

AGENDA
1063rd MEETING OF THE BOARD OF TRUSTEES
OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT

DECEMBER 12TH, 2018

TIME: 5:00 P.M.
PLACE: Office of the District, 23187 Connecticut Street, Hayward
TRUSTEES: Elisa Marquez, President, City of Hayward
Wendi Poulson, Vice-President, City of Alameda
Eric Hentschke, Secretary, City of Newark
P. Robert Beatty, City of Berkeley
Alan Brown, City of Dublin
Betsy Cooley, City of Emeryville
George Young, City of Fremont
James N. Doggett, City of Livermore
Jan O. Washburn, City of Oakland
Robert Dickinson, City of Piedmont
Kathy Narum, City of Pleasanton
Ed Hernandez, City of San Leandro
Subru Bhat, City of Union City
County-at-Large, vacant

1. Call to order.
2. Roll call.
3. President Marquez invites any member of the public to speak at this time on any issue relevant to the District. (Each individual is limited to three minutes).
4. Approval of the minutes of the 1062nd meeting held November 14th, 2018 (**Board action required**)
5. Proposal from the Municipal Resource Group, LLC to conduct a Capital Asset Replacement Program Analysis (**Board action required**)
6. Nominating Committee (Beatty, Hernandez, Cooley) nominates a slate of 2018 District Officers for Board approval (**Board action required**)
7. Appointment of members to the Personnel/ Salary Committee (**Board action required**)
8. Report on the 2018 Annual Meeting of the Entomological Society of America and the Entomological Society of Canada by Trustee Dr. Jan O. Washburn (Information only)
9. Discussion on Board Packet paper-reduction possible strategies (Information only)
 - a. Keep as-is with paper copies
 - b. Print as requested, use personal devices to access electronically
 - c. Provide electronic devices to view Board Packets
10. Schedule a Finance Committee meeting to discuss: (Information only)
 - i. OPEB investment policy
 - ii. Pension rate stabilization fund investment policy

- iii. Possible credit card change
- iv. Internal Control review

11. Financial Reports as of November 30th, 2018: (Information only).

- a. Check Register
- b. Income Statement
- c. Investments, reserves, and cash report

12. Presentation of the Monthly Staff Report for December 2018 (Information only).

13. Presentation of the Manager's Report for December 2018 (Information only).

- a. Trustee & Staff Anniversaries
- b. Solar and remodel projects out to bid
- c. Update of work on USFWS land
- d. Confirmed City Council Presentations: 1/7-San Leandro, 1/10-Newark, 1/14-Livermore, 1/15-Pleasanton, 1/22-Union City, 2/5-Emeryville (tentative: Berkeley-1/29, Fremont-1/8, Piedmont-1/21).

14. Board President asks for reports on conferences and seminars attended by Trustees.

15. Board President asks for announcements from members of the Board.

16. Board President asks trustees for items to be added to the agenda for the next Board meeting.

17. Adjournment.

RESIDENTS ATTENDING THE MEETING MAY SPEAK ON ANY AGENDA ITEM AT THEIR REQUEST.

Please Note: A copy of this agenda is also available at the District website, www.mosquitoes.org or via email by request. Alternative formats of this agenda can be made available for persons with disabilities. Please contact the district office at (510) 783-7744, via FAX (510) 783-3903 or email at acmad@mosquitoes.org to request an alternative format.

**Alameda County Mosquito Abatement District
Proposal to Conduct a Capital Asset Replacement Program
Analysis**



MUNICIPAL RESOURCE GROUP, LLC
675 HARTZ AVENUE, SUITE 300
DANVILLE, CA 94526
(925) 314-3889



November 27, 2018

Ryan Clausnitzer, General Manager
Alameda County Mosquito Abatement District
23187 Connecticut Street
Hayward, CA 94545

Dear Mr. Clausnitzer,

Municipal Resource Group is pleased to provide this Proposal to conduct a Capital Asset Replacement Program Analysis for the District. Please note that we have included an optional element to the proposal—provision of additional financial advice and or support should the District decide to use Jack Dilles for support on financial matters other than involved in the Capital Facilities Analysis.

As you know Municipal Resource Group was founded by broadly experienced municipal professionals. Our consultants have many years of combined hands-on experience working as municipal managers and consultants, providing essential services, insights and support to local governments.

We are pleased to be able to submit our proposal using three of Municipal Resource Group's consultants to manage and conduct the analysis. Each has many years of experience in municipal government management, finance and public works/special district activities.

We look forward to the opportunity to meet with your staff on this exciting project.

Sincerely,

Mike Oliver, President
Municipal Resource Group, LLC

Alameda County Mosquito Abatement District
Proposal to Conduct a Capital Asset Replacement Program Analysis

This proposal is based on conversations with the District's General Manager and a meeting held at the District offices.

The proposed project includes the following elements:

- a. Developing capital item definitions and descriptions (cost, age, life expectancy and unique/other characteristics);
- b. Reviewing existing District replacement policies, depreciation schedules, existing asset/capital definitions, set-aside practices and replacement schedules. Development of depreciation and replacement schedule recommendations, providing justification for each and categories to include all the defined Capital Items;
- c. Developing a reporting format for the District's future use; recommended changes to existing depreciation, replacement, and reserve policies and schedules and providing reasons why changes may need to be made in the schedule in the future.
- d. Providing alternative funding strategies and related cash flow analysis to assure a positive cash balance for capital asset replacement over the next 20 years.
- e. Developing draft and final reports, a presentation to staff, and providing a presentation to the District Board.
- f. As an optional element, MRG will provide financial and related information to the staff to assist in the District's financial operations.

Municipal Resource Group is proposing three experienced professionals to conduct this project for the Alameda County Mosquito Abatement District:

- *Mike Oliver*, public and private sector consultant for the past nine years, former City Manager in three cities and President of Municipal Resource Group who will manage the project.
- *Mike Bakaldin*, an experienced consultant with 20+ years public sector experience including as Public Works Director in the City of San Leandro and most recently the Deputy General Manager of the Delta Diablo Sanitation District where he provided day to day leadership and oversight to the District's three departments.
- *Jack Dilles*, an experienced consultant with 25+ years of public sector experience

including as Finance Director for the cities of Morgan Hill and Santa Cruz, who has been providing public sector consulting for MRG for the past five years.

We have developed the following work plan to meet the District's needs.

1. *Initial Meeting with the District General Manager and key staff:*
 - The meeting will include a review project outcomes and the project process; obtaining contact information, setting an initial timeline, requesting additional information and background reports and a tour of the facilities.
2. *Data Collection and Compilation*
 - Conducting initial meetings with key staff; on-site review of equipment;
 - Preparation of an equipment/facilities replacement schedule, estimated life and development of current replacement costs.
3. *Creation of a net present value schedule, cash flow schedule and replacement rationale*
 - Summarize replacement costs by year;
 - Deflate future replacement costs, develop cash need per year;
 - Develop a replacement rationale for the replacement schedule;
 - Prepare schedule of future cash flows for positive 20 year funding;
 - Review materials with staff and revise as needed;
 - Coordinate with staff as needed.
4. *Preparation of draft report and review with District Staff, prepare final draft*
 - Prepare initial draft;
 - Review initial draft with District staff;
 - Revise as needed.
5. *Preparation of final report & Board presentation*
 - Complete final report, prepare key findings summaries (PowerPoint if requested), and recommendations;
 - Present at a Board Meeting.

We estimate that the project will be complete in three months after receipt of a purchase order from the District.

The total project budget of \$19,946.50 is comprised of the following tasks:

| | |
|--------|-------------|
| Task 1 | \$ 2,790.00 |
| Task 2 | \$ 6,255.00 |
| Task 3 | \$ 4,545.00 |
| Task 4 | \$ 4,027.00 |

| | |
|---------------------|------------------|
| Task 5 | \$ 3,690.00 |
| Mileage/Misc. | <u>\$ 619.00</u> |
| Total Project Cost: | \$21,926.00 |

An additional, an optional item includes provision of financial support and advice as determined by the District in addition to the work described in the proposal above. The assistance will be provided by Jack Dilles and billed at his hourly rate.

The current Municipal Resource Group hourly rates for these consultants are:

| | |
|---------------|----------|
| Mike Oliver | \$225.00 |
| Mike Bakaldin | \$180.00 |
| Jack Dilles | \$180.00 |

Billable monthly, plus authorized reimbursable expenses.

Our references include:

Valerie Barone, City Manager—City of Concord
Valerie.barone@cityofconcord.org
925-671-3150

David Biggs, City Manager—City of Hercules
DBiggs@ci.hercules.ca.us
510-799-8200

Ron Bernal, City Manager—City of Antioch
rbernal@ci.antioch.ca.us
925-779-7011

Mike Oliver – Partner
Organizational Intervention, Realignment & Development
MUNICIPAL RESOURCE GROUP, LLC

Telephone: (510) 915-4376

moliver@municipalresourcegroup.com

Mike Oliver leads Municipal Resource Group's Organizational Intervention, Realignment and Development practice area and serves as President. Mike's MRG services to public sector clients include:

- Fiscal and operational analysis;
- Service realignment and enhancement;
- Law enforcement services studies for cities and counties;
- Preparation of grand jury investigation responses; and
- Alternative service delivery options for local governments.

Mike often serves clients by leading specialist teams in financial interventions, forensic accounting and budget analysis projects. He has assisted a number of cities and special districts in restoring their fiscal integrity and addressing the financial challenges facing California's local governments. His consulting activities include developing long-term development strategies for specialty public agencies including county fairs and transportation agencies. Mike often conducts public input and visioning processes and presents findings to elected officials and employees. With over 17 years of consulting experience, Mike has a recognized track record of assisting clients in addressing complex issues.

Mike has served as the City Manager of the Cities of Oakley, Citrus Heights and San Leandro. When Mike was the City Manager of San Leandro, the City created the first joint city-county redevelopment area in the state, induced over 500,000 square feet of commercial development and consolidated the City's Fire Operation with the Alameda County Fire Department. During his tenure as the first City Manager of Citrus Heights the City hired staff, negotiated a police services agreement, established the City's fiscal and expenditure management policies and practices, created the first redevelopment agency and negotiated settlement of the County's \$147 million lawsuit against the City. Today, Citrus Heights has over \$35 million in unencumbered reserves. During his tenure as the first City Manager of the City of Oakley, the City hired staff, built its City Hall, approved the general plan, approved 6,000 residential units and annexed over 2,500 acres of adjacent land.

Mike has presented at League of California Cities, Cal-LAFCO, California Special District and Bond Buyers conferences and professional organizations on a wide variety of subjects. His most recent presentations focus on the options for alternative service delivery and the fiscal issues faced by local government. Mike has his Bachelor's Degree in Political Science and Master's Degree in Public Administration from California State University at Hayward. He has also attended the Senior Government Officials course at the Kennedy School, Harvard College and has participated in training courses at the Menninger Clinic in Topeka, Kansas.

Mike Bakaldin – Public Works, Wastewater, Solid Waste

MUNICIPAL RESOURCE GROUP, LLC

Telephone: (925) 628-6793

mbakaldin@gmail.com

Mike has over thirty years of experience in the private and public sectors in the environmental, public works and water utility sectors. He has spent the last fifteen years leading and managing public works and water utility organizations for both a municipality and a sanitation district. Mike has a proven track record of leading organization change while developing strong management teams.

For five years, Mike was employed as Deputy General Manager and Interim General Manager at the Delta Diablo Sanitation District. In this position, his accomplishments include:

- Effective day to day management and oversight of the District with an annual operating and capital budget of \$30 million and \$20 million, respectively;
- Strategic development of a \$100 million 5-year capital improvement program;
- Oversight of the development of an organizational study and subsequent reorganization;
- Development of the District's strategic plan and annual business plans;
- Development and implementation of the District's first succession plan and leadership development program; and
- Successful negotiation of a \$4 million land acquisition transaction with Dow Chemical.

