



Orange County Mosquito and Vector Control District

Serving Orange County Since 1947

PURSUANT TO GOVERNOR GAVIN NEWSOM'S EXECUTIVE
ORDER N-29-20 THIS MEETING WILL BE HELD AS A
TELECONFERENCE MEETING

BOARD OF TRUSTEES MEETING
THURSDAY FEBRUARY 18, 2021
3:00 P.M.

Observers may view the meeting on Zoom at:
<https://us02web.zoom.us/j/88484912379>

Or Telephone:

Dial: 888 475 4499 (Toll Free), 877 853 5257 (Toll Free) or 213 338 8477
Webinar ID: 884 8491 2379

Comments may be submitted via email to agenda-comments@ocvector.org up
to one hour prior to beginning of the meeting.

If you want to make a comment during the meeting, please hit *9 to raise your
hand and be recognized by the moderator.



Orange County Mosquito and Vector Control District

Serving Orange County Since 1947

**NOTICE AND AGENDA
OF THE REGULAR MEETING OF THE BOARD OF TRUSTEES
THURSDAY FEBRUARY 18, 2021
888th REGULAR MEETING 3:00 P.M.
13001 GARDEN GROVE BLVD.
GARDEN GROVE, CA 92843
WEBSITE ADDRESS: www.ocvector.org
REGULAR MEETING 3:00 P.M.**

A. PLEDGE OF ALLEGIANCE, ROLL CALL, AND LATE COMMUNICATIONS

1. Call business meeting to order 3:00 p.m.
2. Pledge of Allegiance
3. Roll Call - (If absences occur, consider whether to deem those absences excused based on facts presented for the absence — such determination shall be the permission required by law.)

PRESIDENT:	Mike Posey	Huntington Beach
VICE-PRESIDENT:	James Gomez	La Habra
SECRETARY:	Peggy Huang	Yorba Linda

Aliso Viejo	Richard Hurt	Lake Forest	Vladimir Anderson
Anaheim	Lucille Kring	Los Alamitos	Tanya Doby
Brea	Cecilia Hupp	Mission Viejo	Bob Ruesch
Buena Park	Susan Sonne	Newport Beach	Joy Brenner
Costa Mesa	William Turpit	Orange	Michael Alvarez
Cypress	Jon Peat	Placentia	Craig Green
Dana Point	Richard Viczorek	Rancho Santa Margarita	April Josephson
Fountain Valley	Cheryl Brothers	San Clemente	Jim Dahl
Fullerton	Nick Dunlap	San Juan Capistrano	John Taylor
Garden Grove	Stephanie Klopfenstein	Santa Ana	Cecilia Aguinaga
Huntington Beach	Mike Posey	Seal Beach	Sandra Massa-Lavitt
Irvine	Tammy Kim	Stanton	Gary Taylor
La Habra	James Gomez	Tustin	Rebecca Gomez
La Palma	Nitesh Patel	Villa Park	Crystal Miles
Laguna Beach	Susan Kempf	Westminster	Chi Charlie Nguyen
Laguna Hills	Erica Pezold	Yorba Linda	Peggy Huang
Laguna Niguel	Rischi Paul Sharma	County of Orange	Lala Ragen
Laguna Woods	Shari Horne		

4. Late/Other Communications

B. PUBLIC COMMENTS

(Individual Public Comments may be limited to a 3-minute or less time limit)

During Public Comments, the public may address the Board on any issue within the District's jurisdiction which is not on the agenda. The public may comment on any item on the Agenda at the time that item is before the Board for consideration. Any person wishing to speak must come up and speak from the lectern. There will be no dialog between the Board and the commenter. Any clarifying questions from the Board must go through the Board President.

C. PRESENTATIONS

1. Recognize Outgoing Trustees
2. Staff will give a presentation entitled "OCMVCD Year in Review 2020"
3. District Counsel Burns will give a presentation entitled "Trustee Roles and Responsibilities"

D. OCMVCD COMMITTEE REPORTS TO THE BOARD OF TRUSTEES

1. None

E. CONSENT CALENDAR

All matters listed under the CONSENT CALENDAR are considered by the District to be routine and will be enacted by one motion. Any member of the Board may pull an item from the Consent Calendar for additional DRAFT clarification or action.

1. Approve the DRAFT Minutes for the regular meeting of January 21, 2021
2. Approve the Warrant Register for December 2020 (Exhibit A)
3. Approve the Monthly Financial Report for December 2020 (Exhibit A)
4. Approve Board of Trustee Committee Assignments for 2021 (Exhibit A)
5. Approve Contract with Cintas Corporation to Provide Uniforms for District Staff (Exhibit A)

F. BUSINESS AND ACTION ITEMS

1. None

G. INFORMATIONAL ITEMS ONLY (NO ACTION NECESSARY)

1. Staff Presentation: Staff will give an update on vector activity in Orange County
2. Staff Presentation: Staff will give an update on outreach activity in Orange County
3. Receive Fiscal Year 2021-2022 Budget Preparation Schedule
4. Receive Statement of Economic Interests 700 Forms for Filing
5. Receive and File Laboratory Reports – Included in agenda packet

H. PRESIDENT'S REPORT AND TRUSTEE COMMENTS

I. DISTRICT MANAGER'S REPORT – Discussion and Possible Action

1. District projects put on hold because of COVID-19
2. MVCAC Staff presentations

J. DISTRICT LEGAL COUNSEL REPORT – Discussion and Possible Action

K. CORRESPONDENCE – Discussion and Possible Action

1. Trustee and Staff reports from Virtual MVCAC Annual Conference February 1-3, 2021

L. FUTURE AGENDA ITEMS

M. ADJOURNMENT

1. Adjourn to the next regular meeting on March 18, 2021 starting at 3:00 p.m. at the Orange County Mosquito and Vector Control District offices, 13001 Garden Grove Blvd., Garden Grove, CA 92843



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2021

AGENDA REPORT

AGENDA ITEM: C.1

Prepared By: Tawnia Pett, Executive Assistant/Clerk of the Board
Submitted By: Rick Howard, District Manager

Agenda Title:

Recognition of Outgoing Trustees

Recommended Action:

Recognize Outgoing Trustees

Executive Summary:

President Posey will virtually present a plaque to Trustees Genis, Khan, and Morris.

Fiscal Impact:

Amount Requested \$ N/A

Sufficient Budgeted Funds Available:

Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item: N/A

Exhibits:

MINUTES OF THE 887th MEETING

**BOARD OF TRUSTEES
Orange County Mosquito and Vector Control District**

TIME: 3:00 P.M. January 21, 2021

PLACE: 13001 Garden Grove Blvd., Garden Grove, CA 92843
MEETING TOOK PLACE BY TELECONFERENCE

PRESIDENT:	Mike Posey	Huntington Beach
VICE-PRESIDENT:	James Gomez	La Habra
SECRETARY:	Peggy Huang	Yorba Linda

TRUSTEES PRESENT:

Aliso Viejo	Richard Hurt	Laguna Woods	Shari Horne
Anaheim	Lucille Kring	Lake Forest	Vladimir Anderson
Brea	Cecilia Hupp	Los Alamitos	Tanya Doby
Buena Park	Susan Sonne	Mission Viejo	Bob Ruesch
Costa Mesa	Bill Turpit	Newport Beach	Joy Brenner
Cypress	Jon Peat	Orange	Michael Alvarez
Dana Point	Rick Viczorek	Placentia	Craig Green
Fountain Valley	Cheryl Brothers	Rancho Santa Margarita	April Josephson
Fullerton	Nick Dunlap	San Clemente	Jim Dahl
Garden Grove	Stephanie Klopfenstein	San Juan Capistrano	John Taylor
Huntington Beach	Mike Posey	Santa Ana	Cecilia Aguinaga
Irvine	Tammy Kim	Seal Beach	Sandra Massa- Lavitt
La Habra	James Gomez	Stanton	Gary Taylor
La Palma	Nitesh Patel	Tustin	Rebecca Gomez
Laguna Beach	Michael Morris	Villa Park	Crystal Miles
Laguna Hills	Erica Pezold	Westminster	Chi Charlie Nguyen
Laguna Niguel	Rischi Paul Sharma	Yorba Linda	Peggy Huang
		County of Orange	Lala Ragen

TRUSTEES ABSENT: None

OTHERS PRESENT:

Rick Howard, District Manager
Lora Young, Director of Communications
Amber Semrow, Director of Scientific Technical Services
Steve Shepherd, Director of Operations
Tawnia Pett, Executive Assistant/Clerk of the Board
Alan Burns, District Counsel

A. Opening:

1. **Call the Business Meeting to Order:** President Alvarez called the meeting to order at 3:05 P.M.
2. **Pledge of Allegiance:** President Alvarez asked Trustee Brothers to lead the Pledge of Allegiance.
3. **Roll Call:** Roll call indicated 35 Trustees were present out of the current Board membership of 35.

President Alvarez had the new trustees introduce themselves: Trustee Hurt from Aliso Viejo, Trustee Sonne from Buena Park, Trustee Turpit from Costa Mesa, Trustee Dunlap from Fullerton, Trustee Kim from Irvine, Trustee Sharma from Laguna Niguel, Trustee Brenner from Newport Beach, Trustee R. Gomez from Tustin, and Trustee Nguyen from Westminster.

4. **Election of Officers of 2021 Executive Board:** Secretary J. Gomez nominated Vice President Posey for President. Vice President Posey nominated Secretary J. Gomez for Vice President. Secretary J. Gomez nominated Trustee Huang for Secretary. At that point, as there were no other nominations from the floor, the Board of Trustees voted to close nominations.

Ayes: Trustees Hurt, Kring, Hupp, Sonne, Turpit, Peat, Viczorek, Brothers, Dunlap, Klopfenstein, Posey, J. Gomez, Patel, Morris, Pezold, Sharma, Horne, Anderson, Doby, Ruesch, Brenner, Alvarez, Green, Josephson, Dahl, J. Taylor, Aguinaga, Massa-Lavitt, G. Taylor, R. Gomez, Miles, Nguyen, Huang, and Ragen.

Noes: None.

Abstained: None.

Absent: Trustee Kim.

Since there was only one nominee for each position, District Counsel Burns stated that the board could vote for the Executive Board as a slate of nominees.

Ayes: Trustees Hurt, Kring, Hupp, Sonne, Turpit, Peat, Viczorek, Brothers, Dunlap, Klopfenstein, Posey, J. Gomez, Patel, Morris, Pezold, Sharma, Horne, Anderson, Doby, Ruesch, Brenner, Alvarez, Green, Josephson, Dahl, J. Taylor, Aguinaga, Massa-Lavitt, G. Taylor, R. Gomez, Miles, Nguyen, Huang, and Ragen.

Noes: None.

Abstained: None.

Absent: Trustee Kim.

The Board of Trustees elected Mike Posey as President, James Gomez as Vice President and Peggy Huang as Secretary.

5. **Late/Other Communications:**
Late Communications:
 1. Update to Agenda Item G.3

Other Communications: None

B. Public Comments: None**C. Presentations:**

1. Recognized Outgoing President: President Posey virtually presented Outgoing President Alvarez with a plaque.
2. Recognized Outgoing Trustees: President Posey virtually presented Trustees Davis, Cooper, and Contreras with a plaque recognizing their years of service.
3. Staff from the California Special Districts Association gave a presentation entitled "CSDA Update"

D. OCMVCD Committee Reports to the Board of Trustees:

1. None

E. Consent Calendar: Items for Approval by General Consent

On motion from Trustee Kring, seconded by Trustee Aguinaga, and passed by majority vote, the Board of Trustees approved Consent Calendar Items E.2 through E.3. Agenda Item E.1 was passed by majority vote due to absences at the previous Board Meeting (Abstained: Trustee Green).

Ayes: Trustees Hurt, Kring, Hupp, Sonne, Turpit, Peat, Viczorek, Brothers, Dunlap, Klopfenstein, Posey, J. Gomez, Patel, Morris, Pezold, Sharma, Horne, Anderson, Doby, Ruesch, Brenner, Alvarez, Green, Josephson, Dahl, J. Taylor, Aguinaga, Massa-Lavitt, G. Taylor, Miles, Huang, and Ragen.

Noes: None.

Abstained: Trustees R. Gomez and Nguyen.

Absent: Trustee Kim.

1. **Approval of Minutes:** Approved, without reading, the Minutes of the 886th Meeting of the Board of Trustees held December 17, 2020.
2. **Approved Warrant Register for November 2020: (Exhibit A)** Received and filed.
3. **Approved Monthly Financial Report for November 2020: (Exhibit A)** Received and filed.
4. **Adopted Resolution No. 506 Authorizing the Deployment for Vector Personnel and Resources for Natural Disaster Relief Works: (Exhibit A)**

F. Business and Action Items:

1. **Adopted Resolution No. 507 Amending the District's District Owned Vehicle and Equipment Replacement Policy: (Exhibit A, B, C)** On motion from Trustee Brothers, seconded by Vice President J. Gomez, and approved by majority vote, the Board of Trustees adopted Resolution No. 507 amending the District's District owned vehicle and equipment replacement policy.

Ayes: Trustees Hurt, Kring, Hupp, Sonne, Turpit, Peat, Viczorek, Brothers, Dunlap, Klopfenstein, Posey, Kim, J. Gomez, Patel, Morris, Pezold, Sharma, Horne, Anderson, Doby, Ruesch, Alvarez, Green, Josephson, Dahl, J. Taylor, Aguinaga, Massa-Lavitt, G. Taylor, R. Gomez, Miles, Nguyen, Huang, and Ragen.

Noes: None.

Abstained: Trustee Brenner.

Absent: None.

G. Informational Items Only (NO ACTION NECESSARY):

1. **Staff Presentation:** Director of Scientific Services Semrow gave an update of vector activity in Orange County.
2. **Staff Presentation:** Director of Communications Young gave an update on outreach activity in Orange County.
3. **Trustee Terms of Office to Expire on January 4, 2021 at 11:59 A.M.:** Received and filed.
4. **Board of Trustee Committee Assignments for 2021: (Exhibit A, B)** Received and filed.
5. **2020 Trustee Attendance Report: (Exhibit A)** Receive and filed.
6. **Laboratory Reports- included in agenda packet:** Received and filed.

H. President's Report and Trustee Comments:

1. None

I. District Manager's Report: District Manager Howard reported:

1. The District's Annual Employee Appreciation breakfast was January 12, and announced the full-time and seasonal employee of the year
2. The Legislative Annual Open House will be February 11, and will be a virtual open house this year
3. Gave a COVID-19 District update
4. There will be a virtual Open House before the February Board Meeting

J. District Legal Counsel Report: District Counsel Burns reported:

1. An updated list of laws will be emailed to all of the trustees.

K. Correspondence:

1. None

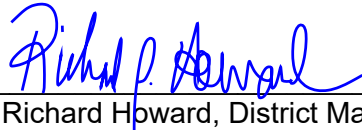
L. Future Agenda Items:

1. None

M. Adjournment:

1. President Posey adjourned the meeting at 4:15 p.m. to the next regularly scheduled meeting on Thursday, February 18, 2021.

I certify that the above minutes substantially reflect the actions taken by the Board of Trustees at its meeting held January 21, 2021.



Richard Howard, District Manager

Approved as written and/or corrected by the Board of Trustees at its _____

_____ meeting held _____

ATTEST: _____
Peggy Huang, Secretary



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2021

AGENDA REPORT

AGENDA ITEM E.2

Prepared By: Tan Nguyen, Finance Manager
Submitted By: Rick Howard, District Manager

Agenda Title:

Approve Warrant Register for December 2020

Recommended Action:

Receive and file.

Executive Summary:

Receive and file payment of December warrant register dated February 18, 2021 in the amount of \$806,395.79 as presented by in-house check runs dated December 1, 2, 3, 7, 10, 15, 17, 22, 23, 30, and 31, 2020.

Fiscal Impact:

Amount Requested \$ N/A

Sufficient Budgeted Funds Available:

Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item:

Exhibits:

Exhibit A: December 2020 Warrant Report

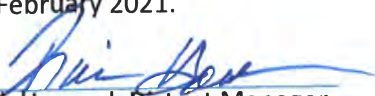
ORANGE COUNTY MOSQUITO & VECTOR CONTROL DISTRICT

REGISTER OF DEMANDS FEBRUARY 18, 2021

ACCOUNTS PAYABLE REGISTER

ORANGE COUNTY MOSQUITO & VECTOR CONTROL DISTRICT		
REGISTER OF DEMANDS		
2/18/2021		
ACCOUNTS PAYABLE REGISTER		
A/P Check Run	12/1/2020	3,000.00
A/P Check Run	12/2/2020	13,606.18
A/P Check Run	12/3/2020	21,728.78
A/P Check Run	12/10/2020	57,175.53
A/P Check Run	12/17/2020	127,622.49
A/P Check Run	12/22/2020	9,832.29
A/P Check Run	12/30/2020	89,563.69
A/P Check Run	12/31/2020	87,352.84
P/R CALPERS1	12/2/2020	70,934.29
P/R EEASSOC	12/2/2020	862.50
P/R ICMA	12/2/2020	20,230.48
P/R NATION	12/2/2020	4,960.00
P/R USB	12/2/2020	128.37
P/R EEASSOC	12/15/2020	862.50
P/R ICMA	12/15/2020	20,230.48
P/R NATION	12/15/2020	4,560.00
P/R USB	12/15/2020	187.83
P/R CALPERS1	12/7/2020	42,495.88
P/R EDD	12/7/2020	10,215.67
P/R IRS	12/7/2020	37,028.95
P/R STATE	12/7/2020	303.45
P/R TASC	12/7/2020	1,886.71
P/R CALPERS1	12/22/2020	40,099.78
P/R EDD	12/22/2020	12,036.16
P/R IRS	12/22/2020	40,528.23
P/R STATE	12/22/2020	303.45
P/R TASC	12/22/2020	1,886.71
P/R CALPERS1	12/23/2020	40,335.18
P/R EDD	12/23/2020	9,642.19
P/R IRS	12/23/2020	34,624.61
P/R STATE	12/23/2020	303.45
P/R TASC	12/23/2020	1,867.12
TOTAL	\$	806,395.79

I hereby certify that the claims or demands covered by the foregoing listed warrants have been audited as to the accuracy and availability of funds for payment thereof. Subscribed and sworn on this 18TH day of February 2021.


