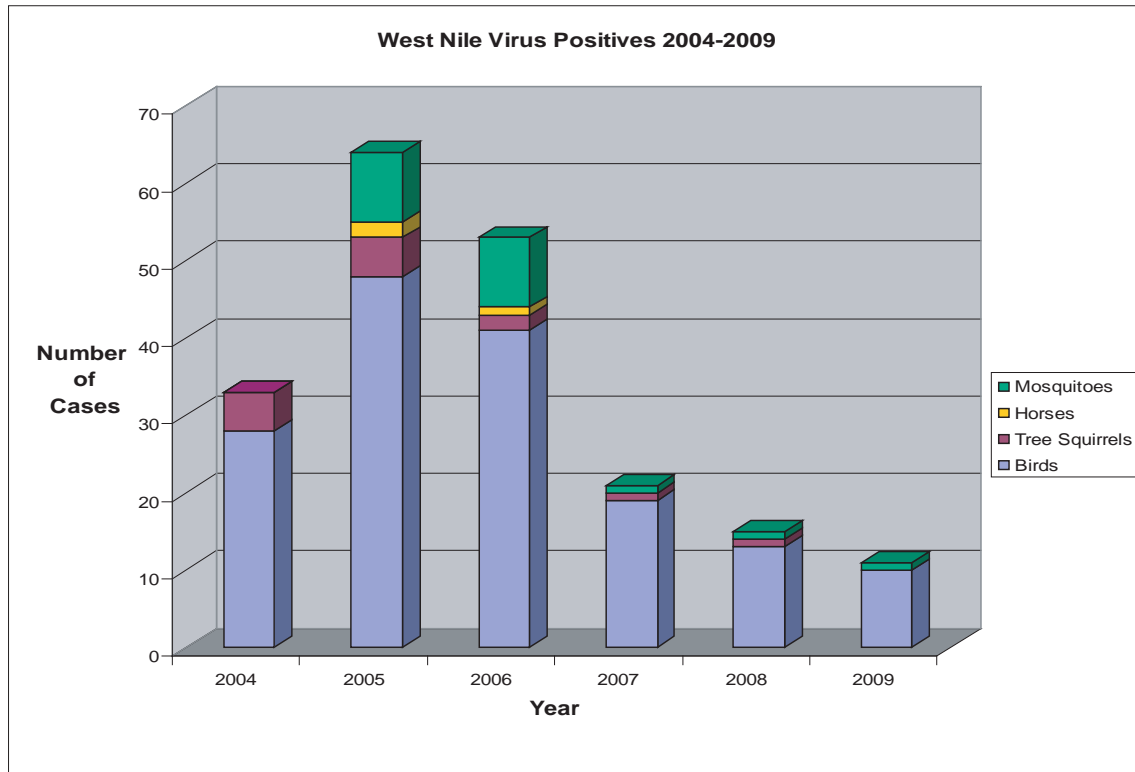


Figure 3

Alameda County Mosquito Abatement District’s Surveillance Program Retrospective

Table 1 shows a six year summary of the District’s surveillance program. For Alameda County, the number of calls to the State’s dead bird hotline peaked in 2005, and has decreased since then. Although fewer birds may be dying from WNV infection, public “burnout” may also be responsible for a decline in the number of calls. With above average rainfall in 2005 and 2006, large numbers of *Culex* species were collected in our CO₂ traps. These numbers are also inflated because of the large numbers of *Culex erythrothorax* collected in the Coyotes Hills Regional Park, an area that has since seen improvements in water flow and a subsequent reduction in mosquito numbers.

The downward trend in total mosquitoes collected hit a low point in 2008. In addition, the average number of mosquitoes per pool showed a steady decline. To compensate for this, the surveillance program shifted its strategy by doing more localized clustering of traps. For example, five or six traps are now placed simultaneously within a several block radius. The resulting collected *Culex* are grouped together to form a single mosquito pool that is submitted for WNV testing. Over six years, we have doubled the number of “trap placements” (a single night of trapping at a specific location) per season

and doubled the number of new trap locations. Although we collected 69% more *Culex* in 2009 than 2008, we submitted 17% fewer pools for testing. This was due in large part to a greater abundance of springtime mosquitoes in 2009 than 2008. Mosquitoes trapped for WNV testing are typically collected through the late summer and fall.