Prior to that, Mike served as Director of Public Works for the City of San Leandro for eight years. He led the Public Works Department through the Great Recession, which required strategic and tactical organizational and operational adjustments over a multi-year period. Mike was successful in streamlining the organization and instituting innovative operational and service delivery methods to ensure continued high quality service in spite of budget reductions of nearly 35%. Other accomplishments include:

- Effectively led a 120 employee organization with an annual operating budget of \$22 million;
- Served as a key team member on a major shoreline redevelopment project, incorporating two operating golf courses, a 460 berth marina, two hotels and multiple restaurants;
- Initiated the planning, design and construction of a \$50 million wastewater treatment plant rehabilitation project;
- Negotiated and managed a 20-year solid waste and recycling franchise agreement; and
- Served as city liaison to the East Bay Dischargers Authority, a joint powers agency responsible for discharging effluent from six wastewater treatment plants to San Francisco Bay.

Mike holds a Bachelor of Science from the University of California, Berkeley and a Master of Science in Environmental Management from the University of San Francisco. He has also completed the Water and Wastewater Executive Leadership Program at the University of North Carolina, Chapel Hill.

Jack Dilles, CPFO – Finance and Management Services

MUNICIPAL RESOURCE GROUP, LLC

Telephone: (831) 566-3180

jdilles@solutions-mrg.com

Jack Dilles provides services to meet the needs of local governments, focusing on effective solutions to financial issues. His areas of expertise, gained through career public service in governmental finance, include strategic financial plans, analysis of new revenue options, creative methods of financing capital projects, fee studies, streamlining of financial operations, budgets, organizational studies and financial policies.



Jack has served as the Finance Director for the Cities of Santa Cruz, Morgan Hill, and Scotts Valley. He has worked as a Santa Cruz County Financial Manager in the Auditor-Controller and Public Works Departments. In addition, he has experience as a State and County Internal Auditor and as an Interim Finance Director for the City of Clearlake. Specific accomplishments have included:

- Financial planning and debt financing related to the successful construction of a new police station, library, indoor recreation center, and community center in the City of Morgan Hill;
- Implementation of a proper administrative cost allocation system and establishment of other financial systems in Scotts Valley, thereby enabling the City to balance its budget, convert a negative General Fund Balance into a positive one, and professionalize the Finance Department;
- Production of award winning budgets and comprehensive annual finance reports for the Cities of Scotts Valley, Morgan Hill, and Santa Cruz;
- Issuance of Pension Obligation Bonds to reduce pension costs for the City of Santa Cruz;
- Completion of Marks Roos, Mello Roos, Assessment District, Lease Revenue, and Wastewater Revenue bond sales in the Cities of Santa Cruz, Morgan Hill, and Scotts Valley to finance projects;
- Implementation of an internal borrowing program for the City of Santa Cruz; and
- Preparation of five year Strategic Financial Plans for the City of Morgan Hill.

Jack is a Certified Public Finance Officer (CPFO) as conferred by the Government Finance Officers Association (GFOA). He earned an undergraduate degree in Business Administration (with an Accounting Concentration) and an MBA, both from San Jose State University. He is an active member of both the GFOA and California Society of Municipal Finance Officers (CSMFO).

Jack has made presentations to the League of California Cities (“Budget Problems? Use a Lifeline – Ask the Community”) and CSMFO (“Risk Management in Finance. Who Cares?”).

Rounding out his experience, Jack currently serves on the Scotts Valley City Council. He previously served on the Santa Cruz County Board of Education.



MUNICIPAL RESOURCE GROUP, LLC

Municipal Resource Group is a full-service consulting firm dedicated to assisting its public sector clients in attaining their policy, management and service delivery goals.

Municipal Resource Group was founded by skilled and broadly experienced municipal professionals. Our principal consultants have over three-hundred years of combined hands-on experience working as municipal managers and consultants, providing essential services, insights and support to local governments and private sector clients. Our consultants' experience includes management positions serving as City Manager, County Executive Officer, Finance Director, Fire Chief, Police Chief, Human Resource Director, Parks and Recreation Director, Community Development Director, Economic Development Director and Public Works Director.

Municipal Resource Group develops and implements creative and time-tested solutions to a full-range of local government operations and services. We seek to achieve quick and cost-effective results, with the client's long-term interest as the primary focus of the engagement.

OUR COMMITMENT TO CLIENTS

Results

Quality

Integrity

Independence

Perseverance



CLIENT SERVICES

Municipal Resource Group, LLC provides a broad array of services, which are always tailored to clients' specific needs and requirements.

Resource Development & Utilization

Public Agency Organization Studies; New Cities Establishment; Facilities Development; Public-Private Partnerships.

Financial Analysis and Management Services

Financial Planning and Practices; Fiscal Impact Reviews; Fee Studies; Development Project Feasibility; Development Project Negotiations; Financial Analysis;

Leadership and Organizational Effectiveness

Management and Organizational Evaluations and Assessments; Council and Board/Manager Relations; Strategic Policy Development; Executive Coaching.

Fire Services and Homeland Security

Fire Service Design, Implementation and Operations; Communication System Design, Funding and Implementation; Consolidation Studies; Homeland Security.

Law Enforcement

Police Department Organizational Effectiveness Studies; Consolidation/Coordination of Service Studies.

Public Works

Department Organizational Reviews and Effectiveness Studies.

Human Resource Management & Organizational Development

Personnel System Design/Implementation; Organizational Development/Intervention; Investigations; Analysis of Labor Relations Practices; Negotiation Advisory Services.

Recreation, Parks and Community Services

Parks Master Planning; Recreation Service Design, Development and Operation; Recreation Facility Management, Marketing and Revenue Planning.

Civil Engineering Services

Planning, Civil Engineering and Surveying related to real estate development; Government Facilities Design; Engineering Staff Services provided through CBG Inc.

Traffic and Transportation Demand Services

Alternate commute solutions, shuttle service design and operation, electric vehicle/bicycle Incentive programs, public and private commute analysis and solution design.



CORE VALUES

Our mission is to assist our clients in achieving their goals in a challenging local government environment by providing sound advice, practical solutions and cost-effective services.

Our passion is to preserve our client's values, integrity, and standards and promote their success through our professional services.

Our commitment is to fully satisfy our clients through a continuous process of quality control throughout the client engagement.

Our core values are grounded in our desire to serve our clients.

We seek the facts and provide insight - our many years and breadth of experience provide a clear understanding of local government issues, and enables us to support our clients in a professional manner.

We provide value to our clients - our goal is to provide project deliverables that improve our clients' public services in a cost effective manner.

We respect our clients and their commitment to service - we have served in many public and private sector situations and understand it is essential for us to support our clients' commitment to provide high quality public services.

We are open in our communication - we share information, insight and advice frequently and constructively, to assist our clients in managing tough situations with confidence.

We act with integrity - we seek to uphold the highest professional standards by providing candid advice and sound recommendations.

We continuously seek feedback from our clients - only by constant communication with our clients can we accurately define their needs, monitor our progress in addressing those needs and ensure that our clients are satisfied.

We lead by example - each member of our team is committed to working with our clients in a forthright, professional and efficient manner.

We are committed to our communities - we are responsible corporate citizens and seek to give back to our communities through use of our skills, experience and financial resources.



MUNICIPAL RESOURCE GROUP

CLIENT LIST (Includes clients of MRG consultants in their former consultant capacities)

PUBLIC AGENCIES

| | |
|---|--|
| Alameda County Fair | City of Lathrop |
| Antioch Unified School District | City of Lincoln |
| Arroyo Seco Library Network | City of Los Altos Hills |
| Austin Public Library Foundation | City of Los Angeles Redevelopment Agency |
| Black Gold Library Authority | City of Loyalton |
| Brentwood Chamber of Commerce | City of Manhattan Beach |
| Brentwood Union School District | City of Manteca |
| California Park & Recreation Society | City of Marina |
| California State Library | City of Merced |
| California Construction Authority | City of Millbrae |
| Capital Area Development Authority | City of Modesto |
| Central Contra Costa Sanitary District | City of Morgan Hill |
| Chester Fire Protection District | City of Mountain View |
| City and County of San Francisco | City of Napa |
| City and County of San Francisco Public Utilities Commission | City of Oakland |
| City of Antioch | City of Oakley |
| City of Alameda | City of Orinda |
| City of Albany | City of Oroville |
| City of Alhambra | City of Pasadena |
| City of American Canyon | City of Petaluma |
| City of Atwater | City of Pittsburg |
| City of Big Bear | City of Placerville |
| City of Brentwood | City of Pleasant Hill |
| City of Citrus Heights | City of Pleasanton |
| City of Clayton | City of Rancho Cordova |
| City of Clearlake | City of Richmond |
| City of Cloverdale | City of Rio Vista |
| City of Concord | City of Rocklin |
| City of Davis | City of Rohnert Park |
| City of Dixon | City of Roseville |
| City of Dublin | City of Sacramento |
| City of East Palo Alto | City of Salinas |
| City of Elk Grove | City of San Bruno |
| City of Eureka | City of San Leandro |
| City of Fairfield | City of San Luis Obispo |
| City of Fillmore | City of San Mateo |
| City of Folsom | City of San Rafael |
| City of Fort Bragg | City of San Ramon |
| City of Galt | City of Santa Cruz |
| City of Goleta | City of Santa Monica |
| City of Half Moon Bay | City of Santa Rosa |
| City of Hercules | City of South Pasadena |
| City of Hollister | City of South Lake Tahoe |
| City of Lafayette | City of South San Francisco |
| | City of Stockton |