Rick Howard, District Manager


Tan Nguyen, Finance Manager

Accounts Payable

Checks by Date - Summary by Check Date

User: chumphrey
 Printed: 1/29/2021 6:44 AM



Check No	Vendor No	Vendor Name	Check Date	Check Amount
ACH	AGUINAGA	X. Cecilia Aguinaga	12/01/2020	100.00
ACH	ALVAREZ	Michael Alvarez	12/01/2020	100.00
ACH	BROTHERS	Cheryl Brothers	12/01/2020	100.00
ACH	CHUN	ROSS CHUN	12/01/2020	100.00
ACH	CONTRERA	Sergio Contreras	12/01/2020	100.00
ACH	DAHL	Jim Dahl	12/01/2020	100.00
ACH	DAVIS	Michael Davis	12/01/2020	100.00
ACH	DOBYT	Tanya Doby	12/01/2020	100.00
ACH	GENIS	Sandra L. Genis	12/01/2020	100.00
ACH	GREEN C	Craig S. Green	12/01/2020	100.00
ACH	HORNE	Shari Lucas Horne	12/01/2020	100.00
ACH	HUANG	Peggy Huang	12/01/2020	100.00
ACH	HUPP	Cecilia T. Hupp	12/01/2020	100.00
ACH	JOSEPH	April Josephson	12/01/2020	100.00
ACH	KHAN	FARRAH KHAN	12/01/2020	100.00
ACH	KLOPFEN	Stephanie L. Klopfenstein	12/01/2020	100.00
ACH	KRING	Lucille Kring	12/01/2020	100.00
ACH	MILESC	Crystal Miles	12/01/2020	100.00
ACH	MORRIS	MICHAEL MORRIS	12/01/2020	100.00
ACH	PATELN	Nitesh Patel	12/01/2020	100.00
ACH	PEATJ	Jon Peat	12/01/2020	100.00
ACH	RUESCH	Robert J. Ruesch	12/01/2020	100.00
ACH	ZTAYLORG	Gary Taylor	12/01/2020	100.00
25388	ANDERSON	Vladimir Anderson	12/01/2020	100.00
25389	FITZGER	Jennifer Fitzgerald	12/01/2020	100.00
25390	GOMEZ	James Gomez	12/01/2020	100.00
25391	JENNINGS	John Mark Jennings	12/01/2020	100.00
25392	POSEY	Mike Posey	12/01/2020	100.00
25393	TAYLOR	John Taylor	12/01/2020	100.00
25394	VICZOREK	Richard Viczorek	12/01/2020	100.00
Total for 12/1/2020:				3,000.00
ACH	CALPERS	Calif. Public Employees' Retirement	12/02/2020	70,934.29
ACH	EEASSOC	OCVCD Employee Association	12/02/2020	862.50
ACH	ICMA	ICMA	12/02/2020	20,230.48
ACH	NATION	Nationwide Retirement Solutions	12/02/2020	4,960.00
ACH	USB	PARS/U.S. Bank N.A. Minnesota	12/02/2020	128.37
25395	COLONIAL	Colonial Life & Accident Insurance Co	12/02/2020	894.38
25396	GUARD	Guardian - Appleton	12/02/2020	11,635.23
25397	VSP	Vision Service Plan	12/02/2020	1,076.57
Total for 12/2/2020:				110,721.82
ACH	IRON	Iron Mountain Records Mgmt, Inc.	12/03/2020	110.22
ACH	SPECTRUM	Time Warner Cable/Spectrum	12/03/2020	819.95
ACH	VERIZON	Verizon Wireless Services LLC	12/03/2020	5,761.68

Check No	Vendor No	Vendor Name	Check Date	Check Amount
ACH	VZCONN	VERIZON CONNECT NWF, INC	12/03/2020	1,570.43
25398	ARCPOINT	Sarita Sadhwani	12/03/2020	3,425.00
25399	ASABE	American Society of Agriculture & Biologic	12/03/2020	15.00
25400	CITLALLI	CITALLI SOTELO	12/03/2020	240.00
25401	DRAKE	John Drake	12/03/2020	210.00
25402	GENESEE	Genesee Scientific Corporation	12/03/2020	41.41
25403	HRPS	CU Solutions Group, Inc.	12/03/2020	4,329.00
25404	SABA L	Lesly Saba	12/03/2020	147.82
25405	SCE	Southern Calif. Edison	12/03/2020	4,903.73
25406	SMART	Smart & Final Stores Corp	12/03/2020	154.54
Total for 12/3/2020:				21,728.78
ACH	CalPERS1	CalPERS	12/07/2020	42,495.88
ACH	EDD	Employment Development Dept.	12/07/2020	10,215.67
ACH	IRS	Internal Revenue Service	12/07/2020	37,028.95
ACH	STATE	STATE DISBURSEMENT UNIT	12/07/2020	303.45
ACH	TASC	Total Administrative Services Corp.	12/07/2020	1,886.71
Total for 12/7/2020:				91,930.66
ACH	GG DISP	Republic Waste Svcs of So. Calif., LLC	12/10/2020	1,795.73
ACH	LIFE	Life Technologies	12/10/2020	165.03
ACH	SPARK	Sparkletts	12/10/2020	201.02
25407	ALLIANT	Alliant Insurance Services, Inc.	12/10/2020	21,863.19
25408	ATT2	AT&T	12/10/2020	324.04
25409	DOWNTOW	Downtown Ford Sales	12/10/2020	29,802.99
25410	GFS	Governmental Financial Services	12/10/2020	780.00
25411	HARPER	Harper & Burns, LLP	12/10/2020	1,971.20
25412	LIVESCAN	A Livescan Center OC Inc.	12/10/2020	19.00
25413	ORVAC	ORVAC ELECTRONICS	12/10/2020	103.33
25414	PLUMMER	John Clark Plummer	12/10/2020	150.00
Total for 12/10/2020:				57,175.53
ACH	EEASSOC	OCVCD Employee Association	12/15/2020	862.50
ACH	ICMA	ICMA	12/15/2020	20,230.48
ACH	NATION	Nationwide Retirement Solutions	12/15/2020	4,560.00
ACH	USB	PARS/U.S. Bank N.A. Minnesota	12/15/2020	187.83
Total for 12/15/2020:				25,840.81
ACH	ARNOLD	Richard Arnold	12/17/2020	121.22
ACH	LIFE	Life Technologies	12/17/2020	1,983.60
ACH	SPECTRUM	Time Warner Cable/Spectrum	12/17/2020	1,494.00
ACH	ULINE	Uline Shipping Supply Specialists	12/17/2020	135.21
25415	AT T	AT&T MOBILITY	12/17/2020	31.88
25416	AT&T	AT&T	12/17/2020	68.12
25417	CINTAS	Cintas Corporation No. 2	12/17/2020	1,645.23
25418	DOJ	State of California	12/17/2020	98.00
25419	DOWNTOW	Downtown Ford Sales	12/17/2020	112,850.24
25420	FM	F M CREDIT CARD	12/17/2020	3,206.62
25421	GENESEE	Genesee Scientific Corporation	12/17/2020	481.53
25422	GG WATER	City of Garden Grove	12/17/2020	541.47
25423	HOME DEP	Acct 6035 3225 0389 2048 Home Depot C	12/17/2020	847.45
25424	KWEST	K'WEST Printing	12/17/2020	1,310.44

Check No	Vendor No	Vendor Name	Check Date	Check Amount
25425	LAMPIRE	Lampire Biological Laboratories, Inc.	12/17/2020	313.00
25426	MARTIN D	Daniel Martinez	12/17/2020	575.00
25427	MCFADDEN	McFadden-Dale Industrial Hardware, LLC	12/17/2020	224.33
25428	ORVAC	ORVAC ELECTRONICS	12/17/2020	21.33
25429	PLAYERS	Michael J. Mackenzie	12/17/2020	132.19
25430	PROACTIV	Proactive Work Health Medical Center, Inc	12/17/2020	165.00
25431	QDOXS	Q Document Solutions, Inc,	12/17/2020	113.10
25432	SCG	Southern Calif. Gas Co.	12/17/2020	214.53
25433	TCP	TimeClock Plus	12/17/2020	1,049.00
Total for 12/17/2020:				127,622.49
ACH	CalPERS1	CalPERS	12/22/2020	40,099.78
ACH	EDD	Employment Development Dept.	12/22/2020	12,036.16
ACH	IRS	Internal Revenue Service	12/22/2020	40,528.23
ACH	STATE	STATE DISBURSEMENT UNIT	12/22/2020	303.45
ACH	TASC	Total Administrative Services Corp.	12/22/2020	1,886.71
ACH	AGUINAGA	X. Cecilia Aguinaga	12/22/2020	100.00
ACH	ALVAREZ	Michael Alvarez	12/22/2020	100.00
ACH	BROTHERS	Cheryl Brothers	12/22/2020	100.00
ACH	CHUN	ROSS CHUN	12/22/2020	100.00
ACH	CONTRERA	Sergio Contreras	12/22/2020	100.00
ACH	DAHL	Jim Dahl	12/22/2020	100.00
ACH	DAVIS	Michael Davis	12/22/2020	100.00
ACH	DOBYT	Tanya Doby	12/22/2020	100.00
ACH	GENIS	Sandra L. Genis	12/22/2020	100.00
ACH	GREEN C	Craig S. Green	12/22/2020	100.00
ACH	Herdman	Jeffrey Herdman	12/22/2020	100.00
ACH	HORNE	Shari Lucas Horne	12/22/2020	100.00
ACH	HUANG	Peggy Huang	12/22/2020	100.00
ACH	HUPP	Cecilia T. Hupp	12/22/2020	100.00
ACH	JOSEPH	April Josephson	12/22/2020	100.00
ACH	KHAN	FARRAH KHAN	12/22/2020	100.00
ACH	KLOPFEN	Stephanie L. Klopfenstein	12/22/2020	100.00
ACH	KRING	Lucille Kring	12/22/2020	100.00
ACH	MASSA-LA	Sandra Massa-Lavitt	12/22/2020	100.00
ACH	MILESC	Crystal Miles	12/22/2020	100.00
ACH	MORRIS	MICHAEL MORRIS	12/22/2020	100.00
ACH	PATELN	Nitesh Patel	12/22/2020	100.00
ACH	PEATJ	Jon Peat	12/22/2020	100.00
ACH	PEZOLDE	Erica Pezold	12/22/2020	100.00
ACH	RUESCH	Robert J. Ruesch	12/22/2020	100.00
ACH	ZTAYLORG	Gary Taylor	12/22/2020	100.00
ACH	ABBE	ROGER ABBE	12/22/2020	48.36
ACH	ARIASA	Adina Arias	12/22/2020	234.05
ACH	BENNETT	Stephen Bennett	12/22/2020	234.05
ACH	BOBBITT	Catherine Bobbitt	12/22/2020	234.05
ACH	CAMPBELL	JAMES CAMPBELL	12/22/2020	60.32
ACH	DAIKER	John Daiker	12/22/2020	260.80
ACH	EDISON	SUZANNE R. EDISON	12/22/2020	289.20
ACH	ELLIOTT	MARGARET ELLIOTT	12/22/2020	48.36
ACH	EVER	GARY EVERINGHAM	12/22/2020	104.90
ACH	FOGARTY	Carrie Fogarty	12/22/2020	234.05
ACH	Goedhart	Gerard Goedhart	12/22/2020	234.05
ACH	HEARST	Michael Hearst	12/22/2020	434.05
ACH	Huff	Robert Huff	12/22/2020	234.05
ACH	KELLER	JUSTINE KELLER	12/22/2020	60.32

Check No	Vendor No	Vendor Name	Check Date	Check Amount
ACH	KIMBALL	Deborah Kimball	12/22/2020	234.05
ACH	KOENIG	Steve Koenig	12/22/2020	234.05
ACH	LACHANCE	Glenn LaChance	12/22/2020	331.35
ACH	LOUGHNER	LINDA LOUGHNER	12/22/2020	214.60
ACH	MCCARTY	Danny McCarty	12/22/2020	234.05
ACH	MILLER J	Jon Miller	12/22/2020	234.05
ACH	MONTANI	Karen Montani	12/22/2020	72.72
ACH	PARSONS	John Parsons	12/22/2020	234.05
ACH	POSPISIL	Terry Pospisil	12/22/2020	234.05
ACH	REES	JETTE REES	12/22/2020	112.00
ACH	Rehders	Renee Rehders	12/22/2020	234.05
ACH	REINIG	Allyson Reinig	12/22/2020	234.05
ACH	Reisin	Caroline Reisinger	12/22/2020	234.05
ACH	Reynolds	Thomas Reynolds	12/22/2020	48.36
ACH	RINCON	Claudio Rincon	12/22/2020	234.05
ACH	SHAW	LAWRENCE SHAW	12/22/2020	234.05
ACH	SIPE	Russell Sipe	12/22/2020	234.05
ACH	Velten	Robert K. Velten	12/22/2020	234.05
25435	ANDERSON	Vladimir Anderson	12/22/2020	100.00
25436	FITZGER	Jennifer Fitzgerald	12/22/2020	100.00
25437	GOMEZ	James Gomez	12/22/2020	100.00
25438	JENNINGS	John Mark Jennings	12/22/2020	100.00
25439	POSEY	Mike Posey	12/22/2020	100.00
25440	TAYLOR	John Taylor	12/22/2020	100.00
25441	VICZOREK	Richard Viczorek	12/22/2020	100.00
Total for 12/22/2020:				104,686.62
ACH	CalPERS1	CalPERS	12/23/2020	40,335.18
ACH	EDD	Employment Development Dept.	12/23/2020	9,642.19
ACH	IRS	Internal Revenue Service	12/23/2020	34,624.61
ACH	STATE	STATE DISBURSEMENT UNIT	12/23/2020	303.45
ACH	TASC	Total Administrative Services Corp.	12/23/2020	1,867.12
Total for 12/23/2020:				86,772.55
ACH	CalPERS	Calif. Public Employees' Retirement	12/30/2020	74,268.29
25442	COLONIAL	Colonial Life & Accident Insurance Co	12/30/2020	894.38
25443	Guard	Guardian - Appleton	12/30/2020	13,296.61
25444	VSP	Vision Service Plan	12/30/2020	1,104.41
Total for 12/30/2020:				89,563.69
ACH	AIRGAS	AIRGAS USA, LLC	12/31/2020	130.39
ACH	FEDEX	Federal Express Corp.	12/31/2020	1,753.49
ACH	SPECTRUM	Time Warner Cable/Spectrum	12/31/2020	826.01
ACH	TARGET	Target Specialty Products	12/31/2020	10,125.39
ACH	ULINE	Uline Shipping Supply Specialists	12/31/2020	278.00
ACH	VZCONNEX	VERIZON CONNECT NWF, INC	12/31/2020	1,570.43
ACH	ARCO	ARCO Business Solutions	12/31/2020	11,514.95
ACH	OC TOLL	OC Toll Roads	12/31/2020	856.90
ACH	TASC	Total Administrative Services Corp.	12/31/2020	912.42
25445	ALARM	Thomas E. Kindschi	12/31/2020	445.00
25446	AMAZON	AMAZON/SYNCB	12/31/2020	1,611.79
25447	ARCPOINT	Sarita Sadhwani	12/31/2020	3,000.00
25448	AT T FAX	AT&T	12/31/2020	316.64

Check No	Vendor No	Vendor Name	Check Date	Check Amount
25449	BECKER	Jeff Becker	12/31/2020	200.00
25450	BEL-AIR	Bel-Air Shells	12/31/2020	5,987.82
25451	BIO QUIP	Bio Quip Products	12/31/2020	81.67
25452	CAMACHO	Lucia Camacho	12/31/2020	243.84
25453	CINTAS	Cintas Corporation No. 2	12/31/2020	2,708.98
25454	CROWN	Crown Maintenance	12/31/2020	215.00
25455	FISHER	Fisher Scientific	12/31/2020	52.42
25456	GENESEE	Genesee Scientific Corporation	12/31/2020	496.66
25457	GG WATER	City of Garden Grove	12/31/2020	464.82
25458	GRAINGER	Grainger	12/31/2020	20.61
25459	HALO	HALO BRANDED SOLUTIONS, INC.	12/31/2020	1,373.33
25460	HILLS	Hill's Bros. Lock & Safe, Inc.	12/31/2020	8.16
25461	HRPS	CU Solutions Group, Inc.	12/31/2020	50.00
25462	INSIGHT	Insight Public Sector, Inc.	12/31/2020	1,379.45
25463	JUST	JUST TIRES	12/31/2020	3,982.06
25464	KWEST	K'WEST Printing	12/31/2020	734.06
25465	LIEBERT	Liebert Cassidy Whitmore	12/31/2020	3,425.00
25466	MCFADDEN	McFadden-Dale Industrial Hardware, LLC	12/31/2020	96.27
25467	OFFICE	OFFICE DEPOT, INC.	12/31/2020	69.56
25468	OREILLY	O'Reilly Auto Enterprises, LLC	12/31/2020	4,519.60
25469	PARS	Public Agency Retirement Svcs	12/31/2020	300.00
25471	PROFORMA	Proforma Surf City Promo	12/31/2020	978.75
25472	PROLOCK	Professional Lock System, Inc.	12/31/2020	175.00
25473	REDWING	Red Wing Business Advantage Account	12/31/2020	157.31
25474	RONCO	Ronco Plastics	12/31/2020	732.57
25475	S & R	S & R A/C And Heating, Inc.	12/31/2020	3,457.75
25476	SCE	Southern Calif. Edison	12/31/2020	4,371.85
25477	STAPLES	Staples Business Advantage	12/31/2020	1,981.25
25478	SUN	Sun Badge Company	12/31/2020	117.30
25479	TOYOTAGG	Toyota Place	12/31/2020	641.96
25480	TRUCPAR	Truck & Auto Supply, Inc.	12/31/2020	483.48
25481	UNIVAR	ES OPCO USA LLC	12/31/2020	7,651.65
25482	VORTEX	Vortex Industries, Inc.	12/31/2020	822.16
25483	VWR	VWR International LLC	12/31/2020	239.47
25484	WOODRUFF	Woodruff Spradlin & Smart	12/31/2020	1,775.00
25485	XEROX	Xerox Financial Services	12/31/2020	616.62
25486	MVCAC	M.V.C.A.C.	12/31/2020	3,400.00

Total for 12/31/2020: 87,352.84

Report Total (223 checks): 806,395.79



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2021

AGENDA REPORT

AGENDA ITEM E.3

Prepared By: Tan Nguyen, Finance Manager
Submitted By: Rick Howard, District Manager

Agenda Title:

Approve Monthly Financial Report for December 2020

Recommended Action:

Receive and file

Executive Summary:

Accept for inclusion, the Orange County Mosquito and Vector Control District Monthly Financial Report for December 2020

Fiscal Impact:

Amount Requested \$ N/A

Sufficient Budgeted Funds Available:

Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item:

Exhibits:


Exhibit A: Monthly Financial Report for December 2020

Orange County Mosquito and Vector Control District
Monthly Financial Report
Month Ending December 31, 2020