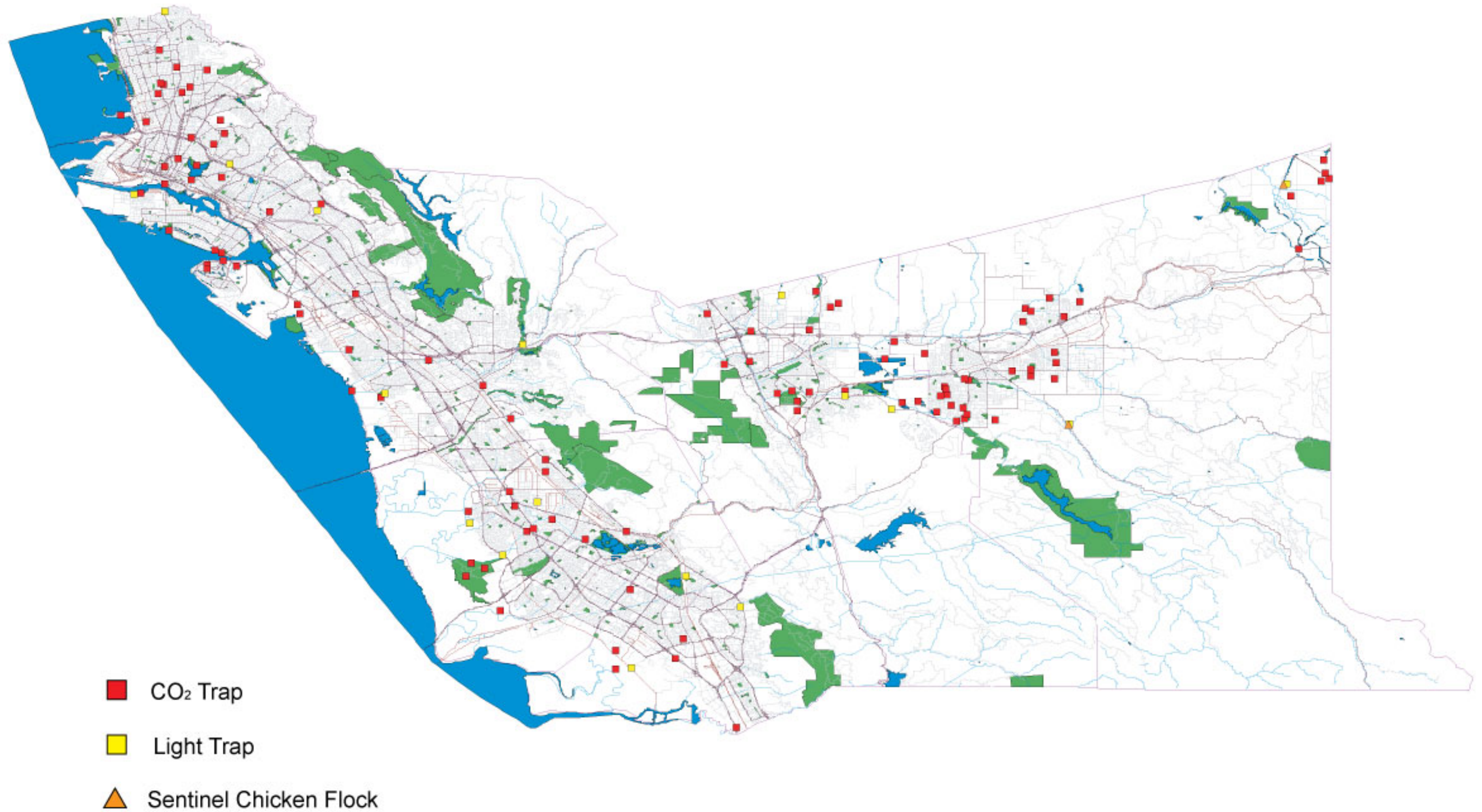
The pullout map shows all of our District’s surveillance locations, including chicken flocks (orange triangles), New Jersey Light Traps (yellow squares), and CO₂ traps (red squares). Currently, the District maintains two sentinel chicken flocks. Every two weeks, blood samples from these chickens are tested for antibodies to WNV. For many mosquito abatement districts, including ours, the efficacy of sentinel chicken flocks as early indicators of local WNV transmission has been minimal. For example, despite all the WNV activity we have seen in Alameda County, we have never had a sentinel chicken “seroconvert”, or test positive for antibodies to WNV. Debate continues on the value of these as surveillance tools.