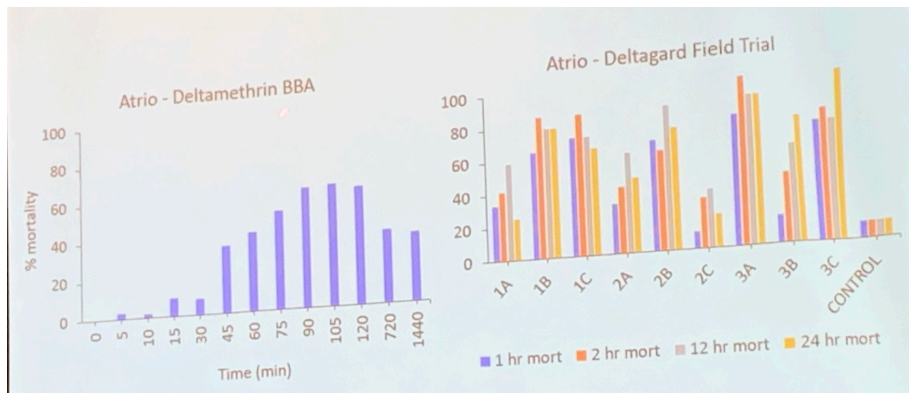
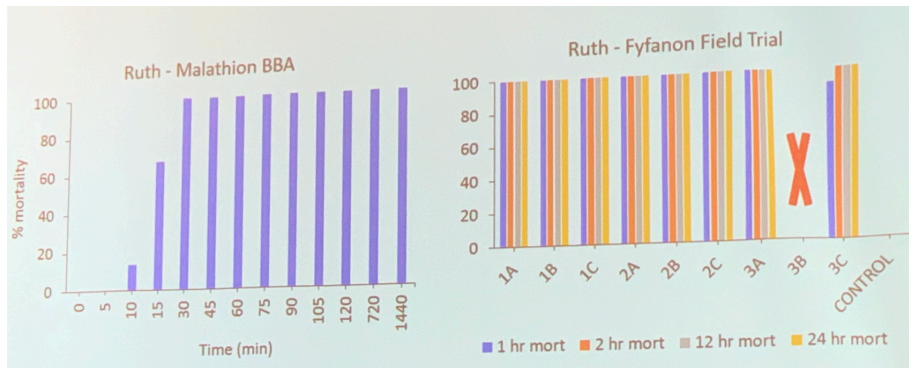
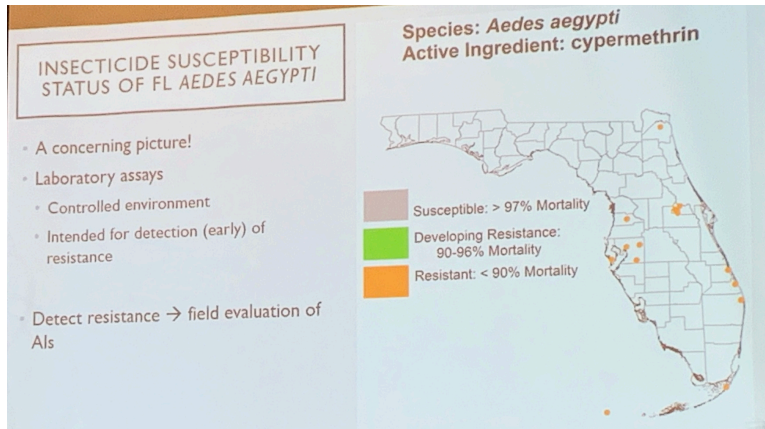
| | |
|--|---|
| City of Thousand Oaks | Gwinnett County Public Library |
| City of Ukiah | Imperial County Library |
| City of Vacaville | International Association of Fire Chiefs |
| City of Vallejo | Knightsen School District |
| City of Walnut Creek | Lammersville School District |
| City of West Sacramento | Liberty Union High School District |
| City of Wheatland | Livermore Pleasanton Fire District |
| City of Yuba City | Madera District Fair |
| Contra Costa Community College District | Marin Municipal Water Agency |
| Cordova Recreation and Park District | Mountain House Community Services District |
| County of Alpine | Mountain Valley Library System |
| County of Amador | Oakley Union School District |
| County of Calaveras | Pacific Library Partnership |
| County of Contra Costa | Peninsula Library System |
| County of Colusa | Rio Linda Elverta Recreation & Park District |
| County of El Dorado | Risk Management Authority |
| County of Marin | Sacramento County Retirement Agency |
| County of Placer | Sacramento Housing and Redevelopment Agency |
| County of Sacramento | Sacramento Public Library Authority |
| County of San Joaquin | San Mateo County Library |
| County of Solano | San Ramon Valley Unified School District |
| County of Sutter | Service Employees International Union |
| County of Yolo | Solano County Transit Authority |
| County of Yuba | Stockton East Water District |
| Cooperative Personnel Services | Stanislaus County Council of Governments |
| Council of California County Law Librarians | State of California, Department of Food and Agriculture, Fairs and Expositions |
| Crockett Community Services District | Town of Colma |
| Diablo Water District | Town of Discovery Bay |
| Diablo San Ramon Sanitary District | Town of Loomis |
| Delta Counties Coalition | Travis Unified School District |
| Delta 2000, Regional Resource Agency | Truckee Donner Public Utility Department |
| East Bay Regional Park District | University of California - Santa Cruz |
| East Bay Regional Communications System Authority | Yorba Linda Public Library |
| East Contra Costa Irrigation District | Yuba County Water Agency |
| East Quincy Community Services District | Water Emergency Transit Authority |
| El Dorado Irrigation District | Zone 7 Water Agency |
| El Dorado Hills CSD | |
| Fresno Unified School District | |

PRIVATE AND NON-PROFIT CLIENTS

| | |
|--|---|
| Arcadia Homes | Lewis, Bisbois, Bisgaard and Smith Law Firm |
| Best Best and Krieger Law Firm | Liebert Cassidy Whitmore Law Firm |
| Callahan Property Company | MAS/Nearon |
| Community Medical Centers | Meyers Nave Law Firm |
| Economic and Planning Systems | Pacific Development Group |
| Foundation for the Retarded of the Desert | Raney Planning & Management, Inc. |
| Fraser & Associates | RCH Group |
| Friends of the Truckee Library | TPC |
| Habitat for Humanity Diablo Valley Chapter | The Kivelstadt Group |
| Kikkoman | Volunteers of America |

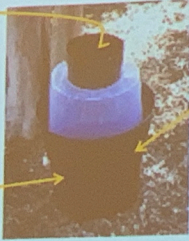
Report on the 2018 Annual Meeting of the Entomological Society of America and the
 Entomological Society of Canada
 Vancouver, BC
 November 11 – 14, 2018
 Jan O. Washburn

1. Review of the highlights of medical entomology, 2018
 - a. Emerging tickborne diseases in North America
 - b. Range expansion of important mosquito vectors
 - c. Insecticide resistance in mosquito vectors and bottle bioassay validity



2. Community involvement in reducing populations of invasive *Aedes* mosquitoes (a case study from University Park, MD by Dina Fonesca & Brian Johnson)

GRAVID *AEDES* TRAPS = GATs

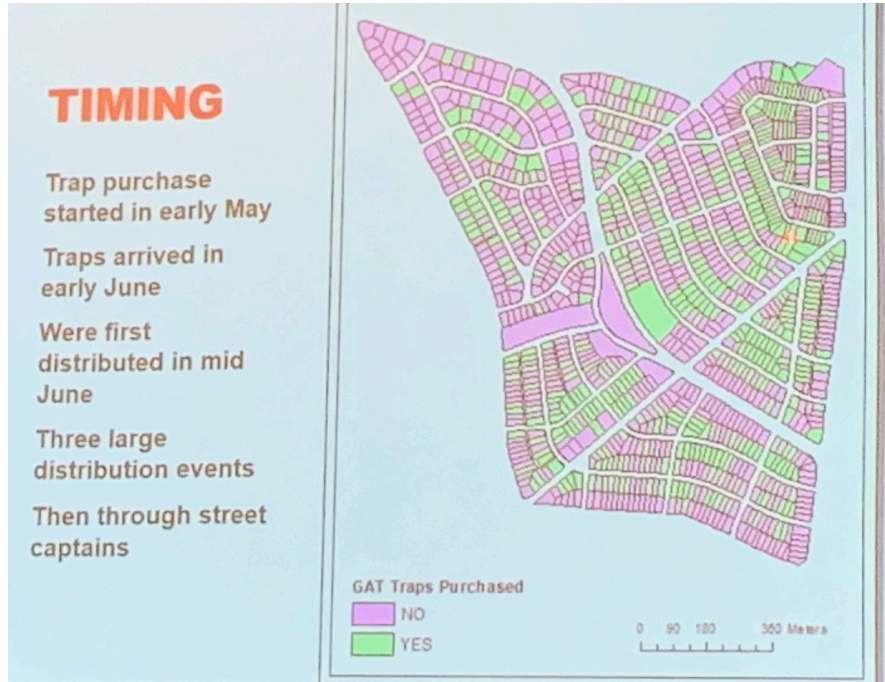


Mosquito entry

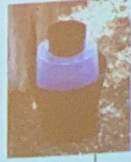
Water attracts female mosquito needing to lay eggs

There is netting across the bottom of the transparent dome sitting above the water. Dome is lined with **canola oil** (or a **sticky paper** hangs inside). Mosquito cannot escape and dies.

Traps are relatively cheap (~\$15-18 each + S&H)
Easy to deploy, easy to maintain
No dangerous insecticides



GAT TRAPPING IN UNIVERSITY PARK



Out of a total of 1,156 potential households, 516 (45%) purchased and deployed 2 GATs (total of 1,032 GATs deployed in UP in 2017)

HIGH block = > 60%
LOW block = < 60%



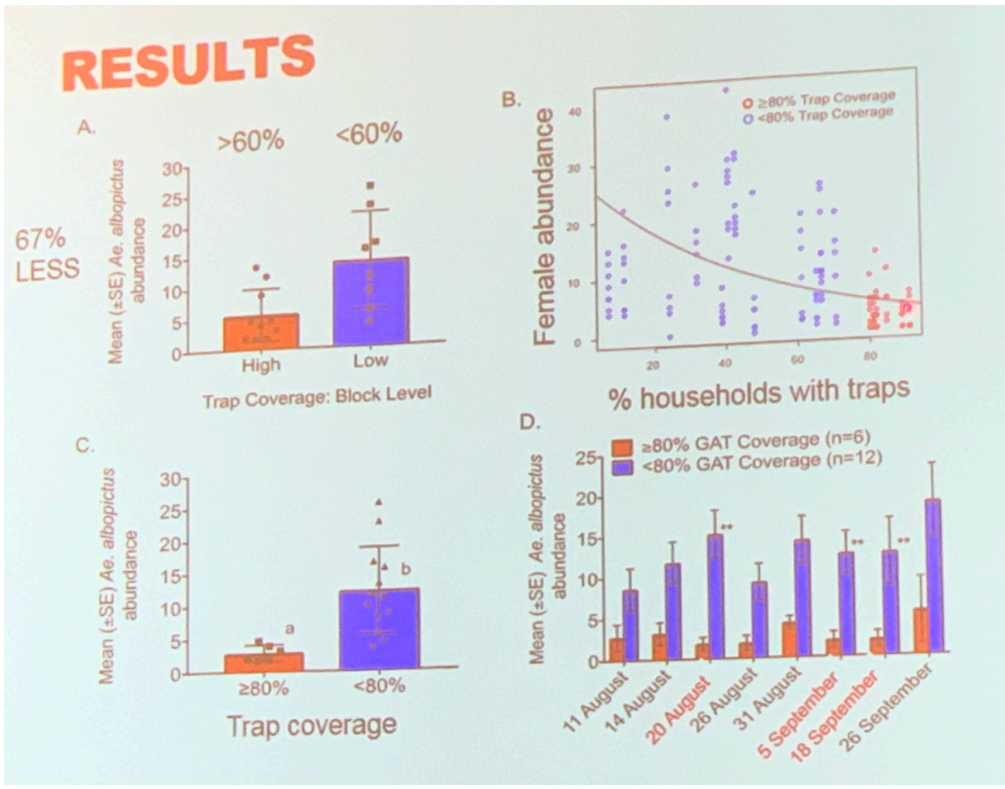
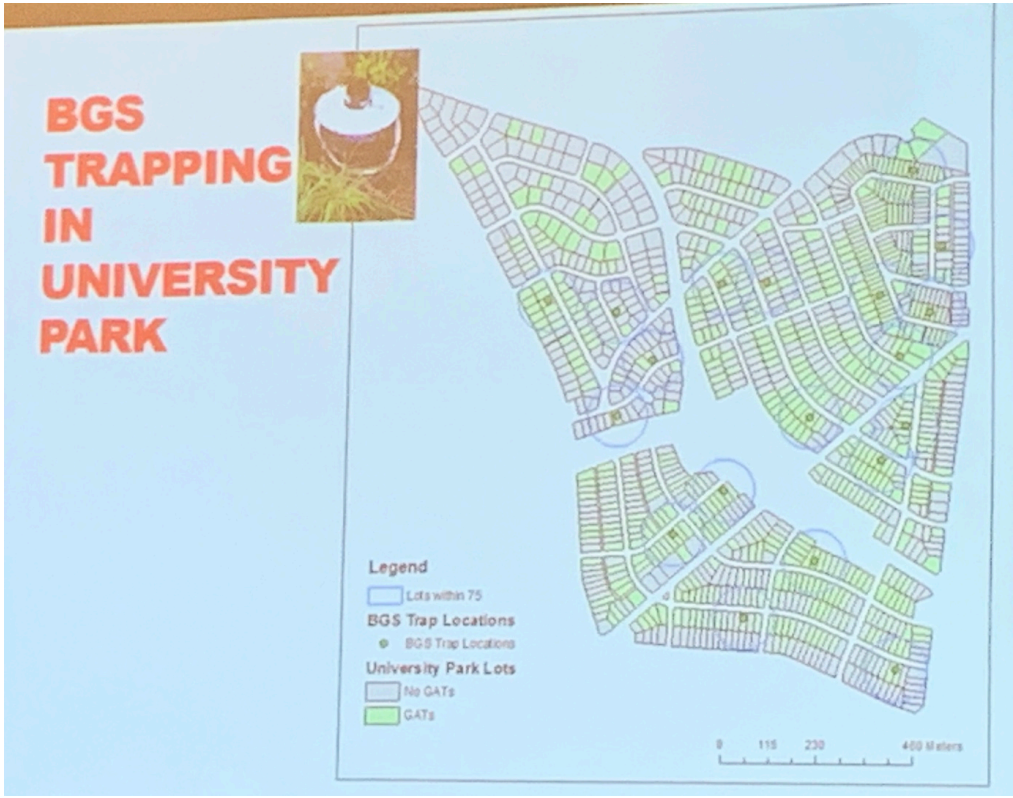
Legend
Grey Lots without GATs
Green Lots with GATs

0 90 180 360 Meters

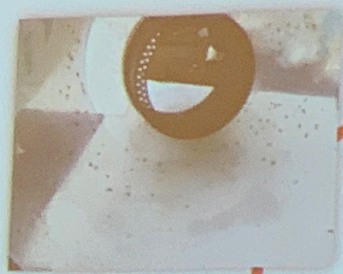
HOW TO DETERMINE IF IT WORKED?