Fund No.	Fund	Cash Balance 11/30/2020	Revenue	Expenditures	Transfers	Accrual Adjustment	Cash Balance 12/31/2020	Cash Balance 12/31/2019
10	Operating	\$ 4,781,395	\$ 5,484,982	\$ 1,037,302	\$ -	\$ 58,621	\$ 9,287,696	\$ 7,657,279
20	Vehicle Replacement	556,484	-	-	-	-	556,484	530,848
30	Liability Reserve	361,441	-	-	-	-	361,441	351,976
40	Equipment Replacement	838,528	-	-	-	-	838,528	823,496
50	Emergency Vector Control	1,678,883	-	-	-	-	1,678,883	1,648,788
60	Facility Improvement	8,231,810	22,522	1,759	-	1,485	8,254,058	7,335,850
70	Habitat Remediation	100,002	-	-	-	-	100,002	96,902
90	Retiree Medical Insurance	106,171	2,333	25,818	-	9,833	92,519	(353,932)
95	Retirement Contingency	253,768	-	-	-	-	253,768	249,219
99	Payroll Clearing	193,728	-	-	-	(30,373)	163,355	(1,529)
		\$ 17,102,210	\$ 5,509,837	\$ 1,064,879	\$ -	\$ 39,566	\$ 21,586,734	\$ 18,338,897

Cash & Investment Balances:		Monthly Yield
California LAIF	\$ 6,356,854	0.540%
O.C. Treasurer	1,726,289	0.708%
Stifel Brokerage account		
Money market (par)	33,546	0.01%
Fixed income - Muni (par)	1,860,000	2.52%
Fixed income - other (par)	3,190,000	2.32%
Unamortized premium/(discount) on investments	75,709	n/a
F&M Checking	7,717,418	n/a
Payroll Checking	470,610	n/a
F&M HBP	146,308	0.04%
Petty Cash - Checking	10,000	n/a
Total Cash and Investments	\$ 21,586,734	

Section 115 Irrevocable Trust Balances:		3-month return
PARS Post-Employment Benefits Trust	\$ 3,969,008	8.00%
PARS Pension Trust	2,372,189	7.99%
Total PARS Trust Balances	\$ 6,341,197	


Richard Howard
District Manager


Tan Nguyen
Finance Manager

Monthly Cash Flow

Month	Revenue	Expenditures	Transfers	Accrual Adjustment	Monthly Cash Flow	Prior Year Comparison
July	\$ 40,367	\$ 1,511,848	\$ -	\$ 37,561	\$ (1,433,920)	\$ (935,740)
August	85,952	1,134,990	-	(7,739)	(1,056,777)	(1,501,829)
September	150,025	993,392	-	20,287	(823,080)	(864,577)
October	59,729	1,476,465	-	25,940	(1,390,796)	(1,419,021)
November	2,912,653	948,412	-	33,513	1,997,754	1,710,464
December	5,509,837	1,064,879	-	79,901	4,524,859	4,564,325
January					-	(267,536)
February					-	(785,792)
March					-	297,970
April					-	3,535,134
May					-	(368,295)
June					-	(944,530)
Total YTD	\$ 8,758,563	7,129,986	\$ -	\$ 189,463	\$ 1,818,040	\$ 3,020,573

Revenues: 50% of Fiscal Year

10-Operating Fund	Budget	Actual	Percentage
Property Taxes	\$ 6,329,449	\$ 3,560,667	56.3%
1996 Benefit Assessment	1,563,213	867,659	55.5%
2004 Benefit Assessment	6,682,713	3,673,182	55.0%
Interest and Concessions	65,000	38,750	59.6%
Miscellaneous	1,000	2,051	205.1%
Successor Agency Pass thru/Residual	282,145	353,916	125.4%
Rent for Cell Sites	28,200	14,810	52.5%
VCJPA Pooled Services	72,000	-	0.0%
CDPH - CA State Grant	-	-	0.0%
Charges for Services	50,000	51,227	102.5%
Total Operating Fund Revenues	15,073,720	8,562,262	56.8%

The major distributions of property tax and benefit assessments occur in four installments: December, January, April, and May

Monies come through the County and are unpredictable

No.	Other Funds	Budget	Actual	Percentage
20	Vehicle Replacement	17,000	1,278	7.5%
30	Liability Reserve	4,000	830	20.8%
40	Equipment Replacement	9,000	1,926	21.4%
50	Emergency Vector Control	15,000	3,856	25.7%
60	Facility Improvement	380,000	169,322	44.6%
70	Habitat Remediation	-	-	0.0%
90	Retiree Medical Insurance	38,760	18,506	47.7%
95	Retirement Contingency	4,000	583	14.6%
	Total Other Funds	446,760	196,301	43.9%
	Total Revenue	\$ 15,541,480	\$ 8,758,563	56.4%

Expenditures: 50% of Fiscal Year

No.	10-Operating Fund	Budget	Actual	Percentage
110	Trustees	\$ 78,050	\$ 19,294	24.7%
120	District Manager	431,050	195,663	45.4%
130	Legal Services	124,000	42,400	34.2%
140	Non-Departmental	310,500	202,780	65.3%
	Executive	943,600	460,137	48.8%
210	Administrative Services	848,270	386,971	45.6%
220	Insurance	706,500	762,292	107.9%
	Administrative Services	1,554,770	1,149,263	73.9%
310	Technical Services	1,794,375	851,512	47.5%
	Scientific Technical Services	1,794,375	851,512	47.5%
410	Field Operations	7,160,400	3,239,590	45.2%
430	Vehicle Maintenance	861,700	281,636	32.7%
440	Building Maintenance	256,510	248,249	96.8%
	Operations	8,278,610	3,769,475	45.5%
510	Public Information	791,475	312,926	39.5%
520	Information Technology	766,640	373,179	48.7%
530	Public Service	171,000	79,428	46.4%
	Public Information	1,729,115	765,533	44.3%
	Total Operating Fund Expenditures	14,300,470	6,995,920	48.9%

Annual insurance premiums were paid in July.

No.	Other Funds	Budget	Actual	Percentage
20	Vehicle Replacement	-	-	0.0%
30	Liability Reserve	-	-	0.0%
40	Equipment Replacement	-	-	0.0%
50	Emergency Vector Control	-	-	0.0%
60	Facility Improvement	44,000	19,280	43.8%
70	Habitat Remediation	-	-	0.0%
90	Retiree Medical Insurance	198,650	114,786	57.8%
95	Retirement Contingency	100,000	-	0.0%
	Total Other Funds	342,650	134,066	39.1%
	Total Expenditures	\$ 14,643,120	7,129,986	48.7%

STIFEL PRESTIGE® ACCOUNT STATEMENT

1 1 1 D181248 SSNR00901

**ORANGE COUNTY MOSQUITO &
VECTOR CONTROL DISTRICT
13001 GARDEN GROVE BLVD
GARDEN GROVE CA 92843-2102**



Your Financial Advisor (LU04):

SANDRA WHEELER
Telephone: (805) 783-2921

Office Serving Your Account:

999 MONTEREY ST. STE. 360
SAN LUIS OBISPO, CA 93401

PRIMARY INVESTMENT OBJECTIVE: Income
RISK TOLERANCE: Moderate

For a full definition of this objective and risk tolerance, including the use of margin, please see www.stifel.com, IMPORTANT DISCLOSURES, or contact your Financial Advisor. If you have any questions concerning your investment objective or risk tolerance, or wish to make a change, please contact your Financial Advisor or the Branch Manager for this office.

TRADING TAX LOT RELIEF METHOD: First In, First Out

INVESTOR UPDATE

This issue of Investment Strategist contains a wealth of useful information, including how to check your social security earnings for accuracy and using life insurance as an estate planning tool. Contact your Financial Advisor to learn more.

ACCOUNT PROTECTION

Stifel, Nicolaus & Company, Incorporated provides up to \$150 million of coverage for securities held in client accounts, of which \$1.15 million may be in cash deposits. Ask your Financial Advisor for more details.

Thank you for allowing Stifel to serve you. In order to protect your rights, including rights under the Securities Investor Protection Act (SIPA), please promptly report, in writing, any inaccuracies or discrepancies in this account or statement to the Compliance Department of Stifel at the address below. If you have any questions regarding your account or this statement, please contact your Financial Advisor or the Branch Manager for this office. For additional information regarding your Stifel account, please refer to the current Stifel Account Agreement and Disclosure Booklet, which is available at www.stifel.com/disclosures/account-agreement.

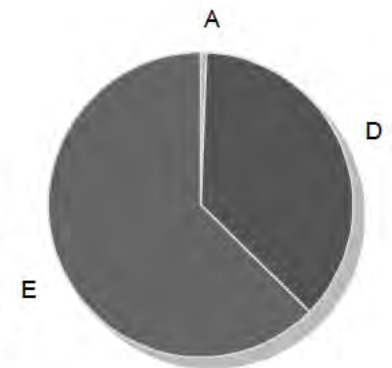
PORTFOLIO SUMMARY	December 31	November 30
Net Cash Equivalents **	33,545.79	92,981.07
Net Portfolio Assets held at Stifel	5,209,710.20	5,136,251.85
Net Portfolio Assets not held at Stifel		
Net Portfolio Value	\$5,243,255.99	\$5,229,232.92
YOUR CHANGE IN PORTFOLIO VALUE	December 31	November 30
Net Cash Flow (Inflows/Outflows) ²		
Securities Transferred In/Out		
Income and Distributions	9,832.37	14,965.37
Change in Securities Value	4,190.70	-6,741.55
Net Change in Portfolio Value	\$14,023.07	\$8,223.82

** See the Stifel Insured Bank Deposit Program Disclosure Statements for additional information.

² Does not include cost or proceeds for buy or sell transactions.

YOUR ASSET SUMMARY

	Value on December 31, 2020 (\$)	Percentage of your account
A Net Cash Equivalents**	33,545.79	0.64%
D Fixed Income-Muni	1,923,427.90	36.68%
E Fixed Income-Other	3,286,282.30	62.68%
Total Assets	\$5,243,255.99	100.00%





ASSET SUMMARY

	Value as of December 31, 2020			% of assets *	Gains/(-)Losses		
	At Stifel	Not at Stifel	Total		Unrealized	Realized	
					This Period	Year-to-date	
Cash							
Cash Sweep**	33,545.79		33,545.79	0.64%			
Margin Balance							
A. Net Cash Equivalents	\$33,545.79		\$33,545.79	0.64%			
B. Equities							
C. Preferreds							
D. Fixed Income-Muni	1,923,427.90		1,923,427.90	36.68%	9,339.42		-895.84
E. Fixed Income-Other	3,286,282.30		3,286,282.30	62.68%	77,125.45		8,159.36
F. Mutual Funds							
G. Unit Investment Trusts							
H. Insurance Products							
I. Alternative Investments							
J. Other Investments							
K. Stifel Smart Rate Program **							
Net Portfolio Assets	\$5,209,710.20	\$0.00	\$5,209,710.20	99.36%	\$86,464.87	\$0.00	\$7,263.52
Net Portfolio Value	\$5,243,255.99	\$0.00	\$5,243,255.99	100.00%	\$86,464.87	\$0.00	\$7,263.52

INCOME & DISTRIBUTION SUMMARY

	Security Type	Year-to-date	This period
Dividends	Tax-Exempt		
	Taxable		
Interest	Tax-Exempt	2,273.75	
	Taxable	130,375.45	9,832.37
Capital Gain Distributions			
Return of Principal			
Other			
Total Income & Distributions		\$132,649.20	\$9,832.37

INFORMATION SUMMARY

	Security Type	Year-to-date	This period
Accrued Interest Paid	Tax-Exempt	1,262.50	
	Taxable	12,438.94	2,061.00
Accrued Interest Received	Tax-Exempt		
	Taxable	2,108.10	
Gross Proceeds		2,606,598.50	200,000.00
Federal Withholding			
Foreign Taxes Paid			
Margin Interest Charged			

* Please note "% of assets" figures are shown gross of any amounts owed to Stifel and/or net short positions.

** Include balances which are FDIC insured bank deposits, not cash held in your Securities Account and not covered by SIPC.

ASSET DETAILS

This section shows the cash equivalents and/or securities in your account. Prices obtained from outside sources are considered reliable but are not guaranteed by Stifel. Actual prices may vary, and upon sale, you may receive more or less than your original purchase price. Contact your Financial Advisor for current price quotes. Gain/Loss is provided for informational purposes only. Cost basis may be adjusted for, but not limited to, amortization, accretion, principal paydowns, capital changes, listed option premiums, gifting rules, inheritance step-up, or wash sales. The Gain/Loss information should not be used for tax preparation without the assistance of your tax advisor. Lot detail quantity displayed is truncated to the one thousandth of a share.

NET CASH EQUIVALENTS

	<i>Current value</i>	<i>Cost Basis</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
STIFEL FDIC INSURED	33,545.79	33,545.79	3.35	0.01%
Total Net Cash Equivalents	\$33,545.79	\$33,545.79	\$3.35	0.01%

STIFEL INSURED BANK DEPOSIT PROGRAM

Funds deposited through the Stifel Insured Bank Deposit Program (the "Program") may be deposited at multiple banks. The Program's Disclosure Statement is available at www.stifel.com/disclosures/account-agreement. The deposits are not covered by the Securities Investor Protection Corporation ("SIPC"). Deposits are insured by the FDIC within applicable limits.

Balances in the Program or in any money market fund offered as an available fund for Cash Investment Services at Stifel, subject to applicable limits, can be liquidated upon request and the proceeds returned to your securities account or can be distributed directly to you with the proper withdrawal form on file.

PORTFOLIO ASSETS - HELD AT STIFEL

Fixed Income-Muni	<i>Symbol/ Bond Rating/ Type</i>	<i>Quantity</i>	<i>Current Price/ Current Value</i>	<i>Average Unit Cost/ Cost Basis</i>	<i>Accrued Income⁶</i>	<i>Unrealized Gain/(-)Loss¹⁰</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
OHIO ST WTR DEV AUTH POLLTN CTL REV WTR QUAL B2 BABS B/E TXBL CPN 3.742% DUE 12/01/21 DTD 08/24/10 FC 12/01/10 CUSIP: 67766WQH8 <i>Original Cost: 155,372.00</i>	S&P: AAA Moody: Aaa Cash	150,000	101.9800 152,970.00	101.8352 152,752.77	467.75	217.23	5,613.00	3.67%
NORCO CA CMNTY REDEV AGY SUCCESS AGY REV TAX ALLOC RFDG B B/E TXBL CPN 2.715% DUE 03/01/22 DTD 12/20/17 FC 03/01/18 CUSIP: 655505BJ3 <i>Original Cost: 153,354.50</i>	S&P: AA- Cash	150,000	102.4940 153,741.00	101.4010 152,101.50	1,357.50	1,639.50	4,072.50	2.65%



ASSET DETAILS (continued)

PORTFOLIO ASSETS - HELD AT STIFEL (continued)

Fixed Income-Muni	<i>Symbol/ Bond Rating/ Type</i>	<i>Quantity</i>	<i>Current Price/ Current Value</i>	<i>Average Unit Cost/ Cost Basis</i>	<i>Accrued Income⁶</i>	<i>Unrealized Gain/(-)Loss¹⁰</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
OCEANSIDE CA PENSION OBLIG RFDG REV B/E TXBL CPN 3.839% DUE 08/15/22 DTD 08/11/15 FC 02/15/16 CUSIP: 675371AY4 <i>Original Cost: 104,986.00</i>	S&P: AA+ Cash	100,000	105.4280 105,428.00	103.5406 103,540.57	1,450.29	1,887.43	3,839.00	3.64%
HILLSBOROUGH CNTY FL AVIATION AUTH CUST FAC REV TAMPA INTL B/E TXBL CPN 3.549% DUE 10/01/22 DTD 09/03/15 FC 04/01/16 CUSIP: 432275AE5 <i>Original Cost: 205,191.00</i>	S&P: BBB+ Moody: A3 Cash	200,000	103.4760 206,952.00	101.9363 203,872.60	1,774.50	3,079.40	7,098.00	3.43%
WATAUGA CNTY NC RFDG B/E TXBL CPN 2.330% DUE 06/01/23 DTD 10/02/19 FC 06/01/20 CUSIP: 94109SAT8 <i>Original Cost: 113,363.30</i>	S&P: AA Cash	110,000	102.4070 112,647.70	102.4326 112,675.88	213.58	-28.18	2,563.00	2.28%
CONNECTICUT ST SER A B/E TXBL CPN 1.998% DUE 07/01/24 DTD 06/11/20 FC 01/01/21 CUSIP: 20772KJW0 <i>Original Cost: 112,753.90</i>	S&P: A Moody: A1 Cash	110,000	104.8850 115,373.50	102.1773 112,394.98	1,221.00	2,978.52	2,197.80	1.90%
KANSAS ST DEV FIN AUTH REV ATHLETIC FACS K ST SER B 2 B/E TXBL CPN 4.083% DUE 07/01/24 DTD 03/01/12 FC 07/01/12 CUSIP: 485429MF8 <i>Original Cost: 94,177.35</i>	S&P: A- Moody: A1 Cash	85,000	111.9280 95,138.80	110.5749 93,988.70	1,735.28	1,150.10	3,470.55	3.65%
MIAMI DADE CNTY FL AVIATION REV RFDG SER B B/E TXBL CPN 2.504% DUE 10/01/24 DTD 08/25/16 FC 10/01/16 CUSIP: 59333PV39 <i>Original Cost: 208,207.00</i>	S&P: A- Cash	200,000	105.9880 211,976.00	103.8178 207,635.50	1,252.00	4,340.50	5,008.00	2.36%

ASSET DETAILS (continued)

PORTFOLIO ASSETS - HELD AT STIFEL (continued)

Fixed Income-Muni	Symbol/ Bond Rating/ Type	Quantity	Current Price/ Current Value	Average Unit Cost/ Cost Basis	Accrued Income ⁶	Unrealized Gain/(-)Loss ¹⁰	Estimated Annualized Income	Estimated Yield %
SAN DIEGO CA CONVNTN CTR EXPANSION FING AUTH LSE REV RFDG B/E TXBL CPN 1.677% DUE 04/15/25 DTD 07/08/20 FC 10/15/20 CUSIP: 79727LBS7 <i>Original Cost: 173,029.30</i>	S&P: AA- Cash	170,000	100.7920 171,346.40	101.7797 173,025.50	601.86	-1,679.10	2,850.90	1.66%
NEW YORK NY CITY HSG DEV CORP MLTIFAM HSG REV SER E B/E CPN 3.000% DUE 05/01/25 DTD 09/24/14 FC 11/01/14 CALL 05/01/23 @ 100.000 CUSIP: 64972CBF9 <i>Original Cost: 143,952.29</i>	S&P: AA+ Moody: Aa2 Cash	135,000	105.2500 142,087.50	105.6958 142,689.30	675.00	-601.80	4,050.00	2.85%
SUFFOLK CNTY NY RFDG SER C AGM B/E TXBL CPN 1.607% DUE 06/15/25 DTD 11/18/20 FC 12/15/20 CUSIP: 86476PE20 <i>Original Cost: 252,280.00</i>	S&P: AA Cash	250,000	100.9600 252,400.00	100.8892 252,223.10	178.56	176.90	4,017.50	1.59%
CLEVELAND OH INCM TAX REV RFDG SUB LEIN SER A 1 B/E TXBL CPN 1.985% DUE 10/01/25 DTD 02/26/20 FC 10/01/20 CUSIP: 186387VE3 <i>Original Cost: 104,395.00</i>	S&P: AA Moody: A1 Cash	100,000	102.5870 102,587.00	104.2450 104,245.01	496.25	-1,658.01	1,985.00	1.93%
STEPHENSON CNTY IL SCH DIST 145 FREEPORT RFDG AGM B/E TXBL CPN 1.750% DUE 10/01/25 DTD 11/24/20 FC 04/01/21 CUSIP: 858892MD1 <i>Original Cost: 103,005.00</i>	S&P: AA Cash	100,000	100.7800 100,780.00	102.9431 102,943.07	179.86	-2,163.07	1,750.00	1.74%
Total Fixed Income-Muni		1,860,000	\$1,923,427.90	\$1,914,088.48	\$11,603.43	\$9,339.42	\$48,515.25	2.52%

Municipal Bonds held may or may not be tax free. Please consult with your tax advisor.