The map shows that our New Jersey Light Traps are distributed evenly throughout the County, whereas our CO₂ traps tend to show more clustering. Areas that receive the greatest concentration of CO₂ traps tend to be more densely populated (Berkeley, Oakland), suffer from persistent mosquito problems (Alameda, Emeryville), or have the greatest risk of WNV activity (Dublin, Pleasanton, Livermore, Mountain House).

	No. of dead birds reported	No. of <i>Culex</i> spp collected in CO₂ traps	No. of CO₂ trap placements	Average no. of <i>Culex</i> collected per trap placement	No. of trap locations	No. of <i>Culex</i> pools submitted for testing	Average no. of <i>Culex</i> per pool
2004	1411	18,979	621	30.6	55	159	44
2005	2,579	40,225	747	53.8	70	399	44.1
2006	1,677	37,072	687	54	78	273	36.7
2007	1,009	14,524	763	19	86	331	34.7
2008	705	11,460	594	19.3	81	226	32.8
2009	402	19,189	899	21.3	110	187	34.9

Table 1

Alameda County Surveillance Locations



PUBLIC OUTREACH

With the decline in West Nile Virus (WNV) activity and the emergence of H1N1 flu in 2009, keeping the public aware of the danger of mosquito-borne diseases has been a challenge. WNV is now endemic to California and it is unlikely to completely disappear. As a reminder to the public of the need to remain aware of mosquito breeding sources, the District continues to rely on public outreach through participation in numerous fairs, shows, and presentations.



Mosquito biology presentation

The District has seen a decline in the number of requests for WNV presentations the past few years. In 2008 and 2009, WNV presentations were given to the San Leandro Breakfast Club, staff at the Livermore School District Maintenance Department, and the Union City Lions Club. General mosquito biology presentations were given to students at Eden Garden Elementary School in Hayward and Beacon Day School in Oakland. The District also continued its participation in the Coordinces Creek Walk fieldtrip for Malcolm X and John Muir Schools in Berkeley.

The annual Alameda County Fair provided the District with a good opportunity to educate the public about the health significance of WNV and the need to eliminate backyard mosquito breeding sources. In

2008, the theme for the agriculture building was corn. The District's display focused on the use of ground corn cob as a carrier for bacterial mosquito larvicides. A neglected swimming pool was also shown in the display to draw attention to the problem caused by abandoned pools on foreclosed properties. The District's 2009 display theme was "Mosquito Myths." Several common mosquito related misconceptions were addressed such as the use of bats and purple martins to control mosquito populations, citronella as an effective repellent, and crane flies as predators of adult mosquitoes.

Over the last two years, the District continued organizing mosquitofish give-aways with Alden Lane Nursery and Livermore Feed and Farm. The give-aways allowed residents in the Livermore area to pick up fish for their horse troughs and ponds. In addition to saving district personnel travel time, it allowed us to reach a section of the County's population that might not otherwise utilize our services.



"Mosquito Myths" display at the 2009 County Fair

As in the past, California and Alameda County maps continued to be updated regularly showing the movement of WNV. News media and government agencies were kept informed of local West Nile Virus activity with periodic news releases.