BG SENTINEL TRAPS

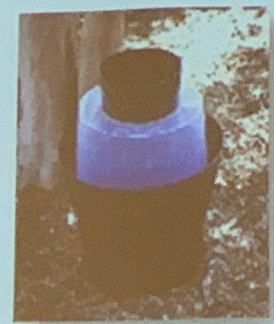




SPIRAL OF KNOWLEDGE



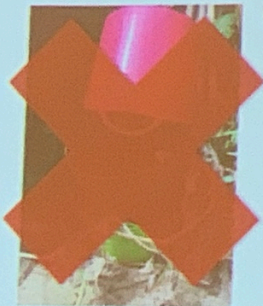
TRAPS



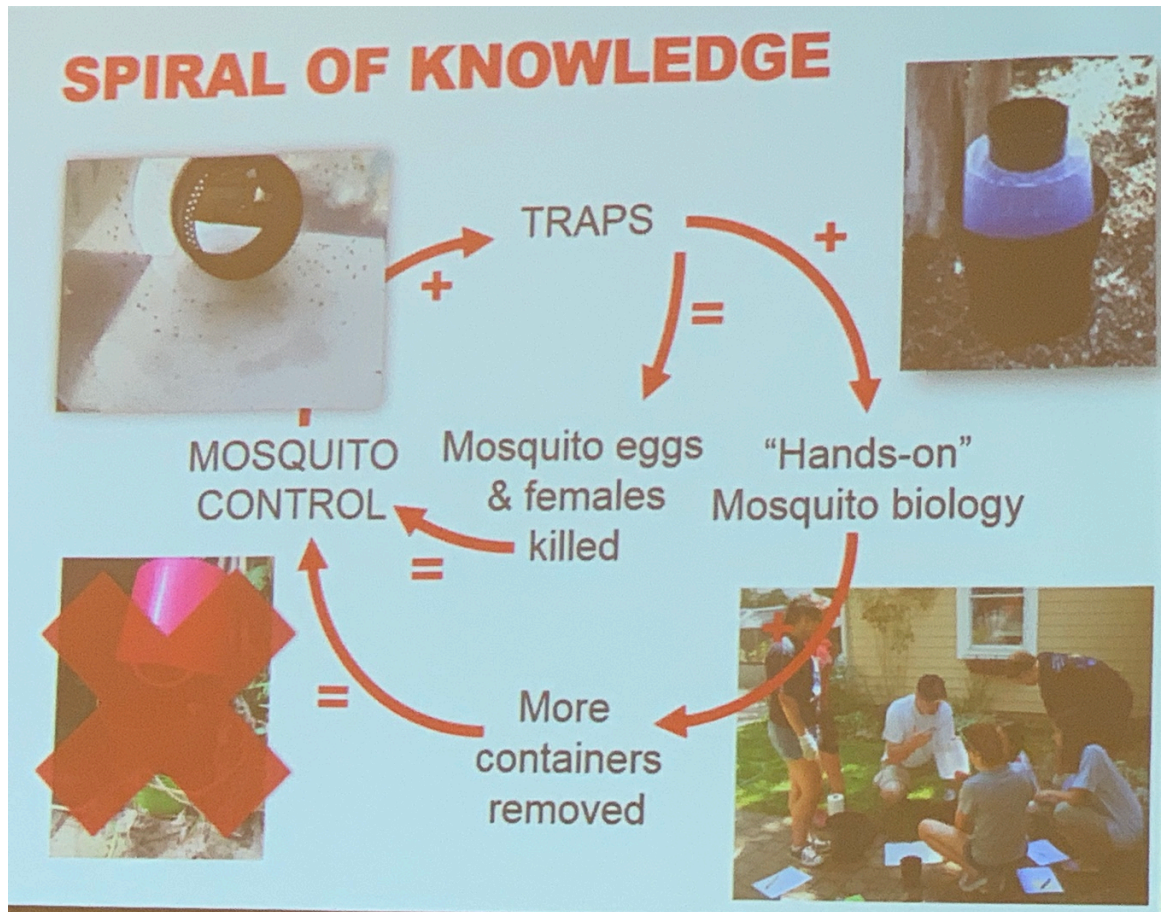
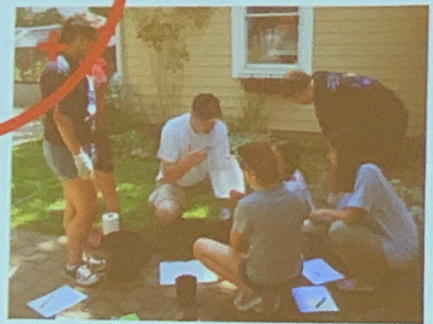
MOSQUITO CONTROL

Mosquito eggs & females killed

"Hands-on" Mosquito biology



More containers removed



Alameda County Mosquito Abatement Dist.
Check Register
 For the Period From Nov 1, 2018 to Nov 15, 2018

Filter Criteria includes: Report order is by Date.

| Check # | Date | Payee | Amount |
|----------------|-------------|---------------------------------------|---------------|
| 1285 | 11/13/18 | Payroll | 70,697.72 |
| 1286 | 11/15/18 | Voya Institutional Trust Company | 150.00 |
| 1287 | 11/15/18 | CalPERS 457 | 3,220.00 |
| 1288 | 11/15/18 | Airgas | 778.95 |
| 1290 | 11/15/18 | Alco Sheet Metal and Heating, Inc. | 405.00 |
| 1291 | 11/15/18 | Nancy Fanning | 40.88 |
| 1292 | 11/15/18 | BARTKIEWICZ, KRONICK & SHANAHAN | 72.50 |
| 1293 | 11/15/18 | Cintas | 538.98 |
| 1294 | 11/15/18 | CentiMark Corporation | 33,233.33 |
| 1295 | 11/15/18 | Delta Dental | 4,411.85 |
| 1296 | 11/15/18 | Grainger | 762.35 |
| 1297 | 11/15/18 | Industrial Park Landscape Maintenance | 215.00 |
| 1298 | 11/15/18 | Kimball Midwest | 219.81 |
| 1299 | 11/15/18 | Makal Solutions | 883.15 |
| 1300 | 11/15/18 | PG&E | 82.20 |
| 1301 | 11/15/18 | PC Professional | 115.82 |
| 1302 | 11/15/18 | PFM Asset Management | 1,740.39 |
| 1303 | 11/15/18 | Sacramento Koi, Inc. | 124.86 |
| 1304 | 11/15/18 | Sonitrol | 1,725.26 |
| 1305 | 11/15/18 | The Hartford | 77.78 |
| 1306 | 11/15/18 | Techniclean | 203.82 |
| 1307 | 11/15/18 | Utility Cost Management LLC | 1,920.00 |
| 1308 | 11/15/18 | Waste Management of Alameda County | 248.94 |
| 1309 | 11/15/18 | U.S Bank Corporate Payment System | 17,383.98 |
| 1310 | 11/15/18 | KBA Docusys | 1,821.02 |
| 1311 | 11/15/18 | Wendi Lynn Poulson | 100.00 |
| ACH | 11/15/18 | CalPERS Retirement | 11,924.52 |

Voided Check
1213V

Total Expenditures 11/15/18 153,098.11

Alameda County Mosquito Abatement Dist.
Check Register
For the Period From Nov 16, 2018 to Nov 30, 2018

Filter Criteria includes: Report order is by Date.

| Check # | Date | Payee | Amount |
|------------------------------------|-------------|----------------------------------|-------------------|
| 1312 | 11/30/18 | Payroll | 70,433.80 |
| 1313 | 11/30/18 | P. Robert Beatty | 100.00 |
| 1314 | 11/30/18 | Subrahmanya Y Bhat | 100.00 |
| 1315 | 11/30/18 | Elizabeth Cooley | 100.00 |
| 1316 | 11/30/18 | Robert Dickinson | 100.00 |
| 1317 | 11/30/18 | Eric Armin Hentschke | 100.00 |
| 1318 | 11/30/18 | Edward Hernandez | 100.00 |
| 1319 | 11/30/18 | Elisa Marquez | 100.00 |
| 1320 | 11/30/18 | George Young | 100.00 |
| 1321 | 11/30/18 | Airgas | 369.02 |
| 1322 | 11/30/18 | Cintas | 450.64 |
| 1323 | 11/30/18 | CalPERS 457 | 3,220.00 |
| 1324 | 11/30/18 | Delta Dental | 4,411.85 |
| 1325 | 11/30/18 | Matthew Flanders | 40.88 |
| 1326 | 11/30/18 | Grainger | 132.59 |
| 1327 | 11/30/18 | Hayward Water System | 564.21 |
| 1328 | 11/30/18 | PG&E | 1,540.95 |
| 1329 | 11/30/18 | VSP | 667.19 |
| 1330 | 11/30/18 | Verizon | 1,406.51 |
| 1331 | 11/30/18 | WEX Bank | 4,014.80 |
| 1332 | 11/30/18 | Voya Institutional Trust Company | 150.00 |
| 1333 | 11/30/18 | Bay Alarm | 6,287.58 |
| ACH | 11/30/18 | CalPERS Retirement | 11,953.72 |
| ACH | 11/30/18 | CalPERS Health | 33,637.88 |
| Total Expenditures 11/30/18 | | | 140,081.62 |

**Alameda County Mosquito Abatement District
Income Statement
Consolidated
November 30, 2018. (5 of 12 mth, 42%)**

| REVENUES | Actual 2015/16 ¹ | Actual 2016/17 ¹ | Current Month | Year to Date 2018/2019 | Budget 2018/2019 | Actual vs Budget |
|----------------------|-----------------------------|-----------------------------|---------------|---------------------------|------------------------|---------------------|
| Total Revenue | \$ 4,180,831.00 | \$ 4,366,903.00 | \$ - | \$ - | \$ 4,476,728.00 | 0% |