ASSET DETAILS (continued)

PORTFOLIO ASSETS - HELD AT STIFEL (continued)

Fixed Income-Other	<i>Symbol/ Bond Rating/ Type</i>	<i>Quantity</i>	<i>Current Price/ Current Value</i>	<i>Average Unit Cost/ Cost Basis</i>	<i>Accrued Income⁶</i>	<i>Unrealized Gain/(-)Loss¹⁰</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
APPLE INC NOTE CPN 2.850% DUE 05/06/21 DTD 05/06/14 FC 11/06/14 CUSIP: 037833AR1 <i>Original Cost: 254,209.50</i>	S&P: AA+ Moody: Aa1 Cash	250,000	100.8130 252,032.50	100.3096 250,774.02	1,088.54	1,258.48	7,125.00	2.83%
U S TREASURY NOTE CPN 2.625% DUE 05/15/21 DTD 05/15/18 FC 11/15/18 CUSIP: 9128284P2 <i>Original Cost: 253,350.75</i>	Moody: Aaa Cash	250,000	100.9140 252,285.00	100.2534 250,633.42	852.04	1,651.58	6,562.50	2.60%
SALLIE MAE BANK SALT LAKE CITY UT CD FDIC #58177 CPN 2.450% DUE 05/17/21 DTD 05/15/19 FC 11/15/19 CUSIP: 7954502W4	Cash	100,000	100.9160" 100,916.00	100.0000 100,000.00	315.48	916.00	2,450.00	2.43%
FEDL NATL MTG ASSN NOTE CPN 2.750% DUE 06/22/21 DTD 06/25/18 FC 12/22/18 CUSIP: 3135G0U35 <i>Original Cost: 255,015.78</i>	S&P: AA+ Moody: Aaa Cash	250,000	101.2400 253,100.00	100.4720 251,179.95	171.88	1,920.05	6,875.00	2.72%
FEDL NATL MTG ASSN NOTE CPN 2.000% DUE 01/05/22 DTD 01/09/17 FC 07/05/17 CUSIP: 3135G0S38 <i>Original Cost: 152,238.52</i>	S&P: AA+ Moody: Aaa Cash	150,000	101.9030 152,854.50	100.6483 150,972.39	1,466.67	1,882.11	3,000.00	1.96%
PFIZER INC NOTE CPN 2.800% DUE 03/11/22 DTD 03/11/19 FC 09/11/19 CUSIP: 717081ER0 <i>Original Cost: 101,548.00</i>	S&P: A+ Moody: A2 Cash	100,000	103.0030 103,003.00	100.6728 100,672.79	871.11	2,330.21	2,800.00	2.72%
U S TREASURY NOTE CPN 2.250% DUE 04/15/22 DTD 04/15/19 FC 10/15/19 CUSIP: 9128286M7 <i>Original Cost: 253,725.75</i>	Moody: Aaa Cash	250,000	102.7270 256,817.50	100.7072 251,768.08	1,205.35	5,049.42	5,625.00	2.19%



ASSET DETAILS (continued)

PORTFOLIO ASSETS - HELD AT STIFEL (continued)

Fixed Income-Other	<i>Symbol/ Bond Rating/ Type</i>	<i>Quantity</i>	<i>Current Price/ Current Value</i>	<i>Average Unit Cost/ Cost Basis</i>	<i>Accrued Income⁶</i>	<i>Unrealized Gain/(-)Loss¹⁰</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
IBM CORP UNSECD NOTE CPN 2.850% DUE 05/13/22 DTD 05/15/19 FC 11/15/19 CUSIP: 459200JX0 <i>Original Cost: 151,274.50</i>	S&P: A Moody: A2 Cash	150,000	103.5520 155,328.00	100.3332 150,499.83	546.25	4,828.17	4,275.00	2.75%
SALLIE MAE BANK SALT LAKE CITY UT CD FDIC #58177 CPN 2.550% DUE 05/16/22 DTD 05/15/19 FC 10/15/19 CUSIP: 7954502X2	Cash	100,000	103.4090" 103,409.00	100.0000 100,000.00	328.36	3,409.00	2,550.00	2.47%
ALLY BANK SANDY UT CD FDIC #57803 CPN 1.850% DUE 08/29/22 DTD 08/29/19 FC 02/29/20 CUSIP: 02007GLJ0	Cash	200,000	102.9340" 205,868.00	100.0000 200,000.00	1,267.13	5,868.00	3,700.00	1.80%
UNITEDHEALTH GRP INC NOTE CPN 2.375% DUE 10/15/22 DTD 10/25/17 FC 04/15/18 CUSIP: 91324PDD1 <i>Original Cost: 153,461.00</i>	S&P: A+ Moody: A3 Cash	150,000	103.9260 155,889.00	101.5425 152,313.78	752.08	3,575.22	3,562.50	2.29%
JPMORGAN CHASE & CO SR NOTE CPN 3.200% DUE 01/25/23 DTD 01/25/13 FC 07/25/13 CUSIP: 46625HJH4 <i>Original Cost: 254,432.00</i>	S&P: A- Moody: A2 Cash	250,000	105.8610 264,652.50	101.0156 252,539.05	3,466.67	12,113.45	8,000.00	3.02%
MORGAN STANLEY BANK NA SALT LAKE CITY UT CD FDIC #32992 CPN 2.650% DUE 01/25/23 DTD 01/25/18 FC 07/25/18 CUSIP: 61747MH46 <i>Original Cost: 101,128.00</i>	Cash	100,000	105.2540" 105,254.00	100.6642 100,664.21	1,161.64	4,589.79	2,650.00	2.52%

ASSET DETAILS (continued)

PORTFOLIO ASSETS - HELD AT STIFEL (continued)

Fixed Income-Other	<i>Symbol/ Bond Rating/ Type</i>	<i>Quantity</i>	<i>Current Price/ Current Value</i>	<i>Average Unit Cost/ Cost Basis</i>	<i>Accrued Income⁶</i>	<i>Unrealized Gain/(-)Loss¹⁰</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
SIMON PPTY GRP LP NOTE CPN 2.750% DUE 02/01/23 DTD 12/17/12 FC 08/01/13 CALL 11/01/22 @ 100.000 CUSIP: 828807CN5 <i>Original Cost: 151,146.50</i>	S&P: A Moody: A3 Cash	150,000	104.3010 156,451.50	100.5628 150,844.21	1,718.75	5,607.29	4,125.00	2.64%
AMERICAN EXPRESS NATL BK SANDY UT CD FDIC #27471 CPN 1.450% DUE 03/31/23 DTD 03/31/20 FC 09/30/20 CUSIP: 02589AB50	Cash	100,000	102.9810" 102,981.00	100.0000 100,000.00	369.45	2,981.00	1,450.00	1.41%
CAPITAL ONE BANK USA NA GLEN ALLEN VA CD FDIC #33954 CPN 1.450% DUE 04/10/23 DTD 04/08/20 FC 10/08/20 CUSIP: 14042TDF1	Cash	240,000	103.0120" 247,228.80	100.0000 240,000.00	810.41	7,228.80	3,480.00	1.41%
MICROSOFT CORP NOTE CPN 2.375% DUE 05/01/23 DTD 05/02/13 FC 11/01/13 CALL 02/01/23 @ 100.000 CUSIP: 594918AT1 <i>Original Cost: 102,711.00</i>	S&P: AAA Moody: Aaa Cash	100,000	104.5160 104,516.00	101.8686 101,868.55	395.83	2,647.45	2,375.00	2.27%
BMW BANK OF NORTH AMER SALT LAKE CITY UT CD FDIC #35141 CPN 1.650% DUE 02/28/24 DTD 02/28/20 FC 08/28/20 CUSIP: 05580AVB7	Cash	200,000	104.5580" 209,116.00	100.0000 200,000.00	1,139.18	9,116.00	3,300.00	1.58%

ASSET DETAILS (continued)

PORTFOLIO ASSETS - HELD AT STIFEL (continued)

Fixed Income-Other	<i>Symbol/ Bond Rating/ Type</i>	<i>Quantity</i>	<i>Current Price/ Current Value</i>	<i>Average Unit Cost/ Cost Basis</i>	<i>Accrued Income⁶</i>	<i>Unrealized Gain/(-)Loss¹⁰</i>	<i>Estimated Annualized Income</i>	<i>Estimated Yield %</i>
ROGERS MEM HOSP INC BOND CPN 2.383% DUE 07/01/24 DTD 08/28/19 FC 01/01/20 CUSIP: 775200AE8 <i>Original Cost: 104,880.00</i>	S&P: A Cash	100,000	104.5800 104,580.00	104.4266 104,426.57	1,191.50	153.43	2,383.00	2.28%
Total Fixed Income-Other		3,190,000	\$3,286,282.30	\$3,209,156.85	\$19,118.32	\$77,125.45	\$76,288.00	2.32%
Principal Protected Notes are subject to the credit risk of the issuer. Principal Protected Market Linked CDs are subject to applicable limits.								
Total Portfolio Assets - Held at Stifel			\$5,209,710.20	\$5,123,245.33		\$86,464.87	\$124,803.25	2.40%
Total Net Portfolio Value			\$5,243,255.99	\$5,156,791.12		\$86,464.87	\$124,806.60	2.38%

FOOTNOTE DEFINITIONS

- ⁶ **Accrued Income:** Accrued Income amounts are provided for informational purposes only and are not included as part of the Net Portfolio Value. Accrued Income represents the sum of accrued interest and accrued dividends on securities positions, but which Stifel has not yet received. Stifel cannot guarantee the accuracy of the Accrued Income, which may be subject to change. Accrued Income amounts are not covered by SIPC and should not be relied upon for making investment decisions.
- ¹⁰ Please note "Unrealized Gain/(-)Loss" does not equal the total current value minus the total cost if any value or cost amounts are missing. Unrealized gains or losses are provided for your information only and should not be used for tax purposes.
- " The price assigned to this instrument may have been provided by a national pricing service and is derived from a 'market-driven pricing model.'
This price may not be the actual price you would receive in the event of a sale prior to the maturity of the C.D. Additional information is available upon request.



ACTIVITY SUMMARY				CASH EQUIVALENTS		
Type of Activity	Activity	Year-to-date	This period	Cash	Cash Sweep	Margin
Opening Balance - Net Cash Equivalents			\$92,981.07	\$0.00	\$92,981.07	\$0.00
Buy and Sell Transactions	Assets Bought	-3,205,961.29	-269,267.65	-269,267.65		
	Assets Sold/Redeemed	2,608,706.60	200,000.00	200,000.00		
Deposits	Deposits Made To Your Account	203,554.16				
Withdrawals	Withdrawals From Your Account					
Income and Distributions	Income and Distributions	132,649.20	9,832.37	9,832.37		
Cash Sweep Activity	Cash Sweep Activity			59,435.28	-59,435.28	
Margin Interest	Margin Interest Charged					
Other	Other Transactions					
Cash Management Activity	Card Activity					
	ACH/ATM Activity					
Checkwriting Activity	Checks You Wrote					
Closing Balance - Net Cash Equivalents			\$33,545.79	\$0.00	\$33,545.79	\$0.00
Securities Transferred	Securities Transferred In/Out					

ACTIVITY DETAILS				CASH EQUIVALENTS		
			This period	Cash	Cash Sweep	Margin
Opening Balance - Net Cash Equivalents			\$92,981.07	\$0.00	\$92,981.07	\$0.00

Assets Bought						
Date	Activity	Quantity	Price	Description	Total	Margin
12/2/2020	Asset Bought	85,000.000	110.7910	KANSAS ST DEV FIN AUTH REV ATHLETIC FACS K ST SER B 2 B/E TXBL CPN 4.083% DUE 07/01/24 DTD 03/01/12 FC 07/01/12 CUSIP: 485429MF8	-95,652.33	-95,652.33



ACTIVITY DETAILS continued

CASH EQUIVALENTS continued

Assets Bought continued

<i>Date</i>	<i>Activity</i>	<i>Quantity</i>	<i>Price</i>	<i>Description</i>	<i>Total</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
12/24/2020	Asset Bought	170,000.000	101.7790	SAN DIEGO CA CONVNTN CTR EXPANSION FING AUTH LSE REV RFDG B/E TXBL CPN 1.677% DUE 04/15/25 DTD 07/08/20 FC 10/15/20 CUSIP: 79727LBS7	-173,615.32	-173,615.32		
Total Assets Bought					-\$269,267.65	-\$269,267.65		

Assets Sold/Redeemed

<i>Date</i>	<i>Activity</i>	<i>Quantity</i>	<i>Price</i>	<i>Description</i>	<i>Total</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
12/30/2020	Redemption	-200,000.000		JPMORGAN CHASE BANK NA COLUMBUS OH CD FDIC #00628 CLLB STEP CPN 2.000% DUE 12/30/24 DTD 12/30/19 FC 06/30/20 CALL 06/30/21 @ 100.000 CUSIP: 48128LVM8	200,000.00	200,000.00		
Total Assets Sold/Redeemed					\$200,000.00	\$200,000.00		

Income and Distributions

<i>Date</i>	<i>Activity</i>	<i>Quantity</i>	<i>Description</i>	<i>Total</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
12/1/2020	Interest		OHIO ST WTR DEV AUTH POLLTN CTL REV WTR QUAL B2 BABS B/E TXBL CPN 3.742% DUE 12/01/21 DTD 08/24/10 FC 12/01/10 120120 150,000 CUSIP: 67766WQH8	2,806.50	2,806.50		
12/1/2020	Interest		WATAUGA CNTY NC RFDG B/E TXBL CPN 2.330% DUE 06/01/23 DTD 10/02/19 FC 06/01/20 120120 110,000 CUSIP: 94109SAT8	1,281.50	1,281.50		
12/15/2020	Interest		SUFFOLK CNTY NY RFDG SER C AGM B/E TXBL CPN 1.607% DUE 06/15/25 DTD 11/18/20 FC 12/15/20 121520 250,000 CUSIP: 86476PE20	301.31	301.31		



ACTIVITY DETAILS continued

CASH EQUIVALENTS continued

Income and Distributions continued

<i>Date</i>	<i>Activity</i>	<i>Quantity</i>	<i>Description</i>	<i>Total</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
12/22/2020	Interest		FEDL NATL MTG ASSN NOTE CPN 2.750% DUE 06/22/21 DTD 06/25/18 FC 12/22/18 122220 250,000 CUSIP: 3135G0U35	3,437.50	3,437.50		
12/29/2020	Interest		STIFEL FDIC INSURED BANK DEPOSIT PROGRAM CUSIP: 09999844	0.08	0.08		
12/30/2020	Interest		JPMORGAN CHASE BANK NA COLUMBUS OH CD FDIC #00628 CLLB STEP CPN 2.000% DUE 12/30/24 DTD 12/30/19 FC 06/30/20 123020 200,000 CUSIP: 48128LVM8	2,005.48	2,005.48		
Total Income and Distributions				\$9,832.37	\$9,832.37		

Cash Sweep Activity

<i>Date</i>	<i>Activity</i>	<i>Description</i>	<i>Total</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
12/2/2020	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-4,088.00	4,088.00	
12/4/2020	Sale	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		95,652.33	-95,652.33	
12/16/2020	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-301.31	301.31	
12/23/2020	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-3,437.50	3,437.50	
12/29/2020	Sale	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		5,155.55	-5,155.55	
12/31/2020	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-33,545.79	33,545.79	
Total Cash Sweep Activity			\$0.00	\$59,435.28	-\$59,435.28	

	<i>This period</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
Closing Balance - Net Cash Equivalents	\$33,545.79	\$0.00	\$33,545.79	\$0.00

REALIZED GAINS/(-)LOSSES

This section provides estimated realized gains or losses for informational purposes only. Cost basis may be adjusted due to, but not limited to, the following: amortization, accretion, principal paydowns, capital changes, listed option premiums, gifting rules, inheritance step-up, or wash sales. Unless another method was in effect at the time of the trade, the trading tax lot relief method indicated on the first page of the statement was used to calculate gains or losses. Please review this information carefully for accuracy, and contact your Financial Advisor with any questions.