The District information booth at the 2009 Return of the Swallows Festival at Chabot College

Shows and fairs the District participated in:

2008

- Alameda County Spring Home and Garden Show
- Orchard Supply Hardware How to Fair
- San Francisco Flower and Garden Show
- Dublin/Pleasanton Schools Science Fair
- Return of the Swallows Festival
- Oakland Earth Expo
- San Leandro Creek Watershed Festival
- UCB Botanical Garden “Bug Days”
- Valley Crest Employee Health Fair
- Alden Lane Nursery “Dirt Days”
- Alameda County Fair
- Newark Days Festival
- Alameda County Fall Home and Garden Show
- Newark Senior Health Fair

2009

- Alameda County Spring Home and Garden Show
- Orchard Supply Hardware How to Fair
- St. Patrick’s Day Festival
- Dublin/Pleasanton Schools Science Fair
- Oakland Earth Expo
- Kids Save the Planet Festival
- Return of the Swallows Festival
- Cal State East Bay Science Festival
- Palomares Elementary School Science Expo & Watershed Festival
- Alameda County Fair
- Newark Days Festival
- Day on the Glen Festival
- Alameda County Fall Home and Garden Show
- Newark Senior Health Fair

NPDES UPDATE

Since the last ACMAD biennial report there have been a number of legal actions concerning National Pollutant Discharge Elimination System (NPDES) permits for pesticides. The District obtained an NPDES permit for the use of larvicides in 2004, when it first became available. NPDES permits are typically issued for five year periods or until the Water Board updates the permit. The California Water Board is scheduled to update and renew the larvicide permits in mid 2010, although the information provided below may modify the timing and look of the permit.

In 2006, the Environmental Protection Agency (EPA) adopted a regulation providing that the application of pesticides to waters of the U.S. for pest control (in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)) is not a discharge of a pollutant requiring a NPDES permit. Numerous lawsuits were filed seeking judicial review of the EPA regulation. The environmental plaintiffs argued that the regulation is inconsistent with the Clean Water Act (CWA) and beyond the EPA's jurisdiction. The cases were consolidated in the Sixth Circuit Court of Appeals in Ohio.

On January 7, 2009, in the case *National Cotton Council of America v. U.S. Environmental Protection Agency*, the Sixth Circuit Court of Appeals sided with the environmental plaintiffs and vacated the EPA regulation. The court's analysis divided pesticide dischargers into four categories for purposes of NPDES permit requirements:

- 1) Aerial Pesticide Applications -- If, at some point following an aerial pesticide application, excess or residual pesticide finds its way into waters of the U.S., then the excess or residual pesticide is a chemical waste subject to regulation under the CWA and requires an NPDES permit.
- 2) Chemical Aquatic Pesticide Applications (with residual) -- If residual pesticide remains in the water after the application and after completion of the pesticide's intended purpose, then the residual pesticide is a chemical waste subject to regulation under the CWA and requires an NPDES permit.
- 3) Chemical Aquatic Pesticide Applications (without residual) -- If, after the application and after the completion of the pesticide's intended purpose, there is no excess pesticide and no residual pesticide in the water, then the pesticide application is not subject to regulation under the CWA.
- 4) Biological Aquatic Pesticide Applications -- The discharge of any biological pesticide to water is subject to regulation under the CWA and requires an NPDES permit.

On April 9, 2009, the EPA was granted a 24 month stay from the Sixth Circuit Court of Appeals giving them and State water boards two years to develop NPDES permits that meet the court requirements. During the stay, to expedite implementation, the EPA will work closely with NPDES authorized States to develop state permits concurrent with the

development of the EPA's general permit. Meanwhile, the American Mosquito Control Association (AMCA), Crop Life America, and other groups have petitioned the U.S. Supreme Court for a hearing to appeal the findings of the Sixth Circuit Court.

The Mosquito and Vector Control Association of California (MVCAC) is working with staff at the California Water Board to develop a workable NPDES permit. The association has also hired URS Corporation, an environmental consulting firm, to assist in the development of monitoring plans for the permit. The MVCAC is also seeking to combine the proposed adulticide and existing larvicide NPDES permits into a single permit in order to recognize the EPA's desire to incorporate an Integrated Mosquito Management approach to mosquito control that includes the use of planning, public education, physical control, larvicides, and adulticides. The permit or permits will be completed before the end of the two year stay or by April 2011.