| EXPENDITURES | Actual 2015/16 | Actual 2016/17 | Current Month ² | Year to Date 2018/2019 | Budget 2018/19 | Actual vs Budget |
|---|------------------------|--------------------|----------------------------|---------------------------|--------------------|---------------------|
| Salaries | \$1,661,234 | \$1,677,469 | \$ 156,030.73 | \$ 792,772.84 | \$1,933,182 | 41% |
| CalPERS Retirement | \$205,340 | \$219,892 | \$ 13,629.77 | \$ 214,799.66 | \$301,812 | 71% |
| Medicare | \$21,160 | \$21,368 | \$ 2,089.26 | \$ 10,659.17 | \$28,031 | 38% |
| Fringe Benefits | \$554,630 | \$453,877 | \$ 43,206.55 | \$ 195,432.50 | \$508,680 | 38% |
| Total Salaries, Retirement, & Benefits | \$2,442,364 | \$2,372,606 | \$214,956 | \$1,213,664 | \$2,771,705 | 44% |
| Clothing and personal supplies (purchased) | \$7,169 | \$8,955 | \$ 245.58 | \$ 2,952.36 | \$6,000 | 49% |
| Laundry service and supplies (rented) | \$7,162 | \$8,840 | \$ 989.62 | \$ 4,977.41 | \$9,500 | 52% |
| Utilities | \$22,214 | \$27,084 | \$ 2,436.30 | \$ 10,057.58 | \$36,500 | 28% |
| Communications-IT | \$32,756 | \$54,128 | \$ 9,685.53 | \$ 39,051.46 | \$122,200 | 32% |
| Maintenance: structures & improvements | \$6,739 | \$19,503 | \$ 1,358.78 | \$ 4,286.31 | \$25,000 | 17% |
| Maintenance of equipment | \$24,175 | \$27,051 | \$ 1,949.57 | \$ 7,318.67 | \$35,000 | 21% |
| Transportation, travel, training, & board | \$75,326 | \$124,827 | \$ 6,832.80 | \$ 34,873.03 | \$134,210 | 26% |
| Professional services | \$159,499 | \$82,082 | \$ 1,812.89 | \$ 39,569.73 | \$190,620 | 21% |
| Memberships, dues, & subscriptions | \$14,540 | \$20,191 | \$ 148.00 | \$ 20,698.60 | \$21,402 | 97% |
| Insurance - (VCJPA, UAS) | \$106,268 | \$113,867 | \$ - | \$ 124,703.92 | \$127,851 | 98% |
| Community education | \$12,450 | \$40,222 | \$ 858.67 | \$ 12,741.97 | \$33,000 | 39% |
| Operations | \$187,490 | \$176,758 | \$ 512.38 | \$ 56,711.00 | \$234,000 | 24% |
| Household expenses | \$13,790 | \$17,373 | \$ 6,582.33 | \$ 11,772.35 | \$19,350 | 61% |
| Office expenses | \$14,195 | \$18,590 | \$ 4,564.86 | \$ 5,056.39 | \$15,100 | 33% |
| Laboratory supplies | \$76,130 | \$80,008 | \$ 3,792.66 | \$ 26,884.09 | \$118,148 | 23% |
| Small tools and instruments | \$1,155 | \$2,513 | \$ 348.92 | \$ 2,021.44 | \$2,500 | 81% |
| Total Staff Budget | \$ 780,944.00 | \$833,192 | \$ 42,118.89 | \$ 403,676.31 | \$1,130,381 | 36% |
| Total Operating Expenditures | \$ 3,032,263.00 | \$3,479,710 | \$ 257,075.20 | \$ 1,617,340.48 | \$3,902,086 | 41% |

1 - Subcategories in Fiscal years 2015/16 and 2016/17 do not add up due to accruals not being posted

2 - Total Operating Expenditures in current month do not match the check register due to Capital purchases & Petty cash

**Alameda County Mosquito Abatement District
Investment, Reserves, and Cash Balance Report
November 30, 2018. (5 of 12 mth, 42%)**

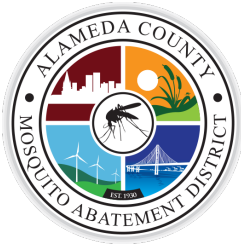
| Account # | Investment Accounts | Beginning Balance | Deposits | Withdrawals | Interest Activity | New Balance |
|----------------------|--|------------------------|-------------|------------------------|----------------------|------------------------|
| 800005 | LAIF | \$ 736,013.19 | \$ - | \$ (292,000.00) | \$ - | \$ 444,013.19 |
| 800006 | OPEB Fund | \$ 4,027,958.71 | | | \$ 40,902.77 | \$ 4,068,861.48 |
| 101106 | VCJPA Member Contingency | \$ 338,010.00 | \$ - | \$ - | | \$ 338,010.00 |
| 101106.1 | VCJPA Property Contingency | \$ 50,263.00 | \$ - | \$ - | \$ - | \$ 50,263.00 |
| 800007.1 | CAMP: Repair and Replace ¹ | \$ 620,979.93 | \$ - | \$ (1,037.45) | \$ 1,202.90 | \$ 621,145.38 |
| 800007.2 | CAMP: Public Health Emergency | \$ 508,185.81 | \$ - | \$ - | \$ 985.07 | \$ 509,170.88 |
| 800007.3 | CAMP: Operating Reserve | \$ 1,877,693.25 | \$ - | \$ - | \$ 3,639.72 | \$ 1,881,332.97 |
| 800007.4 | CAMP: Capital Reserve Fund ² | \$ 251,578.43 | \$ - | \$ - | \$ 487.66 | \$ 252,066.09 |
| 800008 | PARS: Pension Stabilization ³ | \$ 1,014,415.15 | \$ - | | \$ (26,830.02) | \$ 987,585.13 |
| Total | | \$ 9,425,097.47 | \$ - | \$ (293,037.45) | \$ 20,388.10 | \$ 9,152,448.12 |
| | | Beginning Balance | | | Activity | New Balance |
| Cash Accounts | | | | | | |
| 101110 | Bank of America (Payroll Account) | \$ 124,171.27 | | | | \$ 119,117.51 |
| 101111 | Bank of The West (Transfer Account) | \$ 294,910.45 | | | | \$ 302,769.65 |
| 100001 | County Account | \$ 444,369.79 | | | \$ 4,606.60 | \$ 448,976.39 |
| Total | | \$ 863,451.51 | | | \$ 4,606.60 | \$ 870,863.55 |

1 - \$1,037.45 transferred to Bank of the West to cover permit fees for the remodel project

1 - \$33,233.33 will be transferred from CAMP - Repair and Replace to cover the down payment for the roof project

2 - \$1,920.00 will be transferred from CAMP - Capital Reserve Fund to cover 30% of the Solar project consultant services

3- PARS - Pension Stabilization balance is as of October 31, 2018.



23187 Connecticut Street
Hayward, CA 94545

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acmad@mosquitoes.org

MONTHLY STAFF REPORT – November 2018

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Pleasanton

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General Manager

1. OPERATIONS REPORT

A significant storm event toward the end of November officially ushered in the winter season for ACMAD's field operations staff. Parts of the county received close to two inches of rain in a relatively short period of time. With a dry October and a mostly dry November, this rain event pushed rainfall totals up from nil to 89% of the normal averages for this period depending on location within the county. This rain pushed a lot of water through catch basins, storm drains, creeks, and canals in much of the county. These high flows helped eliminate breeding of *Culex tarsalis* and *Culex pipiens* in numerous sources. Temperature drops and a continued shift in photoperiod tends to drive adult females of these species to seek shelter where they remain until spring. Once the weather warms and flushing rain action ceases, these mosquitoes will enter back into the environment seeking suitable sites to deposit eggs.

Cooler temperatures have also triggered "over-summering" females of *Culiseta inornata* to come out and search for standing water suitable to deposit. This has been evidenced by collections of adults in traps placed by the lab. As rain water collects in marshes, diked salt marshes, depressions in willow habitat, vernal pools, and tree holes, eggs deposited last season or in previous years by *Aedes squamiger*, *Aedes washinoi*, and *Aedes sierrensis* will begin to hatch. Operations staff are shifting focus to these sources in anticipation of the first hatches of eggs of our main winter species. This process will likely continue well into March.

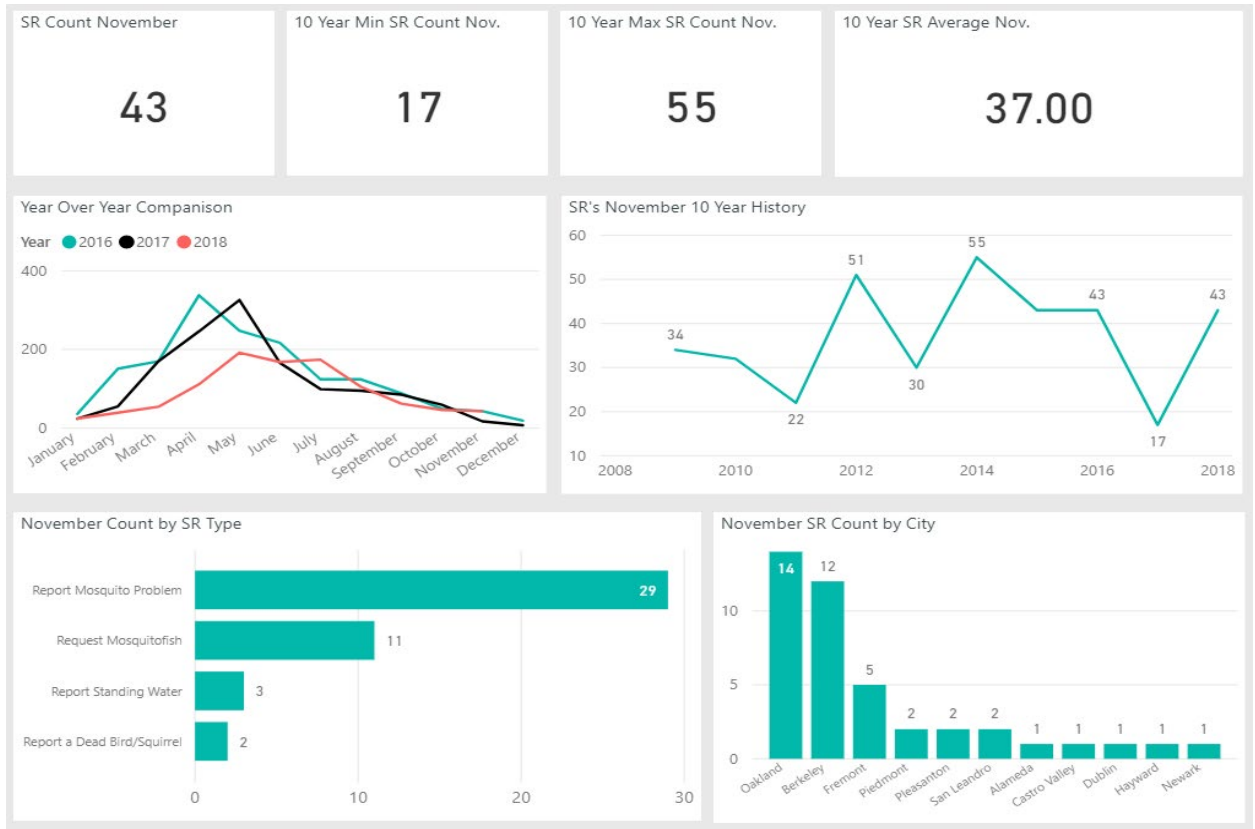
Service requests for the month of November were above average for the month. The ten-year average is 37, ACMAD received 43 for the month. This upswing in requests for service had been anticipated by operations. Without rain in October and little rain until the end of November, both *Cx. pipiens* and *Cx. tarsalis* remain active longer. Sources for both species were being inspected and treated right up to when the late month rains fell. Though normal rain was delayed cooler temperatures prevailed. This makes the warmer temperatures in most homes very attractive to these species seeking shelter to over-winter. The simple act of opening home and garage doors provides entry for mosquitoes harboring in sheltered areas around houses such as porches into the warmth and shelter inside. This will often trigger mosquito related service requests from our public.

Operations staff continued ditching efforts twice a week during the month of November. Sources in two of the three "marsh zones" have received ditch work to date. Ditching will continue until our permit runs out at the end of January. By the close of our ditching season, several sources in all three "marsh zones" will have had ditching performed. Operations expect to see results from these efforts over the next few months and into our spring and summer seasons.