	<i>Closing Transaction</i>	<i>Date Acquired</i>	<i>Date Sold</i>	<i>Quantity</i>	<i>Cost Basis</i>	<i>Sale Proceeds</i>	<i>Realized Gain/(-)Loss**</i>
Fixed Income-Muni							
NEW YORK NY CITY HSG DEV CORP MLTIFAM HSG CUSIP: 64972CBF9	REDEEMED	08/10/20	11/20/20	15,000	15,895.84	15,000.00	-895.84 (ST)
Total Fixed Income-Muni					\$15,895.84	\$15,000.00	-\$895.84
	<i>Closing Transaction</i>	<i>Date Acquired</i>	<i>Date Sold</i>	<i>Quantity</i>	<i>Cost Basis</i>	<i>Sale Proceeds</i>	<i>Realized Gain/(-)Loss**</i>
Fixed Income-Other							
BMO HARRIS BANK NA CHICAGO IL CD CUSIP: 05581WT70	REDEEMED	05/10/19	02/24/20	200,000	200,000.00	200,000.00	N/A (ST)
COMCAST CORP NEW BOND CUSIP: 20030NBX8		05/08/19	04/01/20	250,000	253,019.97	258,417.50	5,397.53 (ST)
ENERBANK USA SALT LAKE CITY UT CD CUSIP: 29278TGV6	REDEEMED	05/10/19	02/10/20	100,000	100,000.00	100,000.00	N/A (ST)
EXXON MOBIL CORP NOTE CUSIP: 30231GAR3		07/12/19	04/01/20	125,000	127,427.92	128,120.00	692.08 (ST)
FEDL NATL MTG ASSN NOTE CUSIP: 3135G0U84	REDEEMED	07/19/19	10/30/20	250,000	250,000.00	250,000.00	N/A (LT)
FEDL NATL MTG ASSN NOTE CUSIP: 3136G0FJ5	REDEEMED	06/14/19	10/30/20	250,000	250,000.00	250,000.00	N/A (LT)
FIRST REPUBLIC BANK SAN FRANCISCO CA CD CUSIP: 33616CDK3	REDEEMED	05/08/19	05/19/20	200,000	200,000.00	200,000.00	N/A (LT)
GOLDMAN SACHS BANK USA NEW YORK NY CD CUSIP: 38149MFA6	REDEEMED	08/19/19	03/23/20	100,000	100,000.00	100,000.00	N/A (ST)

** Please note "Realized Gain/(-)Loss" does not equal total sale proceeds minus total cost basis if any cost basis amounts are missing.



REALIZED GAINS/(-)LOSSES continued

	<i>Closing Transaction</i>	<i>Date Acquired</i>	<i>Date Sold</i>	<i>Quantity</i>	<i>Cost Basis</i>	<i>Sale Proceeds</i>	<i>Realized Gain/(-)Loss**</i>
Fixed Income-Other							
GOLDMAN SACHS BANK USA NEW YORK NY CD CUSIP: 38149MQK2	REDEEMED	02/14/20	08/19/20	100,000	100,000.00	100,000.00	N/A (ST)
INTL BUS MACHS CORP NOTE CUSIP: 459200HU8		05/10/19	04/01/20	100,000	102,991.25	105,061.00	2,069.75 (ST)
JPMORGAN CHASE BANK NA COLUMBUS OH CD CUSIP: 48128LVM8	REDEEMED	12/26/19	12/30/20	200,000	200,000.00	200,000.00	N/A (LT)
U S TREASURY NOTE CPN 2.250% DUE 03/31/20 CUSIP: 9128284C1	REDEEMED	05/13/19	03/31/20	250,000	250,000.00	250,000.00	N/A (ST)
U S TREASURY NOTE CPN 2.625% DUE 07/31/20 CUSIP: 912828Y46	REDEEMED	05/13/19	07/31/20	250,000	250,000.00	250,000.00	N/A (LT)
WELLS FARGO BANK NA SIOUX FALLS SD CD CUSIP: 949763H74	REDEEMED	08/28/19	06/12/20	100,000	100,000.00	100,000.00	N/A (ST)
WELLS FARGO BANK NA SIOUX FALLS SD CD CUSIP: 949763S23	REDEEMED	01/24/20	07/30/20	100,000	100,000.00	100,000.00	N/A (ST)
Total Fixed Income-Other					\$2,583,439.14	\$2,591,598.50	\$8,159.36
Total Realized Gains/(-)Losses					\$2,599,334.98	\$2,606,598.50	\$7,263.52
Total Net Short-Term (ST)					\$1,449,334.98	\$1,456,598.50	\$7,263.52
Total Net Long-Term (LT)					\$1,150,000.00	\$1,150,000.00	\$0.00
Total Net Other-Term (OT)					\$0.00	\$0.00	\$0.00

** Please note "Realized Gain/(-)Loss" does not equal total sale proceeds minus total cost basis if any cost basis amounts are missing.



Stifel Insured Bank Deposit Program

Amount(s) listed below include accrued interest in the amount of \$0.08. The rate at month-end was 0.01%.

Description	Location	Previous Month Value	Current Month Value
Stifel Bank and Trust	St. Louis, MO	\$26,525.63	\$33,545.79
Stifel Bank	Clayton, MO	\$0.76	\$0.00
JPMorgan Chase Bank NA	Columbus, OH	\$66,454.68	\$0.00
Closing Balance - Stifel Insured Bank Deposit Program			\$33,545.79

Your deposit balances at each Program Bank are eligible for insurance by the FDIC within applicable limits. The deposit balances are not insured by SIPC. Please refer to the Stifel Insured Bank Deposit Program Disclosure Statement and the Stifel Insured Bank Deposit Program for Retirement Accounts Disclosure Statement which are available at www.stifel.com/disclosures/account-agreement or from your Financial Advisor.

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STIFEL

Certain Definitions

“Stifel” means Stifel, Nicolaus & Company, Incorporated, Member SIPC and NYSE.

“Stifel Banks” means affiliated banks of Stifel, which may include Stifel Bank & Trust, Member Federal Deposit Insurance Corporation (“FDIC”); Stifel Bank, Member FDIC; Stifel Trust Company, National Association, Member FDIC; and Stifel Trust Company Delaware, National Association, Member FDIC. **Unless otherwise specified, products purchased from or held by Stifel in a securities account are not insured by the FDIC, are not deposits or other obligations of the Stifel Banks, are not guaranteed by the Stifel Banks, and are subject to investment risk, including possible loss of the principal.**

“Stifel Smart Rate Program” refers to a money market deposit account at Stifel Bank & Trust or Stifel Bank, each an affiliate of Stifel, which is made available to eligible clients of Stifel. The deposits are insured by the FDIC, within applicable limits, and are not cash held in your securities account. For additional information and terms and conditions concerning these deposits, see the Stifel Smart Rate Program Disclosure, which is available at www.stifel.com/disclosures or from your Financial Advisor.

Account Disclosures

Errors and Inquiries – You should review this statement carefully and notify the Manager of the Office servicing your account of anything you believe to be incorrect. Any verbal communications should be re confirmed in writing to protect your rights, including rights under SIPA. All statements furnished to you shall be considered accurate, complete, and acknowledged by you unless you report any inaccuracies to the Manager. Instructions and inquiries should be directed to your Financial Advisor. When making inquiries, please mention your account number. Please notify us promptly of any change of address.

Investment Objective – All clients are requested to promptly notify us of any material change in their investment objective or financial situation in order to assist us in maintaining current background and financial information.

Pricing and Rating of Securities – The pricing of securities displayed on your statement is derived from various sources and, in some cases, may be higher or lower than the price you would actually receive in the market. If we cannot obtain a price, “N/A” appears. For securities listed on an exchange or trading continually in an active marketplace, the prices reflect market quotations at the close of your statement period. For securities trading less frequently, we rely on third party pricing services or a computerized pricing model, which may not always reflect actual market values. Similarly, some insurance product values provided by outside carriers may be valued as of a date other than the statement date. Bond ratings of securities were obtained from various rating services. There is no guarantee with respect to their accuracy. For current price quotes, please contact your Financial Advisor.

Cost Basis Information – All information provided with respect to cost basis is derived from transactions in the account or information supplied by other sources. There is no guarantee as to the accuracy of cost basis information or the profit and loss information provided for tax lots designated as noncovered. Stifel uses the first in, first out method when calculating the realized gain or loss on sale transactions unless a specific identification is made prior to settlement date. The gain or loss provided on your statement is informational only and should not be used for tax reporting. A 1099 including the cost basis for sale proceeds from covered tax lots will be provided after year end for tax reporting. Please inform your Financial Advisor if a cost basis is not accurate.

Transaction Dates – All securities transactions are reflected on a trade date basis. Settlement of trades will normally occur in three business days unless stated differently on your trade confirmation. Title to securities sold to you where Stifel has acted as principal shall remain with Stifel until the entire purchase price is received or until the settlement date, whichever is later.

Custody of Securities – Securities held by Stifel, Nicolaus & Company, Incorporated for you, but which are not registered in your name, may be commingled with identical securities being held for other clients by our Correspondent, the Depository Trust Company, or in similar systems.

Assets Held Away – You may purchase certain assets through Stifel, which will be held at a custodial institution other than Stifel. Where available, we include information about these assets on your statement. The custodial institution is responsible, however, for providing year end tax reporting information (Form 1099) and separate periodic statements, which may vary from the information included on your Stifel statement because of different reporting periods. Your Stifel statements may also reflect other assets “not held” at Stifel, in addition to those held by a custodial institution. The value and nature of these investments is generally provided by you. Stifel does not guarantee the accuracy of the information with respect to the value of these investments as reflected on your statement. Assets held away are not covered by Stifel SIPC.

Estimated Annual Income and Yields – Estimated annual income and yields are calculated by annualizing the most recent distribution and do not reflect historical experience or project future results. The yield information for the money market funds is based on historical performance; future yields will fluctuate. These figures have been obtained from sources believed to be reliable, but no assurance can be made as to accuracy. Before investing in any of these funds, carefully read the prospectus, which is available through your Financial Advisor.

Payment for Order Flow – In order to access a wide variety of execution venues, the firm does participate in the maker/taker model. Certain exchanges and other trading centers to which the firm routes equities and options orders have implemented fee structures under which broker dealer participants may receive rebates on certain orders. Under these fee structures, participants are charged a fee for orders that take liquidity from the venue, and provided a rebate for orders that add liquidity to the venue. Rebates received by the firm from a venue during any time period may or may not exceed the fees paid by the firm to the venue during that time period. Fees and/or rebates from all venues are subject to change. Stifel will provide customers additional information regarding average net fees/rebates paid/received upon written request. For venues from which Stifel receives a rebate, Stifel is considered to be receiving payment for order flow.

Additional information will be provided upon written request, and certain order routing information is available online at www.stifel.com/disclosures/best execution. On request of a customer and at no fee, Stifel will disclose to such customer the identity of the venue to which such customer’s orders were routed for execution in the six months prior to the request, whether the orders were directed orders or non directed orders, and the time of the transactions, if any, that resulted from such orders. Orders may be routed and executed internally through Stifel’s trading desk. In such instances, Stifel stands to share in 100% of remuneration received (in the case of orders executed as agent) or profits or losses generated (in the case of orders executed as principal) as a result of internalizing such orders. Customers may mail their inquiries to: Stifel Attn: Equity Trading Compliance, 787 7th Avenue, New York, New York 10019.

Tax Information – Although your statement may describe certain items as Federally tax exempt, this is for information purposes only. When reporting your taxes, please rely exclusively on the substitute Form 1099 you will receive from us after year end for your taxable accounts. (For Retirement Accounts, Form 1099R will report distributions from the account rather than income and dividends or proceeds from sales.)

SIPC Protection – Stifel is a member of the Securities Investor Protection Corporation (SIPC). SIPC coverage protects securities customers of its members up to \$500,000 (including \$250,000 for claims for cash). An explanatory brochure is available upon request or at www.sipc.org, or investors may contact SIPC at (202) 371 8300. Stifel has purchased additional securities coverage of \$149,500,000 and cash coverage of \$900,000 for a total of \$150,000,000 of securities coverage and \$1,150,000 of cash coverage, subject to the terms and conditions of the policy, with an aggregate limit of \$300,000,000. (For more information, visit: www.stifel.com/disclosures/asset protection.) This coverage does not protect against market losses and does not cover securities not held by Stifel.

Margin Accounts – If you have a margin account, this is a combined statement of your margin account and special memorandum account (“SMA”) maintained for you under Section 220.5 of Regulation T issued by the Board of Governors of the Federal Reserve System. The permanent record of the (“SMA”) as required by Regulation T is available for your inspection upon request. If you have applied for margin privileges and have been approved, you may borrow money from Stifel in exchange for pledging assets in your account as collateral for any outstanding margin loan. The amount you may borrow is based on Regulation T, Stifel’s internal policies, and the value of securities in your margin account. Securities held in a margin account are identified by the word “margin” on your statement. Stifel reserves the right to limit margin purchases and short sales and to alter its margin requirements and due dates for house or other margin calls in accordance with the Firm’s guidelines, market conditions, and regulatory margin requirements.

Margin Account Interest Charges – The margin interest period includes the second to last day of the prior statement period through the third day prior to the last day of the current statement period. The margin interest charge is computed by multiplying the rate of interest by the average net daily settled debit balance and a fraction, the numerator of which is the number of days the debit balance existed, and the denominator of which is three hundred sixty (360). The rate of interest is determined by the cost of borrowing money and is subject to change without notice. The average net daily settled debit balance includes any settled credit and settled debit balances in your cash and margin accounts during the period. Please review the “Statement of Credit Terms” you have already received for further information.

STIFEL

Account Disclosures Continued

Late Charges – If transactions in your account result in a debit balance in your cash account and you do not make payment by the settlement date, you may be subject to interest charges.

Free Credit Balances – Customer Free Credit Balances may be used in this Firm's business subject to the limitations of 17CFR Section 240, 15c3 3 under The Securities Exchange Act of 1934. You have the right to receive from us in the course of normal business operations, upon demand, the delivery of: a) Any Free Credit Balances to which you are entitled, b) Any Fully Paid Securities to which you are entitled, c) Any Securities purchased on margin upon full payment of any indebtedness to us. If you participate in Stifel|Advantage or Stifel Prestige® Accounts, the payment to you of a Free Credit Balance may be subject to the cancellation of any commitment made in respect to your account for the payment of checks, ATM Card, or Point of Sale transaction charges, or other debit card transactions.

Option Accounts – 1) Commissions and other charges related to the execution of option transactions have been included on confirmations for such transactions, which have already been sent to you, and copies of confirmations are available upon request; 2) should you have any changes in your investment objective or current financial situation, you should advise your investment professional immediately; and 3) assignment notices for option contracts are allocated among client short positions pursuant to an automated procedure that randomly selects from all client short option positions those contracts that are subject to assignment, which includes positions established on the day of assignment. Additional information pertaining to the procedures used for random selection is available upon request.

Complaints – Complaints relating to your account(s) may be directed to Stifel, Legal Department, 501 North Broadway, St. Louis, Missouri 63102 or by phoning (800) 488 0970 or (314) 342 2000.

Lost Certificates – In the event your statement indicates that securities were delivered out of your account in certificate form and you have not received them, it is understood that you will notify Stifel immediately in writing. If written notification is received within 120 calendar days after the delivery date, as reflected on your statement, the certificate will be replaced free of charge. Thereafter, a fee for replacement may apply.

Dividend Reinvestment – (Optional) The dollar amount of Mutual Fund distributions, Money Market Fund income, or dividends on other securities shown on your statement may have been reinvested into additional shares. You will not receive confirmations for these reinvestment transactions. However, information pertaining to these transactions which would otherwise appear on confirmations will be furnished to you upon written request. In dividend reinvestment transactions, Stifel may act as your agent and receive payment for order flow. The source and nature of such payment will be furnished to you upon written request to Stifel or your introducing firm. If Stifel is currently a market maker in the eligible security, Stifel will purchase, as principal for you, additional shares at the opening market price.

Stifel Information – A Statement of Financial Condition of Stifel, Nicolaus & Company, Incorporated is available for your inspection at any of our offices, or a copy will be mailed to you upon request.

Investor Education and Protection – Under the Public Disclosure Program, the Financial Industry Regulatory Authority ("FINRA") provides certain information regarding the disciplinary history of FINRA members and their associated persons via FINRA Regulation's BrokerCheck Hotline (toll free (800) 289 9999). Additional information may be obtained from the FINRA Regulation Web Site at www.finra.org, and an investor brochure describing FINRA BrokerCheck is available upon request.

Stifel, Nicolaus & Company, Incorporated is registered with the U.S. Securities and Exchange Commission and the Municipal Securities Rulemaking Board ("MSRB"). Additional information may be obtained from the MSRB web site at www.msrb.org, including an investor brochure that is posted on the web site describing the protections that may be provided by the MSRB rules and how to file a complaint with an appropriate regulatory authority.

ERISA Section 408(b)(2) Notice – For Service Provider Fee Disclosures under ERISA 408(b)(2), please see www.stifel.com/disclosures/ERISA. Please direct any questions you may have to your Financial Advisor.

Notification of Change in Circumstances and Availability of Investment Advisory Disclosure Brochures –

In the event that there are any material changes in your financial situation, investment objective(s), risk tolerance, or instructions regarding your account(s), please promptly report such changes to your financial advisor to ensure that your investment advisory accounts are being managed based on the most current information. You should review Stifel's Form ADV Part 2A (Disclosure Brochure) for information and disclosures relating to Stifel's investment advisory services (available at: [www.stifel.com/disclosures/investment advisory services/program disclosures](http://www.stifel.com/disclosures/investment%20advisory%20services/program%20disclosures)), including (but not limited to) a discussion of the various conflicts of interest to which our firm may be subject in the provision of investment advisory services to you.