(Information for this update was obtained from a variety of sources, including work done by Richard Shanahan, General Counsel for the MVCAC, and Edward Ruckert, General Counsel for the AMCA)



BENEFIT ASSESSMENT

Background

Alameda County Mosquito Abatement District (ACMAD) was formed in 1930 by the County Board of Supervisors in response to petitions from citizens. The District expanded its service area twice to add Sunol and Pleasanton and later Livermore and the Murray Township area.

The District received funding from ad valorem property taxes and revenue was stable until Proposition 13 was approved by the voters in 1978. After Proposition 13, the District's budget was initially slashed by 50%. The District went from 17 employees down to nine. After receiving some bailout funding from the State, the District was able to hire three positions back.

In 1982, Measure K was approved by over 2/3rds of Alameda County voters. Measure K was a special tax that allowed for a maximum assessment of \$1.75 per single family home. At the time, the District consolidated the three depots in Oakland, Union City and Pleasanton into a single office and shop at the present site in Hayward. The special tax amount has varied over the years from the maximum, to two years (01/02 and 02/03) at the minimum (\$0.00).

In 1988, Proposition 98 was approved by the voters in California to provide funding for schools. By 1992 the State was having difficulty meeting the funding requirements and created the Educational Revenue Augmentation Fund (ERAF), which was funded by transferring funds from counties, cities, and special districts like ACMAD. To this day, the District continues to lose 36% of its annual ad valorem revenue to ERAF.

West Nile Virus (WNV) first arrived in Alameda County in 2003. Since then, the District has been spending on average, an additional \$280,000 per year to control WNV. These costs include hiring seasonal employees, increases in the pesticide and equipment budget, and an enhanced advertising/public education program.

In recent years, the District has faced across the board cost increases, such as: gasoline, pesticides, vehicles, electricity, office supplies, insurance, health benefits, etc. In addition to ERAF loses, redevelopment in the County reduced District revenue by an additional \$250,000. To meet the challenge, the ACMAD Board reduced the cost of health benefits by placing caps on coverage and held a position vacant. The Board's Long Range Benefits Committee reviewed methods for adding to the District's revenue stream by considering service contracts with owners of large sources and looked at legislation to reduce or eliminate ERAF transfers. Several legislators expressed the opinion that ERAF is unlikely to be eliminated and the District should consider increasing the special tax or adding a benefit assessment. The committee reviewed the cost of a special tax election versus a benefit assessment and found that the cost of a special tax ballot was significantly higher than the cost of a benefit assessment ballot.

In 2007, SCI Consulting Group was hired to assist the District with the benefit assessment. A survey was prepared and mailed to 14,500 property owners in Alameda County during the fall of 2007. The results showed a greater than 71% approval level for a proposed benefit assessment. This positive feedback from the community provided the ACMAD Board with the information they needed to move forward with the benefit assessment.

On May 13, 2008, the District received information from an independent accounting firm, C.G. Uhlenberg LLP, that the benefit assessment had a 70.19% approval rate from Alameda County property owners. On May 14, 2008 the ACMAD Board of Trustees passed the final resolution approving the benefit assessment.



C. G. UHLENBERG LLP
CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS

PEGGY H. CHEN, C.P.A. JEFFREY J. IRA, C.P.A. KATHERINE CHAO, C.P.A. JULIE T. LIN, C.P.A.

Monday, May 12, 2008

John R. Rusmiser, District Manager
 Alameda County Mosquito Abatement District
 23187 Connecticut St.
 Hayward, CA 94545

RECEIVED

MAY 13 2008

ALAMEDA COUNTY
 MOSQ. ABAT. DIST.

Re: Final Ballot Tabulation Results

The tabulation of all ballots has been completed.