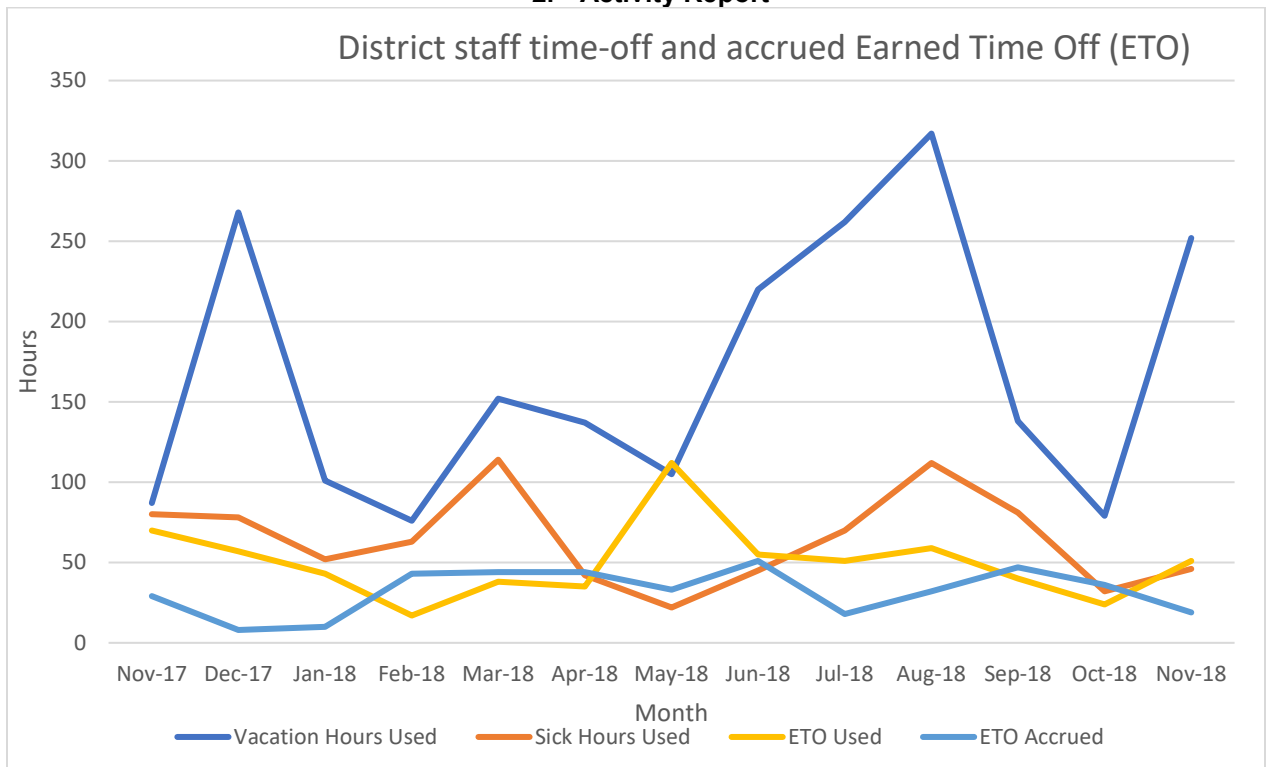
Joseph Huston
Field Operations Supervisor

A. District Data

1. Service Requests

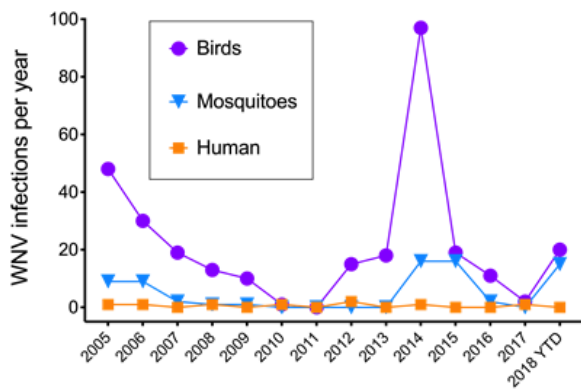


2. Activity Report

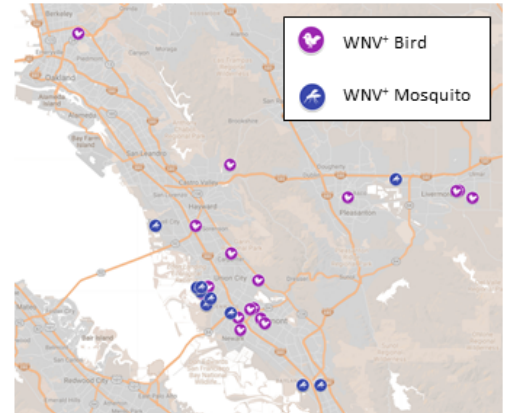


3. WNV Activity

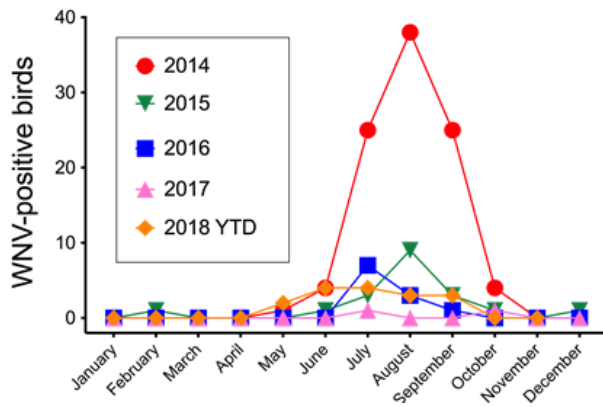
WNV infections detected in Alameda County
2005 – 2018 YTD



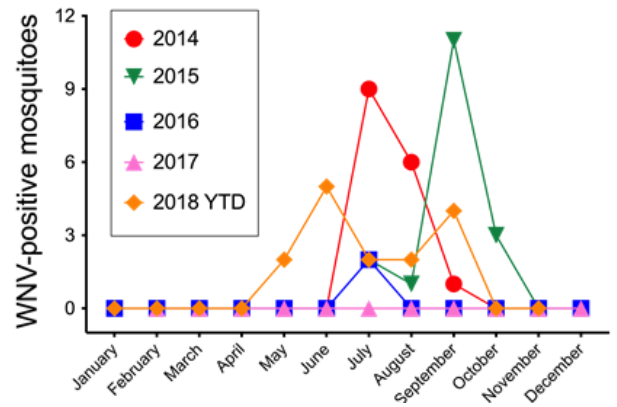
Locations of WNV-infected mosquitoes and birds
collected in Alameda County during 2018



WNV-infected birds collected in
Alameda County



WNV-infected mosquitoes collected in
Alameda County



2. LAB

Summary

- West Nile virus (WNV) was not detected in birds or mosquitoes during the month of November (2018).
- Mosquito abundance in November was lower relative to the prior month.
- A commercially available colony of *Culex quinquefasciatus* and the ACMAD colony of *Culex pipiens* were equally susceptible to permethrin.

Arbovirus Monitoring

- West Nile virus (WNV) was not detected in birds or mosquitoes during the month of November (2018). To date, a total of 20 birds and 15 collections of mosquitoes have been found to contain WNV during 2018.
- None of the mosquitoes or birds that were collected during 2018 were found to contain Saint Louis encephalitis virus (SLEV) or Western equine encephalitis virus (WEEV).

Native Mosquito Abundance

- For the month of October, there was 1.78 inches of rainfall and the average maximum temperature was 68 °F, (Hayward, CA). The prior two months had no rainfall and average maximum temperatures of 73 °F and 72 °F.
- Cooler temperatures and rainfall limited trapping using EVS CO₂ traps. Over the course of the month, 62 EVS CO₂ traps were placed; 198 mosquitoes were collected and identified to species (Figure 1). There was an average of 3.2 mosquitoes per trap night, which reflects a 58% reduction in mosquito abundance for November relative to the prior month. *Culex erythrorhax* remained the most highly abundant species collected in EVS CO₂ traps, followed by *Culex tarsalis*, and *Culex pipiens* (Figure 2). The geospatial distribution of mosquito species collected in EVS CO₂ traps at each trap site is displayed in Figure 3.
- Mosquito abundance, as measured using NJLT, was slightly reduced relative to the prior month (Figure 4; 0.47 vs 0.56 mosquitoes / trap night, respectively; total of 1217 mosquitoes over 574 trap nights). *Culex tarsalis* was the most prevalent species collected in NJLT during October 2018, followed by *Culiseta inornata*, and *Culiseta incidens* (Figure 5).

Invasive Aedes Monitoring

- Invasive *Aedes* mosquitoes have not been detected in any mosquito trap placed in Alameda County during 2018.

Insecticide Resistance

- Rearing *Cx. pipiens* in the lab from egg to adult is laborious, requiring approximately 6 h of staff effort each week. Purchasing *Cx. pipiens* larvae and rearing them to adult has the potential to reduce the work effort substantially. Although *Cx. pipiens* are not commercially available, a related species, *Culex quinquefasciatus*, is available from Benzon Research Incorporated (Carlisle, PA). Because the two species are considered to

be within the same species complex (separated only geographically), we evaluated insecticide resistance for *Cx. quinquefasciatus* that we purchased from Benzon Research Incorporated. Assessment of the *kdr* allele using a SNP quantitative PCR assay showed that both the ACMAD colony of *Cx. pipiens* and the Benzon colony of *Cx. quinquefasciatus* possess the *kdr* allele that is associated with sensitivity to permethrin (not shown). To evaluate functional sensitivity to permethrin, bottle bioassays (BBA) were conducted using the Benzon colony of *Cx. quinquefasciatus*. The results show that the *Cx. quinquefasciatus* and *Cx. pipiens* were highly and equally susceptible to permethrin (Figure 6), demonstrating that the lab could transition to *Cx. quinquefasciatus* purchased from Benzon for our insecticide resistance testing program. However, with recent decisions to incorporate *Culex* mosquitoes into ACMAD educational outreach programs, we have elected to retain the ACMAD *Cx. pipiens* colony.

FIGURES

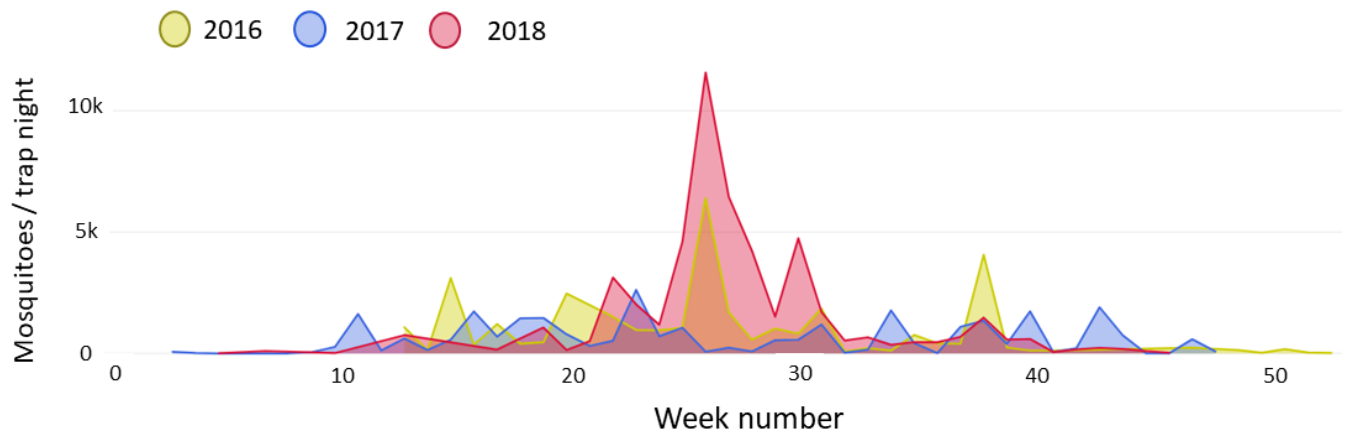


Figure 1. Mosquitoes captured in EVS CO₂ traps from 2016 – 2018. A total of 198 mosquitoes were captured in EVS CO₂ traps during November 2018 and identified to species.

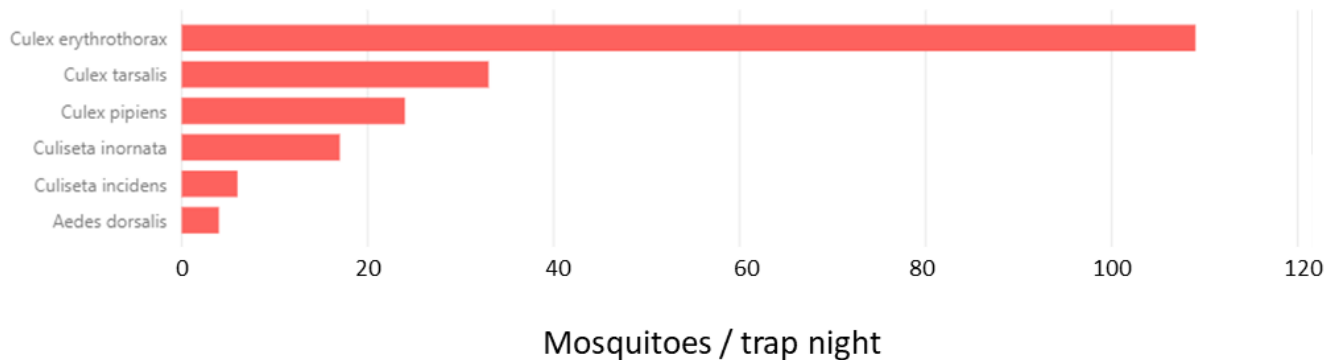


Figure 2. The six most abundant species of mosquito captured in EVS CO₂ traps during October 2018.