COUNTY OF ORANGE
OFFICE OF THE TREASURER-TAX COLLECTOR

Shari L. Freidenrich, CPA, CCMT, CPFA, ACPFIM
 P. O. BOX 4515
 SANTA ANA, CA 92702-4515



ocgov.com/ocinvestments
 December 31, 2020

ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

Attn: Richard Howard, District Manager
 13001 Garden Grove Blvd.
 Garden Grove, CA 92843

Fund Number : XXXXXXXXXX

DECEMBER 2020 STATEMENT

INVESTMENT BALANCE IN OCIP

Transactions

<u>Transaction Date</u>	<u>Transaction Description</u>	<u>Authorized Signer</u>	<u>Amount</u>
12/01/2020	November 2020 Investment Admin Fee		\$ (83.78)
12/30/2020	September 2020 Interest Paid		\$ 1,502.41

Summary

Total Deposit:	\$ 1,502.41	Beginning Balance:	\$ 1,724,869.89
Total Withdrawal:	\$ (83.78)	Ending Balance:	\$ 1,726,288.52

ACCRUED INVESTMENT INCOME

<u>Description</u>	<u>Amount</u>
October 2020 Interest Accrued	\$ 1,401.44
November 2020 Interest Accrued	\$ 1,277.04
Total	<u>\$ 2,678.48</u>

December 2020 Interest to be accrued in January 2021 \$ 1,125.78



Local Agency Investment Fund
P.O. Box 942809
Sacramento, CA 94209-0001
(916) 653-3001

January 29, 2021

[LAIF Home](#)
[PMIA Average Monthly Yields](#)

ORANGE COUNTY VECTOR CONTROL DISTRICT

DIRECTOR OF ADMINISTRATIVE SERVICES
13001 GARDEN GROVE BLVD
GARDEN GROVE, CA 92843

[Tran Type Definitions](#)

Account Number: [REDACTED]

December 2020 Statement

Account Summary

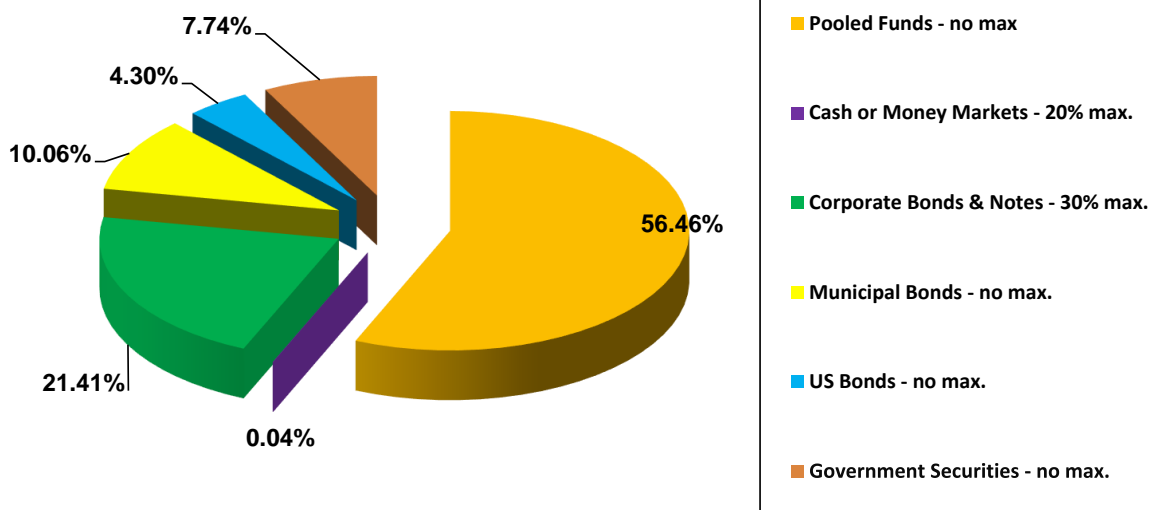
Total Deposit:	0.00	Beginning Balance:	6,356,854.49
Total Withdrawal:	0.00	Ending Balance:	6,356,854.49

ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT - INVESTMENT SUMMARY Q2

BASED ON FACE VALUE AT MATURITY

	STIFEL	LAIF	OCIP	Combined Total
Pooled Investment	\$0.00	\$6,356,854.49	\$1,724,869.89	\$8,081,724.38
Certificates of Deposits	\$0.00	\$0.00	\$0.00	\$0.00
Cash or Money Markets	\$33,545.79	\$0.00	\$0.00	\$33,545.79
Corporate Bonds & Notes	\$2,290,000.00	\$0.00	\$0.00	\$2,290,000.00
Municipal Bonds	\$1,860,000.00	\$0.00	\$0.00	\$1,860,000.00
Govt. Backed CMO Securities	\$0.00	\$0.00	\$0.00	\$0.00
US Bonds	\$500,000.00	\$0.00	\$0.00	\$500,000.00
Government Securities	\$400,000.00	\$0.00	\$0.00	\$400,000.00
Total	\$5,083,545.79	\$6,356,854.49	\$1,724,869.89	\$13,165,270.17

Investment Portfolio Summary



SUMMARY OF INVESTMENTS BY CORPORATION/GOV'T BY INVESTMENT TYPE

	STIFEL	LAIF	OCERS	Combined Total
<u>Pooled Funds</u>				
Pooled Funds	\$0.00	\$6,356,854.49	\$1,724,869.89	\$8,081,724.38
Totals	\$0.00	\$6,356,854.49	\$1,724,869.89	\$8,081,724.38
			% of total fund	61.39%

	STIFEL	LAIF	OCERS	Combined Total
<u>Certificates of Deposit</u>				
Totals	\$0.00	\$0.00	\$0.00	\$0.00
			% of total fund	0.00%

	STIFEL	LAIF	OCERS	Combined Total
<u>Cash or Money Markets</u>				
Cash or Money Market	\$0.00	\$0.00	\$0.00	\$0.00
STIFEL Deposit Program	\$33,545.79	\$0.00	\$0.00	\$33,545.79
Totals	\$33,545.79	\$0.00	\$0.00	\$33,545.79
			% of total fund	0.25%

	STIFEL	LAIF	OCERS	Combined Total
<u>Corporate Bonds & Notes</u>				
Ally Bank	\$200,000.00	\$0.00	\$0.00	\$200,000.00
American Express Nat'l Bk	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Apple Inc	\$250,000.00	\$0.00	\$0.00	\$250,000.00
BMW Bank of North Amer	\$200,000.00	\$0.00	\$0.00	\$200,000.00
Capital One Bank USA	\$240,000.00	\$0.00	\$0.00	\$240,000.00
IBM Corp	\$150,000.00	\$0.00	\$0.00	\$150,000.00
JPMorgan Chase & Co	\$250,000.00	\$0.00	\$0.00	\$250,000.00
Microsoft Corp Note	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Morgan Stanley Bank	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Pfizer Inc	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Rogers Mem Hosp Inc Bond	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Sallie Mae Bank	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Sallie Mae Bank	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Simon PPTY Grp LP Note	\$150,000.00	\$0.00	\$0.00	\$150,000.00

United Health Grp Inc	\$150,000.00	\$0.00	\$0.00	\$150,000.00
Totals	\$2,290,000.00	\$0.00	\$0.00	\$2,290,000.00
			% of total fund	17.39%

	STIFEL	LAIF	OCERS	Combined Total
<u>Municipal Bonds</u>				
Ohio St Wtr Dev Auth	\$150,000.00	\$0.00	\$0.00	\$150,000.00
Norco CA CRDA TARB	\$150,000.00	\$0.00	\$0.00	\$150,000.00
Oceanside CA Pension Bonds	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Hillsborough Cnty Fl Aviation	\$200,000.00	\$0.00	\$0.00	\$200,000.00
Watauga Cnty NC Rfdg	\$110,000.00	\$0.00	\$0.00	\$110,000.00
Connecticut St	\$110,000.00	\$0.00	\$0.00	\$110,000.00
Kansas ST DEV FIN AUT	\$85,000.00	\$0.00	\$0.00	\$85,000.00
Miami Dade Cnty FL Aviation Bond	\$200,000.00	\$0.00	\$0.00	\$200,000.00
San Diego CONVNTN	\$170,000.00	\$0.00	\$0.00	\$170,000.00
NYC Hsg Dev Corp Ser E	\$135,000.00	\$0.00	\$0.00	\$135,000.00
Suffolk CNTY NY	\$250,000.00	\$0.00	\$0.00	\$250,000.00
Cleveland OH INCM TAX	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Stephenson CNTY IL SCHL	\$100,000.00	\$0.00	\$0.00	\$100,000.00
Totals	\$1,860,000.00	\$0.00	\$0.00	\$1,860,000.00
			% of total fund	14.13%

	STIFEL	LAIF	OCERS	Combined Total
<u>Government Backed CMO Securities</u>				
FNMA		\$0.00	\$0.00	\$0.00
GNMA	\$0.00	\$0.00	\$0.00	\$0.00
Totals	\$0.00	\$0.00	\$0.00	\$0.00
			% of total fund	0.00%

	STIFEL	LAIF	OCERS	Combined Total
<u>Government Securities</u>				
FNMA	\$250,000.00	\$0.00	\$0.00	\$250,000.00
FNMA	\$150,000.00	\$0.00	\$0.00	\$150,000.00
Totals	\$400,000.00	\$0.00	\$0.00	\$400,000.00
			% of total fund	3.04%

<u>US Bonds</u>				
US Treasury Bill	\$250,000.00	\$0.00	\$0.00	\$250,000.00
US Treasury Bill	\$250,000.00	\$0.00	\$0.00	\$250,000.00
Totals	\$500,000.00	\$0.00	\$0.00	\$500,000.00
				3.80%

				\$12,665,270.17
Grand Total	\$5,083,545.79	\$6,356,854.49	\$1,724,869.89	\$13,165,270.17



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2021

AGENDA REPORT

AGENDA ITEM: E.4

Prepared By: Tawnia Pett, Executive Assistant/Clerk of the Board
Submitted By: Rick Howard, District Manager

Agenda Title:

Approve Board of Trustee Committee Assignments for 2021

Recommended Action:

President Posey recommends that the Board of Trustees approve the committee assignments for 2021 as presented in Exhibit A.

Executive Summary:

The 2021 Trustee committee assignments (Exhibit A) were compiled utilizing the Trustee questionnaires and has been approved by President Posey. Upon approval by the board, new committees will commence immediately.

Fiscal Impact:

Amount Requested \$ N/A

Sufficient Budgeted Funds Available:

Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item:

Exhibits:

Exhibit A: Trustee Committee Assignments for 2021

OFFICERS AND COMMITTEES FOR 2021

BOARD OF TRUSTEES

ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

PRESIDENT:	Mike Posey	Huntington Beach
VICE-PRESIDENT:	James Gomez	La Habra
SECRETARY:	Peggy Huang	Yorba Linda

EXECUTIVE COMMITTEE

(4 Members)

Mike Posey (President)	Huntington Beach
James Gomez (Vice-President)	La Habra
Peggy Huang (Secretary)	Yorba Linda
Mike Alvarez (Past President)	Orange

BUDGET & FINANCE

(9 Members)

Richard Hurt	Aliso Viejo
Mike Posey	Huntington Beach
Nitesh Patel	La Palma
Vladimir Anderson	Lake Forest
Bob Ruesch	Mission Viejo
Jim Dahl	San Clemente
Gary Taylor	Stanton
Crystal Miles	Villa Park
Lala Ragen	County of Orange

POLICY & PERSONNEL

(9 Members)

Tammy Kim	Irvine
Sue Kempf	Laguna Beach
Shari Horne	Laguna Woods
Tanya Doby	Los Alamitos
Craig Green	Placentia
April Josephson	Rancho Santa Margarita
Jim Dahl	San Clemente
Cecilia Aguinaga	Santa Ana
Rebecca Gomez	Tustin

OPERATIONS

(7 Members)

Jon Peat	Cypress
James Gomez	La Habra
Tanya Doby	Los Alamitos
Mike Alvarez	Orange
John Taylor	San Juan Capistrano
Sandra Massa-Lavitt	Seal Beach
Crystal Miles	Villa Park

BUILDING, PROPERTY & EQUIP

(7 Members)

Lucille Kring	Anaheim
Cecilia Hupp	Brea
Bill Turpit	Costa Mesa
Cheryl Brothers	Fountain Valley
Erica Pezold	Laguna Hills
Craig Green	Placentia
Sandra Massa-Lavitt	Seal Beach

PUBLIC RELATIONS

(9 Members)

Jon Peat	Cypress
Rick Viczorek	Dana Point
Stephanie Klopfenstein	Garden Grove
Tammy Kim	Irvine
Rischi Sharma	Laguna Niguel
Shari Horne	Laguna Woods
Bob Ruesch	Mission Viejo
Joy Brenner	Newport Beach
Charlie Nguyen	Westminster

NUISANCE ABATEMENT

(7 Members)

Cheryl Brothers	Fountain Valley
Nick Dunlap	Fullerton
James Gomez	La Habra
Rischi Sharma	Laguna Niguel
Bob Ruesch	Mission Viejo
Joy Brenner	Newport Beach
Peggy Huang	Yorba Linda

LEGISLATIVE

(9 Members)

Cecilia Hupp	Brea	Nitesh Patel	La Palma
Susan Sonne	Buena Park	April Josephson	RS Margarita
Nick Dunlap	Fullerton	Peggy Huang	Yorba Linda
Stephanie Klopfenstein	Garden Grove	Lala Ragen	County of Orange
Sue Kempf	Laguna Beach		



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2020

AGENDA REPORT

AGENDA ITEM: E.5

Prepared By: Steve Shepherd, Director of Operations
Submitted By: Rick Howard, District Manager

Agenda Title:

Approve contract with Cintas Corporation to provide uniforms for District Staff

Recommended Action:

The Board approve a five-year agreement with Cintas Corporation to provide uniform services for District Staff.

Executive Summary:

The Orange County Mosquito and Vector Control District employs 77 full-time employees and up to an additional 70 seasonal employees that augment the District's operational needs during peak mosquito season from April through October. Many of the full-time field and laboratory staff and all seasonal employees are provided District issued uniforms in order to provide appropriate identification while conducting their day-to-day duties while in the field.

The District's current uniform vendor, Cintas Corporation, has proposed a five (5) year contract agreement to supply and launder employee uniforms, shop towels and floor mats with District emblems.

The proposed new contract retains current pricing and adds their Uniform Advantage program. The program covers damaged garments needing to be replaced outside of normal wear and tear. There is an additional charge of \$.03 per garment per week (\$15.33 per week or \$797.16 annually). The contract proposes reduced weekly charges for mat cleaning fees by an equivalent amount, making the increase for the Uniform Advantage program a no-cost item. The District spent \$2,218 in replacement uniforms after the 2020 summer season.

The proposed new contract agreement should provide the District no additional price increases, and depending upon the number of garments replaced, will result in savings during the contract period.

Fiscal Impact: None

Amount Requested \$ 49,400

Sufficient Budgeted Funds Available:

Category: Pers. Optg. X Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item:

Exhibits:

Exhibit A: Cintas Standard Rental Service agreement



STANDARD RENTAL SERVICE AGREEMENT

Location No. 044K Agreement No. 210151985 Customer No. 12656383 Date _____
 Customer ORANGE COUNTY VECTOR CONT Phone 7148763844
 Address 13001 GARDEN GROVE BLVD. City GARDEN GROVE State CA Zip 92843

UNIFORM PRICING:

Material #	Description	Rental Freq.	Inventory	Unit Price
X270	CARGO PANT - Rental	1	ANY	0.385
X390	WOMENS PANT SUSAN - Rental		ANY	0.320
X499	WORK PANT - Rental		ANY	0.218
X60127	CRNRSTN WKPNTS PT60 - Rental		ANY	0.218
X64144	F RELAXED CARGO PANT - Rental		ANY	0.310
X76327	65/35 PANT ELASTIC - Rental	1	ANY	0.923
X912	COVERALL - Rental		ANY	0.512
X935	COMFORT SHIRT - Rental		ANY	0.192
X945	COMFORT PANT - Rental		ANY	0.220

EMBLEM PRICING:

Material #	Description	Rental Freq.	Inventory	Unit Price
LXNAMES	LX NAME		ANY	0.000
LXNAMES	LX NAME		ANY	0.000
LXXXXXS	LXXXXX *		ANY	2.200
LXXXXXS	LXXXXX *		ANY	0.000

FACILITY SERVICES PRODUCTS PRICING:

Material #	Description	Rental Freq.	Inventory	Unit Price
X10184	3X5 ACTIVE SCRAPER - Rental	1	ANY	4.500
X10189	3X5 XTRAC MAT ONYX - Rental	2	ANY	7.000
X10192	4X6 XTRAC MAT ONYX - Rental	2	ANY	8.000
X10202	3X10 XTRAC MAT ONYX - Rental	2	ANY	9.000
X2160	SM SHOP TWL-RED - Rental	1	ANY	0.083
X84330	3X5 GRAY MAT - Rental	2	ANY	3.090
X84330	3X5 GRAY MAT - Rental	1	ANY	2.062
X84401	4X6 LOGO MAT - Rental	2	ANY	9.673
X84401	4X6 LOGO MAT - Rental	1	ANY	6.559
X84430	4X6 GRAY MAT - Rental	1	ANY	3.299

- This agreement is effective as of the date of execution for a term of 60 months from date of installation.
- The additional charges listed below are subject to adjustment by Company effective upon notice to Customer, which notice may be in the form of an invoice.
- COD Terms \$ _____ per week charge for delayed payment (if Amount Due is Carried to Following Week) • Credit Terms - Charge Payments due 10 Days After End of Month

- Automatic Lost Replacement Charge: Material X2160 % of Inventory 10.000 \$ 0.688 EA.
- Automatic Lost Replacement Charge: Material _____ % of Inventory _____ \$ _____ EA.
- Make-Up charge \$ 2.570 per garment.
- Non-Standard/Special Cut Garment (i.e., non-standard, non-stocked unusually small or large sizes, unusually short or long sleeve or length, etc.) premium \$ _____ per garment
- Artwork Charge for Logo Mat \$ _____
- Under no circumstances will the Company accept textiles bearing free liquid. Shop towels may not be used to clean up oil or solvent spills.
- Service Charge: \$20.00 _____ per delivery.
This Service Charge is used to help Company pay various fluctuating current and future costs including, but not limited to, costs directly or indirectly related to the environment, energy issues, service and delivery of goods and services, in addition to other miscellaneous costs incurred or that may be incurred in the future by Company.
- Size Change: Customer agrees to have employees measured by a Cintas representative using garment "size samples". A charge of \$ _____ per garment will be assessed for employees size changed within 4 weeks of installation.
- Uniform Advantage \$ 0.030 per garment. Premium Advantage \$ 0.06 per garment.
Uniform and Premium Advantage covers damaged garments needing to be replaced outside of normal wear. Uniform Advantage and Premium Advantage do not cover lost or unreturned garments. The Customer or Company may cancel Uniform Advantage and Premium Advantage at any time.
- Emblem Advantage \$ 0.060 per garment. Emblem Advantage covers name and company emblems initially selected by Customer. The Customer or Company may cancel Emblem Advantage at any time after six months from date of installation.
- Prep Advantage \$ 0.06 per garment. Prep Advantage covers all costs associated with garment preparation. The Customer or Company may cancel Prep Advantage at any time after six months from date of installation.
- Other _____

<u>/</u>	<input type="checkbox"/>	<u> </u>	Initial and check box if Unilease. All garments will be cleaned by Customer.
		Date	
<u>/</u>	<input type="checkbox"/>	<u> </u>	Initial and check box if receiving Linen Service. Company may make periodic physical inventories of items in possession or under control of customer.
		Date	
<u>/</u>	<input type="checkbox"/>	<u> </u>	Initial and check box if receiving direct embroidery. If service is discontinued for an employee, or Customer deletes any of the garments with direct embroidery for any reason, or terminates this agreement for any reason, or fails to renew the agreement. Customer will purchase all direct embroidered garments at the time they are removed from service at the then current replacement values.
		Date	

Customer certifies that it is is not a federal, state, or local government branch or agency.

This agreement is subject to the terms and conditions on the back of this agreement. By signing below, Customer agrees to and accepts the terms and conditions on the back of this agreement.