I hereby certify the following totals for the ballots that were received by the close of the public hearing on April 30, 2008

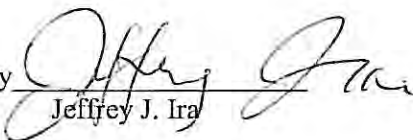
Total Number of Valid Ballots Processed:	96,360
Total Assessment Amount of Valid Ballots:	\$ 595,157.62
Total Number of "Yes" Votes Processed:	71,949
Total Assessment Amount of "Yes" Votes Processed:	\$ 417,766.96
Total Percentage of "Yes" Assessment Amount:	70.19%
Total Number of "No" Votes Processed:	24,411
Total Assessment Amount of "No" Votes Processed:	\$ 177,390.66
Total Percentage of "No" Assessment Amount:	29.81%
Total Number of "Invalid" Ballots Processed:	1534
Total Assessment Amount "Invalid" Ballots Processed:	\$ 9557.98

The total number of ballots received by the end of the public input portion of the public hearing on April 30, 2008 was 97,894. This represents a 27.84% ballot return rate on the 351,677 ballots mailed.

Thank you for the opportunity to assist you with this project.

Sincerely,

C. G. Uhlenberg LLP

By 
 Jeffrey J. Ira



MOSQUITO AND DISEASE CONTROL ASSESSMENT

by the Alameda County Mosquito Abatement District

Watch for Your Mailed Ballot Starting March 14

Information Fact Sheet

Starting March 14 ballots will be mailed to property owners in Alameda County for a proposed Mosquito and Disease Control Assessment. If approved, this measure would fund services to continue and enhance:

- **The control of mosquitoes using environmentally safe methods.**
- **Testing for and prevention of diseases carried by mosquitoes such as West Nile Virus.**
- **Our program which provides free mosquitofish to residents.**

What Is the Proposed Mosquito and Disease Control Assessment?

In order to maintain current levels of service and to enhance certain areas of mosquito and disease control, the Alameda County Mosquito Abatement District ("District") is proposing a new assessment on properties within Alameda County. The current special tax that is used to fund the District has not increased since 1982. With the increases in operational costs over the past 25 years and with significant portions of the District's property tax revenue being taken for state programs, it is imperative that the District replace these lost revenues in order to maintain the current service levels.

This measure will be decided by mailed ballot. It will allow property owners in Alameda County (including the cities of Alameda, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro and Union City, and the communities of Castro Valley, San Lorenzo, and Sunol) to decide if funding for mosquito and disease control services should be increased. If the mosquito and disease control ballot measure is not approved, the services provided by the District would decrease.

Why Is This Assessment Needed?

This measure will provide the funding needed by the District to continue to protect public health, animals and wildlife within Alameda County from mosquitoes and the diseases they transmit. The funds raised by the assessment will only be used for Alameda County mosquito abatement and disease control.



Mosquitoes spread diseases like West Nile Virus



Technicians monitor various mosquito breeding sources including backyard ornamental ponds.

How Does the District Test for Diseases?

In order to test for mosquito-borne viruses such as Western Equine Encephalitis and West Nile Virus, the District uses successful disease surveillance approaches such as sentinel flocks of chickens, since these viruses often appear first in birds. Another disease surveillance approach is the use of mosquito traps. These traps require significant effort to operate because they must be set in the evening in locations throughout the area and must be emptied the following morning. Insects collected are counted, identified and sent to a laboratory for disease testing.

If diseases are discovered, the District implement a response plan to prevent a disease outbreak. This includes focused abatement efforts in the area, public education and notification, and other services as warranted.

Environmentally Safe Services

The District's mosquito abatement and disease control services involve the use of EPA-approved, environmentally-friendly methods to eliminate mosquitoes from their breeding sites. This approach begins with identifying and eliminating breeding sites found in back yards. The District primarily uses mosquitofish and environmentally safe agents to eliminate mosquito larvae.

What Services Are Provided by the District?

The measure would continue and enhance the following:

Disease Surveillance and Control

Testing and monitoring for diseases carried by mosquitoes (such as West Nile Virus, encephalitis, dog heartworm and other new or emerging pathogens) are also performed by the District. When diseases are discovered, the District takes action to prevent a disease outbreak.

Mosquito-borne Disease Monitoring and Control

The District monitors populations of disease-carrying and pest mosquitoes using sampling, service requests, traps, and sentinel chicken flocks.

Mosquito Control

The District uses environmentally safe methods to provide year-round control of mosquitoes. The District inspects and controls mosquitoes in residential, commercial and agricultural areas, including over 4,500 known mosquito breeding sources. In addition, the District detects and controls new sources of mosquitoes found through its surveillance system.