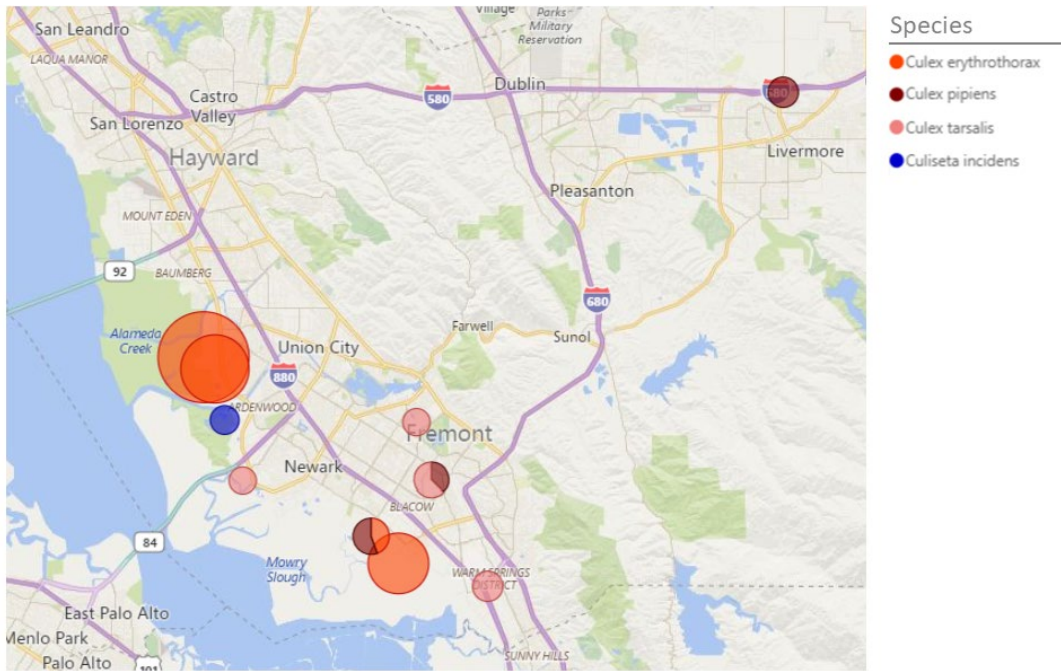


Figure 3. Mosquito abundance by trap site evaluated using EVS CO₂ traps. Pie charts over trap sites indicate the distribution of mosquito species collected at the trap site. The size of the pie charts indicates the relative number of mosquitoes at each site during November 2018. Sites with five or fewer mosquitoes collected in the traps are not shown on the map.

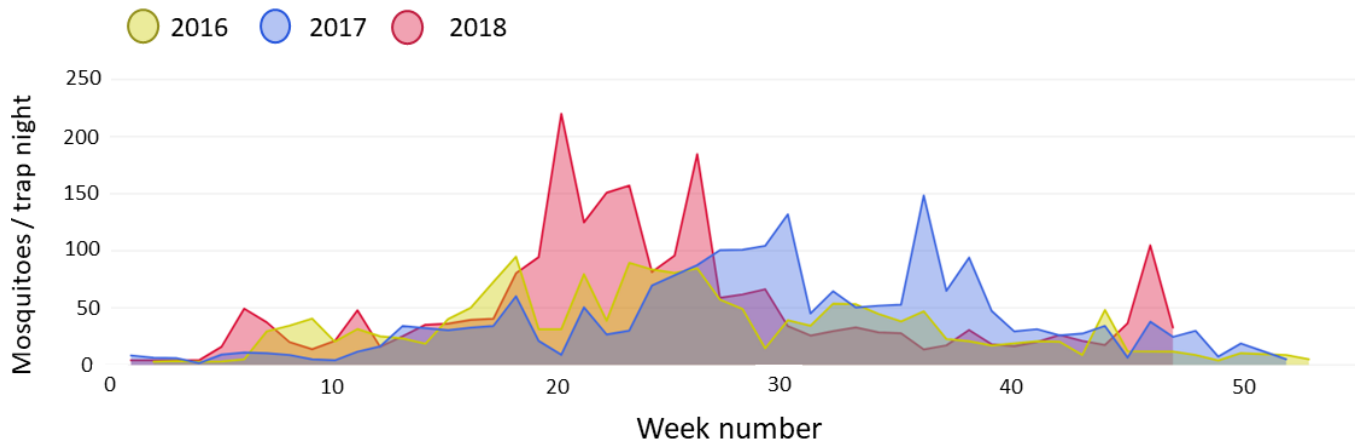


Figure 4. Mosquitoes captured in NJLT from 2016 – 2018. A total of 1217 mosquitoes were captured in NJLT during November 2018 and identified to species.

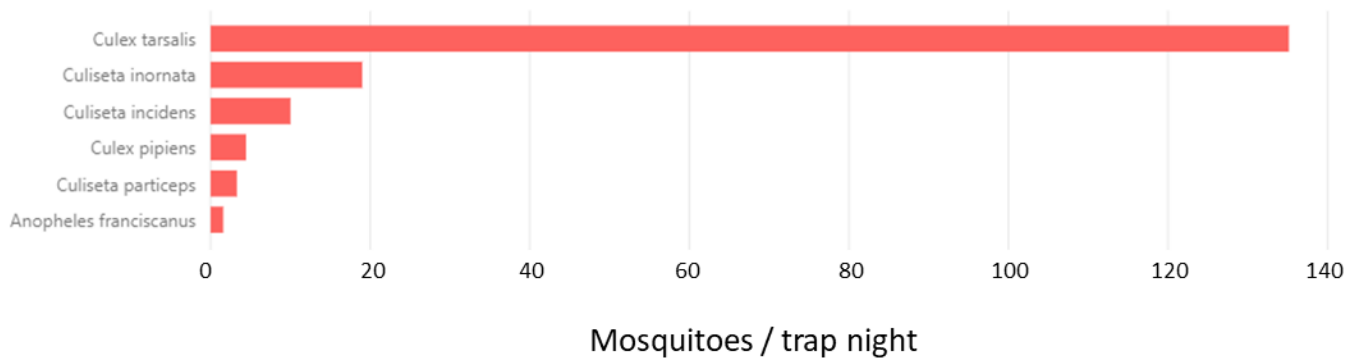


Figure 5. The six most abundant species of mosquito captured in NJLT during November 2018.

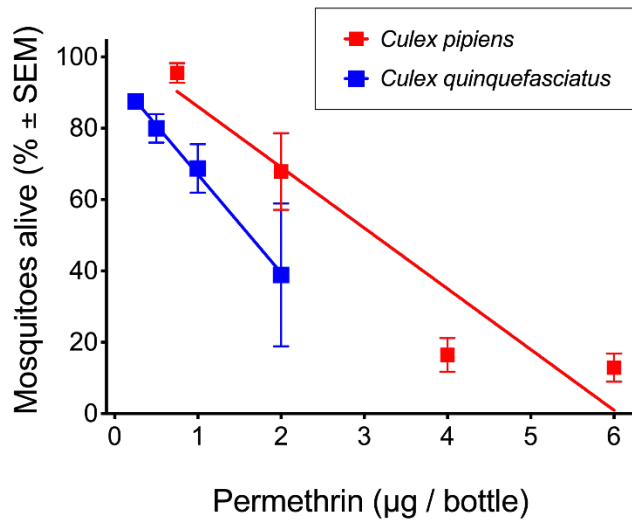


Figure 6. A commercially available colony of *Culex quinquefasciatus* was highly susceptible to permethrin. Bottle bioassays (BBA) were employed to assess the susceptibility of commercially available adult *Cx. quinquefasciatus* to permethrin. Relative to adult *Cx. pipiens* from the ACMAD lab colony, *Cx. quinquefasciatus* were 1.9-fold more susceptible to permethrin, however, the difference was not significant (*Cx. pipiens*: $LC_{50} = 3.07 \mu\text{g} / \text{bottle}$, $y = -16.56x + 101$; *Cx. quinquefasciatus*: $LC_{50} = 1.62 \mu\text{g} / \text{bottle}$, $y = -27.58x + 94.65$).

PUBLIC EDUCATION

A. Events

i. Upcoming

- Career Day Presentation – Friday, January 11th (Oakland)

ii. Past

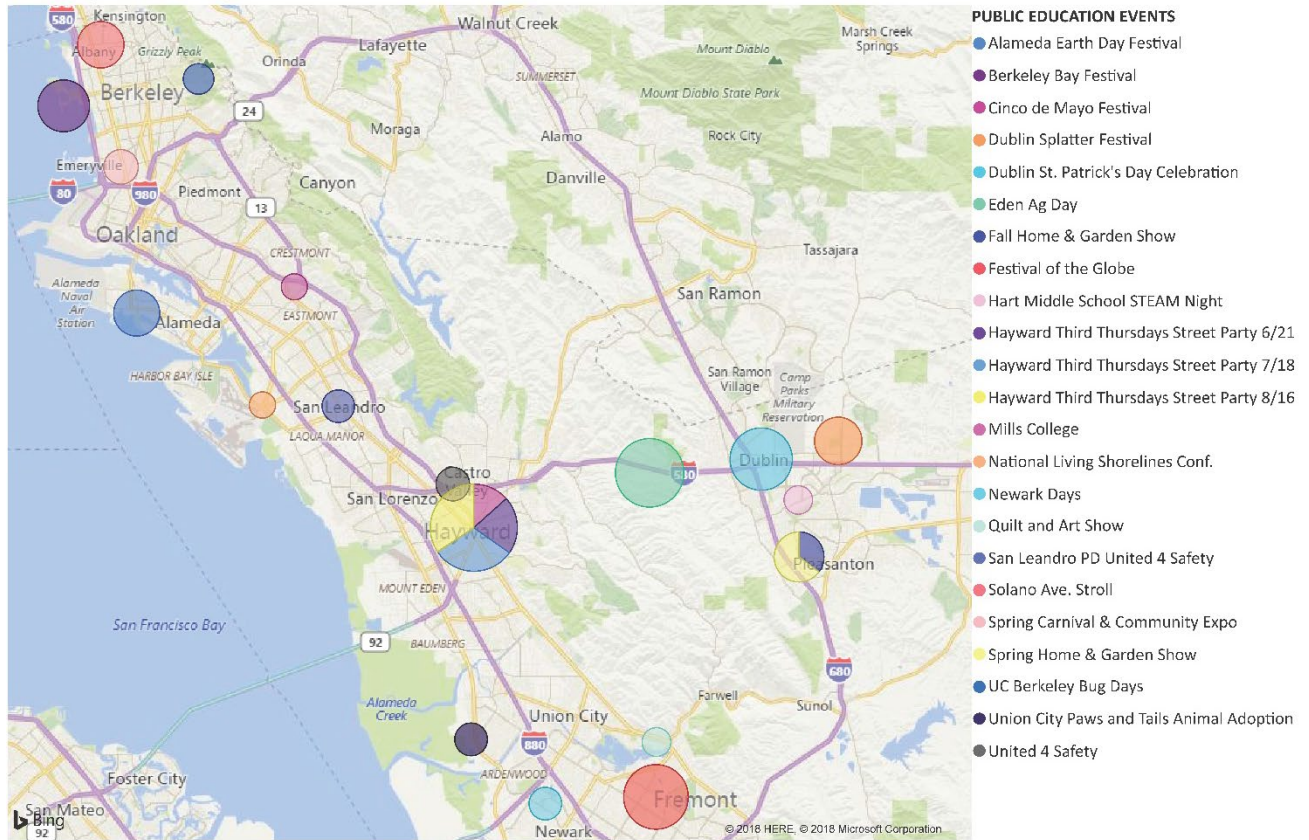


Figure 1. Public education events in 2018. ACMAD participated in 24 events during 2018. Totals for the San Leandro Cherry Festival are not included this year because the booth attendance was not recorded. Booth attendance for the 23 other shows was almost 9,200 people.