Cintas Loc. No. _____	CUSTOMER:	Please Sign Name _____
By _____		Please Print Name _____
Title _____		Please Print Title _____
Accepted-GM: _____		E-mail _____

STANDARD UNIFORM RENTAL SERVICE AGREEMENT RENEWAL

1. The Customer, its successors and assigns ("Customer") orders from CINTAS CORPORATION or any of its subsidiaries, successors and assigns ("Company") all of the Customer's requirements of garment rental services and other materials covered by this agreement during the term of this agreement all in accordance with the pricing, terms and conditions contained herein. Pricing is based on 52 weeks billing per rental material per year.
2. All garments and other rented materials will be cleaned and maintained by Company and remain the property of the Company. Any garments that require replacement due to normal wear will be replaced by Company at no charge to Customer.
3. Unless specified otherwise, the garments supplied under this Agreement are not personal protective equipment and have no special protective or other characteristics, including but not limited to, flame resistant or acid resistant properties. Specialty apparel and personal protective equipment may be available from Company upon request and would be covered under additional terms. Customer warrants that none of the employees for whom garments are supplied under this agreement require flame retardant or acid resistant clothing.
4. Customer is ultimately responsible for choosing the type and placement of any floor mats provided by Company and ensuring floor safety conditions at its locations. If a mat needs to be replaced for any reason prior to its next scheduled service, Customer should remove it and contact Company to request replacement.
5. Customer agrees to notify Company, in writing, of any hazardous materials, including lead, arsenic, hexavalent chromium and cadmium, that may be picked up by Company in the soiled garments or other textiles serviced under this agreement. In no case will hazardous materials be present to the extent that they may be harmful to Company's employees.
6. The weekly rental charge for any individual leaving the employ of Customer can be terminated, but only after all garments issued to that individual, or the current replacement value of same, have been returned or paid to Company. Any non-standard, or special products (i.e., logo mats) must be purchased by the Customer if service is stopped for any reason. If materials are lost or damaged by any means Customer will

pay the then current replacement values for said materials. Should Customer require garment sizes that are outside the standard size range, Customer agrees to pay the specific premium price for those materials and sizes designated under Uniform Pricing.

7. This agreement is effective as of the date of execution. The initial term of this agreement shall be as set forth on the front of this agreement and shall automatically renew for the same period of time unless Company is notified, to the contrary, in writing, no more than 180 days, but no less than 90 days in advance of the expiration of the then current term. Company has the right to increase prices. The Customer has the right to reject the price increase within ten (10) days of the notice. If Customer rejects the price increase, Company may terminate this agreement. All invoices must be paid within ten days after the end of the month. Interest will accrue on any amounts which are not paid when due from the date due to the date of payment in full at an annual percentage rate equal to the lesser of (a) eighteen percent 18% or (b) the maximum rate permitted by applicable law.
8. Company is a licensee and not the owner of the Carhartt trademarked products. If Company should no longer have such license, then Company will substitute the Carhartt trademarked garments with garments of similar material and quality.
9. Customer hereby agrees to defend, indemnify and hold harmless Company from any claims and damages arising out of or associated with this agreement.
10. **Company guarantees to deliver the highest quality textile rental service at all times. Any complaints about the quality of the service which have not been resolved in the normal course of business must be sent by registered letter to Company's General Manager. If Company then fails to resolve any material complaint in a reasonable period of time, Customer may terminate this agreement provided all rental materials are paid for at the then current replacement values or returned to Company in good and usable condition.**
11. Additional customer employees, products and services may be added to this agreement and shall automatically become a part of and subject to the terms and provisions of this agreement. If this agreement is terminated early, the parties agree that the damages sustained by Company will be substantial and difficult to ascertain. Therefore, if this agreement is terminated by Customer prior to the applicable expiration date for any reason other than documented quality of service reasons which are not cured as set forth above, or terminated by Company for cause at any time, Customer will pay to Company, as liquidated damages and not as a penalty, the greater of 50% of the average weekly invoice total multiplied by the number of weeks remaining in the unexpired term, or buy back all garments and other products allocated to Customer at the then current replacement values. Customer shall also be responsible for any unpaid charges on Customer's account prior to termination.
12. While this agreement is in effect, Customer agrees to pay a weekly minimum charge equal to 75% of (a) the charges on the initial invoice and (b) the charges for additional products and services added after the initial invoice.
13. Any dispute or matter arising in connection with or relating to this agreement shall be resolved by binding and final arbitration. The arbitration shall be conducted pursuant to applicable state or federal arbitration laws. Any such dispute shall be determined on an individual basis, shall be considered unique as to its facts, and shall not be consolidated in any arbitration or other proceeding with any claim or controversy of any other party. The exclusive jurisdiction and forum for resolution of any such dispute shall lie within the state where Customer is located.
14. Customer certifies that Company is in no way infringing upon any existing contract between Customer and any other service provider.
15. This agreement contains the entire agreement of the parties with respect to the subject matter of this agreement and supersedes all prior negotiations, agreements and understandings with respect thereto, and any terms and conditions set forth in subsequent purchase orders or other documents issued by customer, in which case, the terms of this agreement shall control.
16. This agreement may not be modified, amended or supplemented except in writing signed by an authorized representative of Company, provided, however, if a federal, state or local government body or its representative is a party to this agreement, the proposal modification, amendment, or supplement must be in a writing signed by a President or a Senior Vice President of Company.
17. If Company provides flame resistant clothing to Customer, Customer agrees it bears sole responsibility for selecting the flame resistant clothing and fabrics ("FRC") under this Agreement determining whether such items are appropriate for use by its employees and agents in their applicable work environment(s). **CUSTOMER ACKNOWLEDGES THAT COMPANY HAS MADE NO REPRESENTATION, WARRANTY, OR COVENANT WITH RESPECT TO THE FLAME-RESISTANT QUALITIES OR OTHER CHARACTERISTICS OF THE FRC OR WITH RESPECT**

TO THEIR FITNESS OR SUITABILITY FOR THIS OR ANY OTHER PURPOSE. COMPANY MAKES NO REPRESENTATION WHETHER THE FRC CONSTITUTES APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT FOR THE ENVIRONMENT(S) TO WHICH CUSTOMER'S EMPLOYEES OR AGENTS MAY BE EXPOSED OR AS TO THE FRC'S ABILITY TO PROTECT USERS FROM INJURY OR DEATH.

Customer agrees to notify all employees and other agents of Customer who may wear or will be wearing the FRC that it is not designed for substantial heat exposure or for use around open flames. Customer acknowledges that compliance with any and all OSHA or other similar regulations or requirements relating to personal protective equipment is the sole responsibility of Customer. Further, Customer releases Company from any and all liability that results or may result from the use of the garments, including but not limited to any alleged failure of the FRC to function as flame-resistant or provide indemnify and hold harmless Company from any claims and damages arising out of or associated with this Agreement or resulting from Customer's or its employees' use of the FRC.

18. If Company provides high visibility garments to Customer, Customer bears sole responsibility for: (a) determining the level of visibility needed by wearers of the garments for their specific work conditions or uses; (b) identifying and selecting which garments meet the required level of visibility; and (c) determining when garments require repair or replacement to meet the required level of visibility. If garment needs to be replaced outside of normal wear and tear, the customer will be charged the then current replacement value. Customer acknowledges and understands that the garments alone do not ensure visibility of the wearer. Customer further acknowledges that Company is relying upon Customer to determine whether any garments need repair or replacement to maintain the required level of visibility. Company represents only that the garments supplied satisfy certain ANSI/ISEA standards to the extent the garments are so labeled. Customer acknowledges that Company has made no other representations, covenants or warranties whether express or implied, related to the garments.



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2021

AGENDA REPORT

AGENDA ITEM G.3

Prepared By: Tan Nguyen, Finance Manager
Submitted By: Rick Howard, District Manager

Agenda Title:

Receive Fiscal Year 2021-22 Budget Preparation Schedule

Recommended Action:

Receive and file.

Executive Summary:

The Fiscal Year 2021-22 Operating and Capital Improvement Program budget is currently in development. The budget schedule is as follows:

Thursday April 15, 2021 3PM

Board Meeting: Distribution of Proposed 2021-22-23 Budget

Wednesday May 5, 2021 11:00AM

OCMVCD Special Meeting: Budget Presentation

Thursday May 6, 2021 11:00AM

OCMVCD Special Meeting: Budget Presentation

Thursday May 20, 2021 3PM

Board Meeting: Adoption of 2021-22-23 Budget

Strategic Plan Compliance:

This item complies with the District's Core Values of the Strategic Plan wherein vector control services are provided in the most cost-effective manner.

Fiscal Impact:

Amount Requested \$ N/A

Sufficient Budgeted Funds Available:

Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item:

Exhibits:



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

February 18, 2021

AGENDA REPORT

AGENDA ITEM: G.4

Prepared By: Tawnia Pett, Executive Assistant/Clerk of the Board
Submitted By: Rick Howard, District Manager

Agenda Title:

Receive Statement of Economic Interests 700 Forms for Filing

Recommended Action:

Receive and file.

Executive Summary:

Each trustee is required to complete a Statement of Economic Interests Form 700 by April 1, 2021. (Please note there are penalties for late filing). The cover page of the form 700 must have an original signature in blue ink. Trustees may obtain the form and additional information online at <http://www.fppc.ca.gov/Form700.html> or file electronically as indicated below.

Electronic Filing: All trustees should have received information from the Clerk of the Board of Supervisors regarding filer instructions for electronically filing their Statement of Economic Interests Form 700, including log-ins, IDs, and passwords. The link to this site is <https://www.southtechhosting.com/OrangeCounty/eDisclosure/>

Please contact Tawnia Pett if you have not received this information. Electronic filing is not mandatory.

Trustee Filing Disclosure is Category OC-1: All interests in real property in Orange County, as applicable, as well as investments, business positions, and sources of income (including gifts, loans, and travel payments) "Your Position" should be filed as "Board Trustee".

Fiscal Impact:

Amount Requested \$ N/A

Sufficient Budgeted Funds Available:

Category: Pers. Optg. Cap. -or- CIP# Fund#

Previous Relevant Board Actions for This Item:

Exhibits:

Vector of the Month

Influx of Harmless ‘Mosquito Hawks’ Look Like Giant Mosquitoes



A crane fly perched on a person's fingers. Photo Credit: San Diego County News Center

If you have noticed what looks like giant mosquitoes or daddy-longlegs with wings, flying around like crazy and bouncing off walls, you are not alone. Crane flies can appear in droves throughout the region during rainy winters. Crane flies are nothing to be afraid of. They have many nicknames, including “mosquito hawks,” “skeeter-eaters,” and “daddy longlegs.” However, they are really just crane flies. Although they are pretty large for the average bug you see flying around in Orange County, they are completely harmless to people.

Their bodies sometimes reach an inch or more in length, but they can look even bigger because of their six, long, stilt-like legs. The easiest way to identify a crane fly is to see if it is bigger than a dime. If it is too large to be a mosquito, then it is most likely a crane fly. Bug experts sometimes call the crane flies “five-legged flies” because of their spindly, fragile legs. It is unusual to find one with all six of its legs intact.

There are a few myths and misconceptions that need to be debunked. First, they are related to mosquitoes, but crane flies are not mosquitoes. Most adult crane flies don't eat at all, but those that do will drink nectar. Since most adults do not consume, they are unable to bite, and therefore cannot transmit disease. That's the good news.

Unfortunately, crane flies do not eat mosquitoes. Crane flies have colorful but inaccurate nicknames such as “mosquito hawks” and “skeeter-eaters.” Also, adults only live ten days at the most, unless they're gobbled up by birds, lizards or other predators. Spring is the peak season for crane flies. Their populations are high following a rain event. These bugs are attracted to lights, often drawing them into houses through open doors and windows.

How to Tell Between a Mosquito Hawk & a Mosquito



Updated November 22, 2019

By Claire Gillespie

While a crane fly may look like a giant mosquito – leading to it being labelled a mosquito hawk – it is actually a completely different insect. Despite rumors to the contrary, the crane fly doesn't prey on the mosquito for food either. Other winged insects sometimes referred to as mosquito hawks are dragonflies and damselflies, which do feed on mosquitoes.

Crane Fly vs. Mosquito

The crane fly is used to refer to any member of the insect family Tipulidae, of the order Diptera, while the mosquito is a small, midge-like fly from the family Culicidae.

The biggest difference between a crane fly and a mosquito is their dietary requirements and habits. Larval mosquitoes eat algae and adult mosquitoes can survive on plant nectar. However, female mosquitoes need both lipids and proteins in their diet to be able to lay eggs, and it's for this reason that they feed on the blood of humans, animals and birds. The mosquito sticks a proboscis (a tube-shaped attachment) into the skin in order to detect a satisfactory blood vessel to suck blood from. So if you are "bitten" by a flying insect, it's likely to be a mosquito and is definitely not a crane fly.

Crane fly larvae feed on organic matter and plant nectar, building up fat reserves to rely on during their short adult lives. Compared to the mosquito, the crane fly is a gentle insect.

The main similarity between a crane fly and a mosquito is their appearance. A crane fly, despite being completely harmless, does look like a large mosquito. They are also both flying insects, and you may see both of them near water, as this is their habitat during the larval stages.

Both crane flies and mosquitoes can infest outdoor living spaces, but crane flies typically only arrive in your home by accident, and don't stay long. On the other hand, mosquitoes are happy to set up home indoors, particularly where water collects, such as in potted plants.



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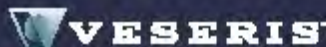


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Contact: John Holick
509-222-8039
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Welcome from the President

Welcome to the 89th Annual Conference and Exhibitor Showcase of the Mosquito & Vector Control Association of California (MVCAC). This year's conference will be unlike any other conference the Association has ever hosted in that it will be completely virtual. As it has for so many other sectors of life, COVID-19 has dramatically changed the way we conduct business. The association membership and administrative staff have worked hard to ensure the health and safety of our members, all while maintaining focus on the goals, commitments, and protection of our industry. This virtual program showcases the resilience and commitment of our membership and industry partners to continue sharing their knowledge, research, best practices, and experiences, even as the greater societal need to physically distance keeps us apart. It's our goal to re-create the many positive experiences enjoyed by our members during in-person conferences. This year, you'll hear from more than 90 presenters organized into these 9 symposia:

- Challenges and Opportunities in Vector-Borne Diseases
- Mosquito Biology and Disease
- Community Engagement and Education
- Public Policy, Governance and Operations During the COVID Crisis
- Operations and Technology
- Research from the Pacific Southwest Center of Excellence in Vector-Borne Diseases
- In Control: A Look at Operational Tools and Equipment
- Innovation and Discovery in Mosquito Control
- Invasion of the Body Biters: Statewide Efforts Against Aedes

You'll also have an opportunity for live interaction with speakers after each session and to join virtual lounges to network with other attendees on various industry topics. The conference will feature a virtual exhibitor hall, poster session and numerous social and interactive activities throughout the three days.

This year, I have the pleasure of welcoming our keynote speaker, Dr. E. Oscar Alleyne, Chief of Programs and Services at NACCHO, the National Association of County and City Health Officials. Dr. Alleyne's presentation, "Widespread consequences of COVID-19 to local health departments," will be a timely and informative discussion that will likely resonate with your own experiences and struggles.

I'd like to thank all of the presenters, moderators, sponsors, MVCAC staff, and the conference planning committee for committing to this huge virtual undertaking, while juggling the demands of work in uncertain times.

This conference will highlight the extraordinary dedication and perseverance of those in our field during a time when restrictions and obstacles have halted progress in other industries. We'll share with each other all we've accomplished during the lockdowns and look forward to a time when we can all peruse the exhibitor hall in-person, warmly greeting our friends, colleagues, and industry partners. Until then, I hope you enjoy all this conference has to offer from the safety and security of your home or office.

Best wishes,
Truc Dever, MPA
2021 MVCAC President
General Manager
Greater Los Angeles County VCD

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Schedule of Events

Monday February 1, 2021

9:00am-12:00pm	MVCAC Board of Directors meeting (separate zoom link)
12:30pm	Platform opens/Visit Exhibit hall
1:00-5:00 pm	Trustee Session (1.5 A)
2:00-3:00 pm	Moderator training (invite only)
4:00 –5:30 pm	Exhibitors live in booths
4:30-5:30 pm	MVCAC Bingo!

Tuesday February 2, 2021

7:00-8:00 am	Exhibitors live in booths
7:30-8:00 am	Virtual Lounge- Outreach and Education <ul style="list-style-type: none">• Moderator– Nola Woods
8:00-10:00am	Welcome to MVCAC/Plenary session (1.5 B) <ul style="list-style-type: none">• Welcome from MVCAC President• In Memoria• MVCAC Districts showcase• Widespread Consequences of COVID-19 to Local Public Health Departments <i>Presented by E. Oscar Alleyne, DrPH, MPH, NACCHO</i>
10:00-10:30am	Break/Exhibitors live in booths Virtual Lounge-Aedes Best Practices <ul style="list-style-type: none">• Moderator– Jodi Holeman
10:30-11:30am	Reeves New Investigator
11:30am-1:00pm	Break/Visit exhibitors (live)/poster session
12:00 pm-	Virtual Lounge-Science and Technical Strategies <ul style="list-style-type: none">• Moderator-Suzanne Klueh
1:00-3:30pm	Concurrent Sessions <ul style="list-style-type: none">• Challenges and Opportunities in Vector-borne Diseases (0.25 C/0.75 D)• Mosquito Biology and Disease (1.0 B)
1:00-3:30 pm	Concurrent Sessions <ul style="list-style-type: none">• Community Engagement and Education (1.0 A)• Public Policy, Governance & Operations During the COVID crisis (1.0 A)
3:30-5:30 pm	MVCAC Bingo Concludes MVCAC Trivia Fun! Exhibitors Live in booths



Schedule continued

Wednesday February 3, 2021

- 7:00-8:00am Exhibitors live in booths
- 7:30-8:00 am Virtual Lounge- Non-mosquito topics
- Moderator-Paula Macedo
- 8:00-10:15am Concurrent Sessions
- Operations and Technology (1.25 A / 1.5 B/ 0.25 C)
 - Pacific Southwest Center for Excellence (.5 A/1.5 B/.25 C)
- 10:15-10:45am Break/Exhibitors live in booths
- Virtual Lounge- Manager and Senior level staff topics
- Moderator– Peter Bonkrude
- 10:45am-12:30pm Concurrent Sessions
- In Control: A Look at Operational Tools & Equipment (1.25 A)
 - Innovation & Discovery in Mosquito Control (.5 A/.75 B)
- 12:30-1:00pm Awards presentations
- 1:00-1:30 pm Break/ Exhibits live in booths
- Virtual Lounge- New to the Profession
- Moderators– Kim Hung and Levy Sun
- 1:30-3:30pm Concurrent Sessions
- In Control: A Look at Operational Tools & Equipment part B (1.25 A/.25 D)
 - Invasion of the Body Biters: Statewide Efforts Against Aedes (1.25 A/ .5 B)



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Day by Day Schedule

Monday February 1, 2021

- 9:00am-12:00pm MVCAC Board of Directors meeting (external zoom link)
- 12:30pm Platform/Exhibit Hall opens
- 1:00-5:00 pm Trustee Session (1.5 A)
- 1:00 pm Ethics Training
Craig Steele, Richards, Watson, Gershon Law
- 3:00 PM **Development of a Swimming Pool Maintenance Ordinance to Expedite Property Access in the San Gabriel Valley**
Jared Dever, San Gabriel MVCD
Living with an Unwanted Guest
Michael Thompson, Assistant General Manager - Maintenance Division, Sonoma Water
The Sonoma Creek Enhancement Project – Collaboration for Habitat Enhancement and Mosquito Source Reduction
Erik Hawk, Marin Sonoma MVCD
Live Q&A
- 2:00-3:00 pm Moderator training (invite only)
- 4:00-5:30 pm Visit Exhibitors live in virtual booths
- 4:30-5:30 pm MVCAC Bingo with the Exhibitors!