Response to Service Requests

Property owners and other residents within the County can call the District year-round for a service request in the area of their property.

Delivery of Mosquitofish Throughout the County

The District delivers mosquitofish free of charge to residents to use for mosquito control in their fish ponds.

Community Education

Through an informational website, brochures, and presentations, the District provides educational materials to the public about protecting themselves and their pets from diseases carried by mosquitoes.

How Will This Measure Be Decided?

This measure will be decided by property owners through a mailed ballot process established by the Taxpayer's Right To Vote On Taxes Act of 1996 (approved by voters as Proposition 218). Please watch for your ballot by mail in mid March.

How Do I Know the Funds Will Be Used Wisely and for Their Intended Purpose?

The Measure includes several layers of accountability to ensure that all funds are expended properly on mosquito and disease control:

- The funds raised can only be spent on mosquito abatement and control services within the Alameda County Mosquito Abatement District.
- The funds will be overseen by the Board of Directors of the Alameda County Mosquito Abatement District with annual audits to ensure that funds are expended appropriately.
- The budget for the services proposed for each year will be presented annually at a noticed public hearing.

What if the Measure Is Not Approved?

If the Mosquito and Disease Control Assessment is not approved, the current level of services in Alameda County would decrease.

What are the Proposed Rates?

Single family residential properties would contribute \$5.00 per year. Apartments have an assessment of \$1.60 per dwelling unit for the first 20 units and \$0.50 per unit for any units over 20. The assessment for agricultural properties is \$0.01 per 1/4 acre, and \$0.0021 per 1/4 acre for dry pasture and timberlands.

Additional Information

For additional information on the Mosquito and Disease Control Assessment, please contact the Alameda County Mosquito Abatement District at (510) 783-7744.



Backyard Mosquito Breeding Sources

Look for your ballot in your mail box after March 14.

FINANCIAL REPORT

FOR FISCAL YEARS ENDING
JUNE 30, 2008 AND JUNE 30, 2009

	2009	2008
Revenues :		
Property taxes	\$1,670,912	\$1,560,658
Government Aid	\$0	\$35,676
Special Assessments	\$1,799,386	\$789,047
Interest	\$53,523	\$74,960
Miscellaneous	\$6,140	\$46,523
Total Revenues	\$3,529,961	\$2,506,864
Expenditures :		
Salaries and fringe benefits	\$1,622,364	\$1,554,981
Materials, supplies and services	\$449,929	\$781,250
Debt Services	\$222,078	\$227,181
Capital outlay	\$60,902	\$22,018
Total Expenditures	\$2,355,273	\$2,585,430
Net change in fund balances	\$1,174,688	(\$78,566)
Fund balances, beginning of period	\$1,232,328	\$1,310,896
Fund balances, end of period	\$2,407,016	\$1,232,330

**Alameda County Mosquito Abatement District
 Combined Balance Sheet For The Years
 Ending June 30, 2008 and June 30, 2009**

Assets	June 30, 2009	June 30, 2008
Current and Investments	\$2,513,312.00	\$1,338,163.00
Capital Assets (Net)	<u>\$3,091,724.00</u>	<u>\$3,153,771.00</u>
Total Assets	<u>\$5,605,036.00</u> =====	<u>\$4,491,934.00</u> =====
Liabilities		
Account Payable	\$ 16,994.00	\$ 11,442.00
Interest Payable	\$ 4,128.00	\$ -
Compensated Absences	\$ 85,174.00	\$ 94,391.00
Non-current Liabilities		
Due within one year	\$ 211,621.00	\$ 203,603.00
Due in more than one year	\$ 108,725.00	\$ 320,346.00
Total Liabilities	<u>\$ 426,642.00</u> =====	<u>\$ 629,782.00</u> =====
Net Assets		
Invested in Capital Assets	\$2,771,378.00	\$2,629,822.00
Unrestricted	<u>\$2,407,016.00</u>	<u>\$1,232,330.00</u>
Total Net Assets	<u>\$5,178,394.00</u> =====	<u>\$3,862,152.00</u> =====