B. Google Analytics

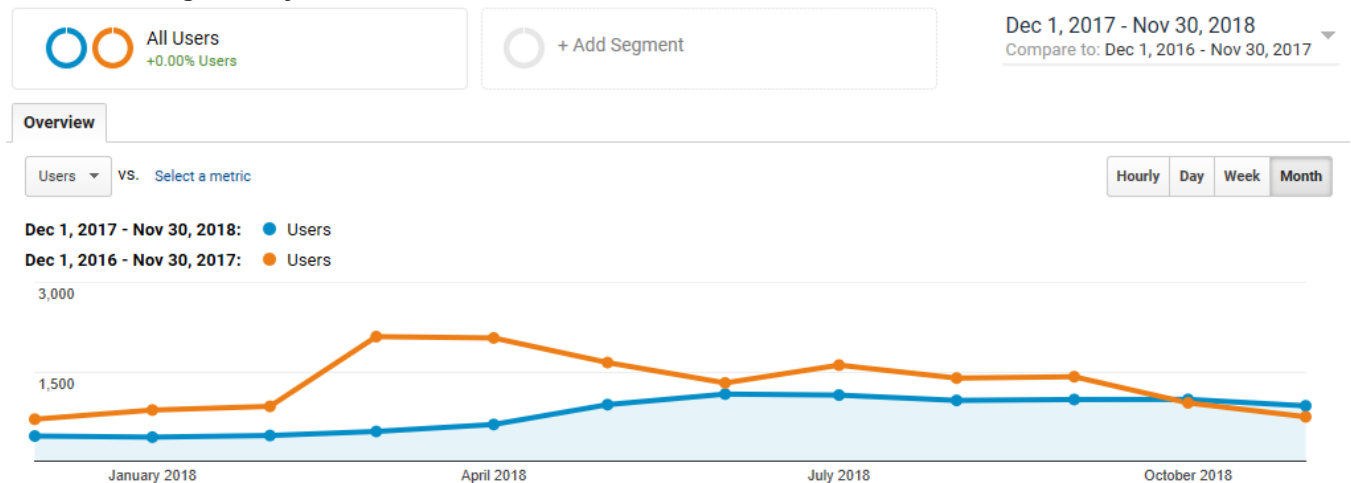


Figure 2. Comparison of website users over the past two years

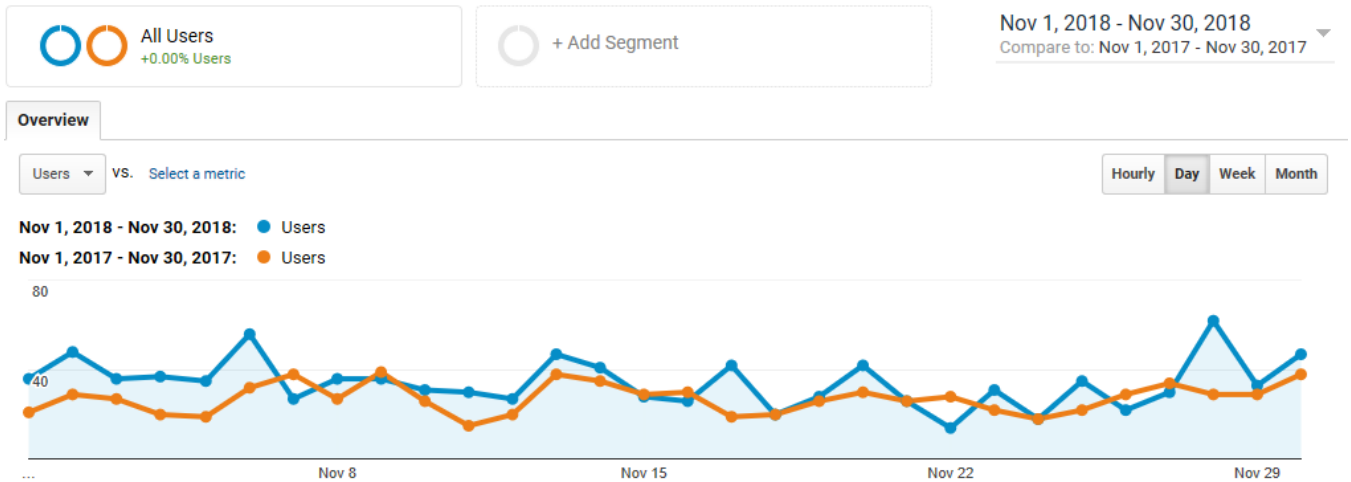
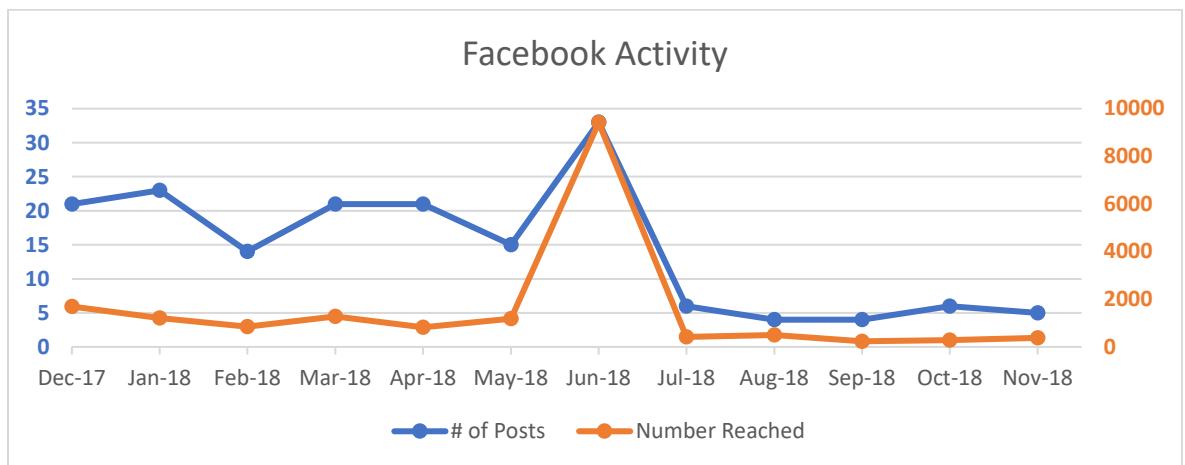


Figure 3. Comparison of website users over the past two years for the month of November.

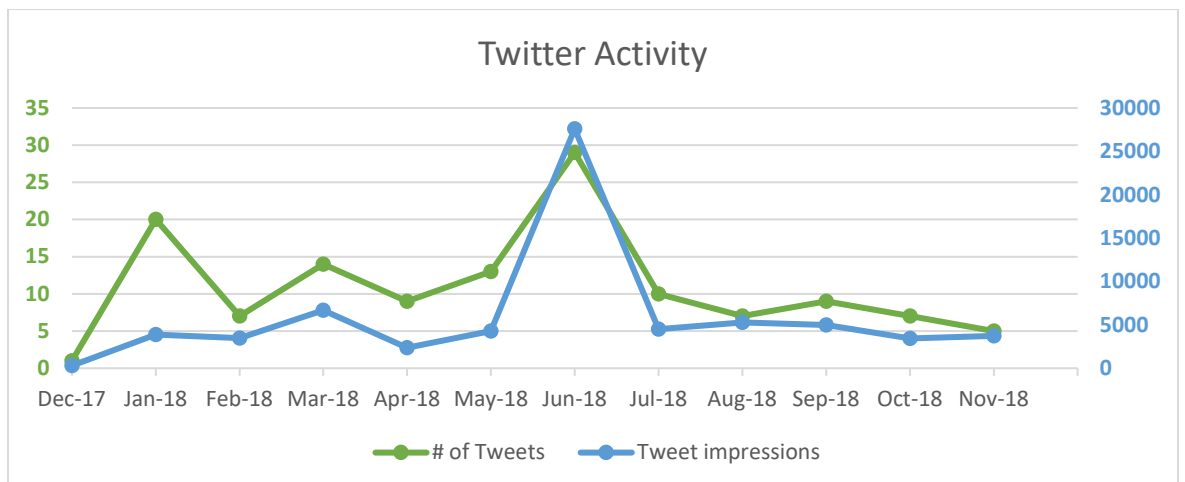
C. Facebook



Total Number of Followers: 173 (up from 169 in October)

November's Most Popular Post: It's still warm in the Bay Area! Make sure you're still checking for standing water and wearing insect repellent when outdoors.

D. Twitter

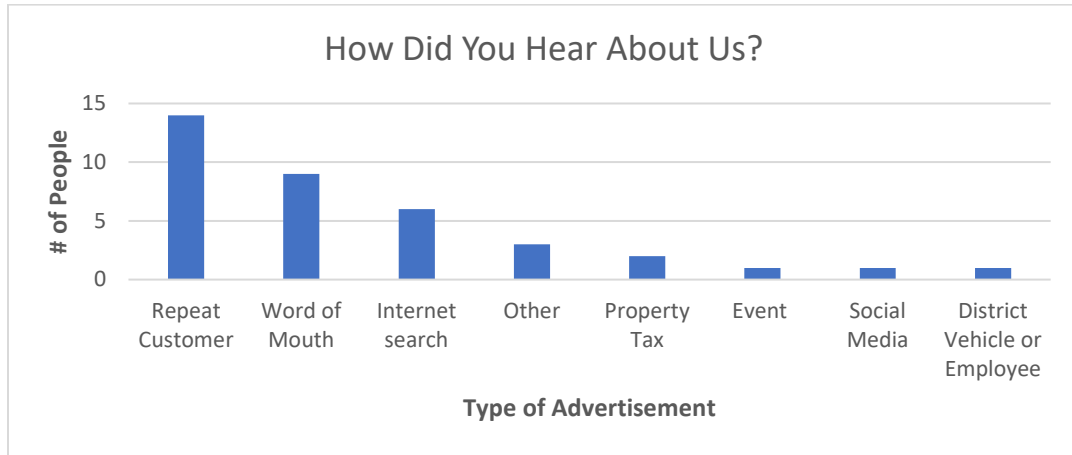


Number of Profile Visits in October: 75

Total Number of Followers (New This Month): 615 (down from 618 in October)

Top November Tweet: With rain finally back in the Bay Area that means more chances for mosquitoes to breed in standing water. Make sure you're checking your yards and dumping or draining any water you see.

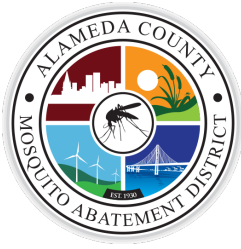
E. Service Request Referral Summary



Note: Internet Ad, Billboard Ad, Movie Theater Ads, Phone Book, and News Story are also options for this question, but were not included on this chart, because they were not selected in the month of November. Out of the three people that chose “Other” one person saw our East Bay Express ad and another person heard about us from Vector Control.

4. **LEGISLATIVE UPDATE:**

Nothing to report



23187 Connecticut Street
Hayward, CA 94545

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P. Robert Beatty

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Livermore

Jan O. Washburn

Oakland

Robert Dickinson

Piedmont

Kathy Narum

Pleasanton

Ed Hernandez

San Leandro

Subru Bhat

Union City

Ryan Clausnitzer

General Manager

Background:

ACMAD is pleased to recognize and thank the following Trustees and Employees on their anniversaries in the months of November & December.

| Trustee | City | Years of Service | Anniversary Date |
|---------------|------------------|------------------|--------------------------|
| Betsy Cooley | Emeryville | 2 | December 6 th |
| Employee | Title | Years of Service | Anniversary Date |
| Neil Campbell | Vector Biologist | 15 | November 17th |