Tuesday February 2, 2021

- 7:00-8:00 am Visit Exhibitors live in virtual booths
- 7:30-8:00 am Virtual Lounge- Outreach and Education
• Moderator– Nola Woods
- 8:00-10:00am Opening Session
- 8:00 am **President's welcome**
Truc Dever, MVCAC President
Greater Los Angeles County VCD
In Memoriam
- 8:15 AM
- 8:30 AM **MVCAC District Showcase**
- 8:45 AM **Plenary Speaker**
Widespread Consequences of COVID-19 to Local Public Health Departments
E. Oscar Alleyne, DrPH, MPH
NACCHO
- 10:00-10:30am Break/Visit Exhibitors live in virtual booths
Virtual Lounge-*Aedes* Best Practices
• Moderator– Jodi Holeman

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Piper Kimball
707.484.6937
piper@leateam.com

Reeves New Investigator Award (1.5 B)

10:30-11:15 AM

Moderator: Rhiannon Jones, Merced MAD

- 10:30 AM **Evaluation of residential property types for *Aedes aegypti* habitats in Placer County, California**
Vanessa Hill, Placer County MVCD
- 10:50AM **Spatio-temporal impacts of aerial adulticide applications on populations of West Nile virus vector mosquitoes**
Karen Holcomb, UC Davis

11:15am-1:00pm Break/Visit exhibitors live in virtual booths/poster session

12:00 pm Virtual Lounge-Scientific/Technical Strategies

- Moderator– Suzanne Klueh

Poster session (poster presenters available for questions)

11:30am-1:00pm

In the following order:

The anti-viral potential of the piRNA pathway*Peter Atkinson, Northwest MVCD***A Metabolic Snapshot: Using metabolomics to compare near wild and colonized *Aedes aegypti****Geoffrey Attardo, UC Davis***Morphological variations of *Aedes aegypti* mosquito populations in northern Tulare County, California***Jesse Erandio Delta VCD***Identifying potential mammal host reservoirs in Rickettsia 364D, an emerging tick-borne pathogen in California***Vincent Mai, San Francisco State University***Pyrethroid resistance and spread of *Aedes aegypti* in California***Erin Taylor Kelly, UC Davis***Reducing continued *Aedes aegypti* production among residents with a history of breeding***Crystal Grippin, Delta VCD****Aedes aegypti* in 2020: Potential source preference***Crystal Grippin, Delta VCD***Rickettsial infections in fleas of Southern California***Xiaoming Wang, UC Irvine***Habitat suitability of underground storm drain systems for *Aedes aegypti****Tanya Posey, Greater Los Angeles County VCD*

1:00-3:30pm Concurrent Session A

Challenges and Opportunities in Vector Borne Disease (.25 C/.75 D)

1:00 - 2:00 PM

Moderator: Laura Krueger, Orange County MVCD

A ten-year summary of Tick-Borne diseases in California: What have we learned from human case surveillance?

Anne Kjemtrup, CDPH-VBDS

Live-trapping Norway Rats, *Rattus norvegicus*, in homeless camps in Oakland, California, and the implications for public health

Adena Why, Alameda County MVCD

Additional Authors: Sutapa Biswas, Natalia Ferova, Augustine De Villa and Wade Lee, Alameda County MVCD

Similarities in environmental exposure to the causative agent of hantavirus pulmonary syndrome in two Mono County human cases, 2019

Joseph E. Burns, CDPH-VBDS

Additional Authors: Renjie Hu, Marco Metzger and Sara Billeter, CDPH- VBDS

Environmental investigation and response for a human Plague case, South Lake Tahoe, 2020

Bryan T. Jackson, CDPH-VBDS

Additional Authors: Mark Novak, Gregory Hacker and Vicki Kramer, CDPH-VBDS; Stefan Sielsch, El Dorado County VCD

Mosquito Biology and Disease (1.0 B)

2:15-3:30 PM

Moderator: Sarah Wheeler, Sacramento Yolo MVCD

Surveillance for Mosquito-borne Encephalitis virus activity in California, 2020

Tina Feiszli, CDPH-VBDS

Additional Authors: Kerry Padgett, Leslie Foss, Robert Snyder, Vicki Kramer and Sharon Messenger CDPH-VBDS; Chris Barker, Ying Fang and Jody Simpson, DART

West Nile virus-associated hospitalizations, California, USA, 2004-2017

Robert E. Snyder, CDPH-VBDS

Additional Authors: Gail Sondermeyer Cooksey, Vicki Kramer, Seema Jain and Duc J Vugia, CDPH-VBDS

Exploring twenty years of mosquito collection data from the Coachella Valley

Kim Hung, Coachella MVCD

Additional Authors: Melissa Snelling, Coachella Valley MVCD

Characterizing areas with increased burden of West Nile virus disease in California, 2009-2018

Mary Danforth, CDPH-VBDS

Additional Authors: Marc Fisher, Nicole Lindsey and Stacey Martin, CDC; Robert Snyder and Vicki Kramer, CDPH-VBDS

An evaluation of the California Mosquito-borne virus surveillance and response plan relative to human West Nile virus disease risk

Mary Danforth, CDPH-VBDS

Additional Authors: Chris Barker and Emma Lonstrup, UC Davis; Robert Snyder and Vicki Kramer, CDPH-VBDS

Expanding mosquito surveillance methods to accommodate seasonal fluctuations in native species and to monitor for invasive *Aedes* species

Melissa Doyle, San Gabriel Valley MVCD

Additional Authors: Gimena Ruedas, Jacqueline Cordova and Aviva Goldmann, San Gabriel MVCD

***Dirofilaria immitis* prevalence in Southern California: Invasive *Aedes* and native *Culiseta* species**

Zaina Chaban, University of the Pacific

Additional Authors: Susanne Kluh, Greater Los Angeles County VCD and Tara Thiemann, University of the Pacific



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1:00-3:30 pm Concurrent Sessions B

Community Engagement and Education (1.0 A)

1:00-2:15PM

Moderators: Mary Joy Coburn and Anais Medina Diaz, Greater Los Angeles County VCD

Public outreach in the era of COVID-19

Luz Marie Robles, Sacramento Yolo MVCD

Enhancing emergency preparedness: Activating PIO/communication groups to help spread the mosquito control message

Mary-Joy Coburn, Greater Los Angeles County VCD

Additional Authors: Anais Medina Diaz, Diana Gutierrez, Caroline Gongora and Helen Kuan, Greater Los Angeles VCD

A neighborhood approach to mosquito control: Mosquito watch

Caroline Gongora, Greater Los Angeles County VCD

Additional Authors: Alejandra Gaspar and Jessica Sams, San Gabriel MVCD

Automation of biting back: Save time and nurture sustainable grassroots community-level interventions

Levy Sun, San Gabriel Valley MVCD

Additional Authors: Anais Medina Diaz, Lilian Moreno, Diana Gutierrez, Helen Kuan and Mary-Joy Coburn, Greater Los Angeles County VCD

The science kits that saved outreach

Breanna Ball, Orange County MVCD

Additional Authors: Heather Hyland, Hester "Fritz" Petropoulos and Lora Young, Orange County MVCD

Adapting a new education strategy in the age of COVID: MQA

Francis Fernando, Greater Los Angeles County VCD

Additional Authors: Greg Mercado, Mary-Joy coburn, Los Angeles County VCD

Assessing tick risk at schools in San Mateo County

Angela Nakano, San Mateo MVCD

Additional Authors: Tara Roth, Theresa Shelton and Cheryl Sebay, San Mateo MVCD

Maintaining school outreach momentum while navigating COVID-19 distance learning in Placer County

Meagan Levano, Placer County MVCD



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Public Policy, Governance & Operations During the COVID crisis (1.0 A)

2:15-3:15 PM

Jared Dever, San Gabriel MVCD and Rick Howard, Orange County MVCD

Pandemic pandemonium: How one Southern California district confronted a world-wide pandemic by taking action with streamlined strategies resulting in minimal operational interference

Rick Howard, Orange County MVCD

It's not business as usual: Administration of a vector control district during the COVID crisis

Truc Dever, Greater Los Angeles County VCD

COVID-19 cash crisis for Mosquito and Vector Control Agencies

John Bliss, P.E., SCI Consulting Group

COVID-19 challenges and changes: A human resources perspective

Tina Pacific, Orange County MVCD

Greater Los Angeles County VCD: Operational response to COVID-19

Wesley Collins, Greater Los Angeles VCD

3:30-5:30 pm

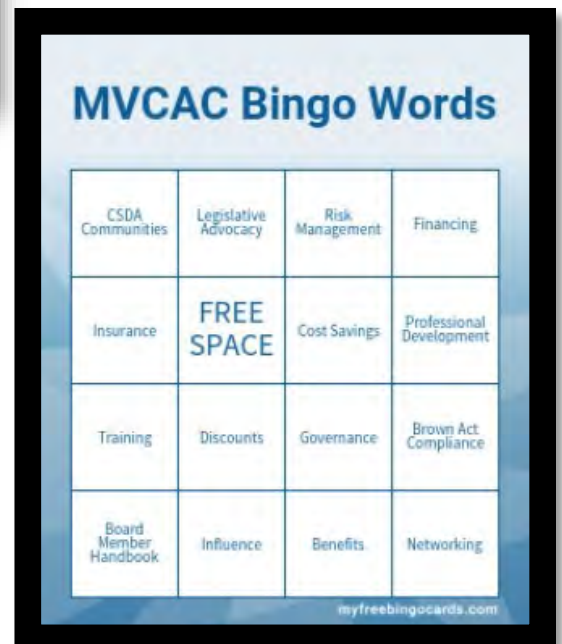
MVCAC Bingo with the Exhibitors

MVCAC Trivia Fun! (Including Prizes!)

Exhibitors Live in virtual booths



Thank you to Vesperis for hosting!



Wednesday February 3, 2021

7:00-8:00am Visit Exhibitors live in virtual booths
7:30-8:00 am Virtual Lounge- Non-mosquito vector topics

- Moderator– Paula Macedo

8:00-10:15am **Concurrent Session A**

Operations& Technology (1.25 A/.5 B/0.25 C)

8:00-10:00 AM

Moderator: Joel Buettner



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Leveraging technology to quickly respond to an emerging invasive mosquito outbreak

Peter Bonkrude Shasta MVCD

Decentralize your district's technology

Robert L Ferdan, Alameda County MAD

VectorSurv API

Jody K. Simpson, DART Lab, UC Davis

Additional Authors: Kurt Johnson and Christopher Barker, DART Lab UC Davis

CalSurv Gateway, for ticks too?

Kurt Johnson, DART Lab, UC Davis

Additional Authors: Jody K Simpson and Christopher Barker, DART Lab UC Davis

Are early adopters of Unmanned Aircraft Systems (UAS) transforming vector control agencies across the United States?

Bill Reynolds, Leading Edge

Additional Authors: Piper Kimball, Leading Edge

The effects of multiple aerial adulticide applications for mosquito control on non-target insect abundance and community composition

Greg White, PhD, Salt Lake City MAD

Additional Authors: Ary Faraji , Tarun Martheswaran and Naja Reissen, Salt Lake City MAD; Illia Rochlin, Suffolk County Department of Public Works

Helicopter application of Natular G30 targeting *Ae. Squamiger* in coastal salt marsh

Andrew Rivera, Clarke

Enhanced routing methods for truck mounted applications in urban environments

Ruben Rosas, Sacramento Yolo MVCD

Additional Authors: Steve Ramos, Sacramento Yolo MVCD

Interactive maps for West Nile virus risk

Shawn Ranck, DART Lab, UC Davis

Additional Authors: Jody K Simpson and Christopher Barker, DART Lab UC Davis

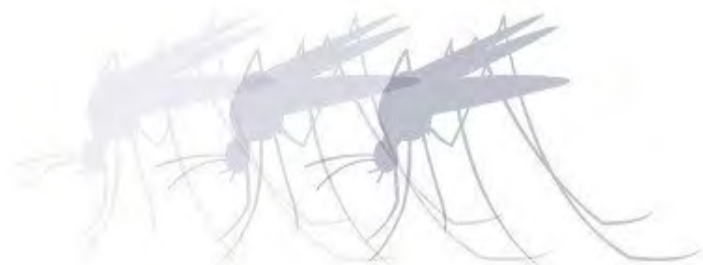
Long-term efficacy of Sumilarv 0.5G in inundated underground utility vaults to prevent adult mosquito emergence

Ryan Amick, Greater Los Angeles County VCD

Efficacy of Sumilarv 0.5G in unmaintained swimming pools

Faiza Haider Greater LA County VCD

Additional Authors: Susanne Kluh, Greater Los Angeles County VCD



Operations& Technology Continued

Mosquito control in subterranean electrical transformer/utility vaults

Jodi Holeman, Consolidated MAD

An overview of the Chironomid Midge Management Program at Greater Los Angeles County Vector Control District

Rande M. Gallant, Greater Los Angeles County VCD

Concurrent Session B

Pacific Southwest Center of Excellence in Vector Borne Diseases (.5 A/1.5 B/.25 C)

8:00-10:15AM

Moderator: Chris Barker, DART Lab, UC Davis

PacVec: Assessment of regional training needs related to vector-borne diseases

Celia Chen, School of Veterinary Medicine, UC Davis

Additional Authors: William Walton, UC Riverside and Christopher Barker, UC Davis

Relating mosquito collection effort to the reliability of West Nile virus risk estimates

Karen Holcomb, DART Lab, UC Davis

Additional Authors Christopher Barker, DART Lab UC Davis

The development of a spatially resolved ensemble forecast model of West Nile virus transmission in the Coachella Valley, CA

Matthew J. Ward, USRA

Additional Authors: Jennifer Henke, Coachella Valley MVCD; Krishna Vemuri and Nicholas De-Felice, Mount Sinai School of Medicine

Assessing changes in the greenness of neglected swimming pools in Fresno, California, through a time series of satellite images

Matteo Marcantonio, DART Lab, UC Davis

Additional Authors: Christopher Barker, DART Lab UC Davis

High abundance and volume of competing water bodies may suppress the expected control of *Aedes aegypti* and *Aedes albopictus* populations when using In2Care traps in Hawaii

Katherine K. Brisco, Mosquito Control Research Lab, UC Davis

Additional Authors: Christopher Jacobsen, Hawaii Department of Health and Anthony Cornel, UC Davis Mosquito Control Research Lab

Vector competence of Californian mosquitoes for Chikungunya virus

Kasen K. Riemersma, Department of Pathology, Microbiology and Immunology, UC Davis

Additional Authors: Ana L. Ramirez and Lark L. Coffey, UC Davis, Department of Pathology, Microbiology and Immunology

Proteomic analysis of the peritrophic matrix from *Aedes aegypti* fourth instar larvae

Sajleen Phagura, Northwest MVCD

Additional Authors: Sarjeet Gill, Northwest MVCD

Diel activity patterns of *Aedes aegypti* in suburban Madera *Sarah T. Abusaa, DART Lab, UC Davis*

Additional Authors: Trinidad Reyes, Madera County MVCD; Matteo Marcantonio and Christopher Barker, DART Lab UC Davis

Genetic and biochemical analysis of Pyrethroid resistant *Aedes aegypti* in California

Geoffrey Attardo, Department of Entomology, UC Davis

Additional Authors: Lindsey K Mack, Erin Taylor Kelly and Anton Cornel, UC Davis; Yoosook Lee, Florida Medical Entomology Laboratory

Characteristics of resistance to Cry11Aa of *Bacillus thuringiensis* subsp. israelensis in *Aedes aegypti*

Haonan Zhang, Northwest MVCD

Additional Authors: Sargeet Gill, Northwest MVCD

Pyrethroid residues in California urban catch basins

Nathan D. Sy, UC Riverside

Additional Authors: Sarah S. Wheeler, Sacramento-Yolo MVCD; Mir Bear Johson, Delta VCD; Robert Cummings, Orange County MVCD

Pyrethroid resistance in *Culex tarsalis* in Northern California

Tara Thiemann, University of the Pacific

Additional Authors: Bonnie Ryan, University of the Pacific; Sumiko De La Vega, San Joaquin MVCD

Pacific Southwest Center of Excellence in Vector Borne Diseases Continued

Forests, fires and phenology: An overview of tick ecology in California

Emily L. Pascoe, UC Davis

Additional Authors: Janet Foley, UC Davis

Community ecology in California driving genetic variation and infectivity of Lyme disease etiological agent

Marie Lilly, San Francisco State University

Additional Authors: Arielle Crews, Grace Shaw and Andrea Sweig, San Francisco State University

Effects of short-term weather on the timing of mosquito host-seeking activity and implications for integrated vector management

Pascale Stiles, DART Lab, UC Davis

Additional Authors: Gurmanpreet Kaur and Christopher Barker, DART Lab UC Davis; Mary Sorensen, Mario Boisvert and Jake Hartle, Placer MVCD; Marcia Reed and Sarah Wheeler, Sacramento Yolo MVCD

10:15-10:45am Break/Visit Exhibitors live in virtual booths

Virtual Lounge- Manager and Senior level staff topics

- Moderator– Peter Bonkrude

10:45am-12:30pm **Concurrent Session A**

In Control: A Look at Operational Tools & Equipment (1.25 A)

10:45AM-3:30 PM

Moderator: Ken Klemme, Northern Salinas MVCD

Argos, SXS, and UTVs - How tracked vehicles are used for mosquito control by Contra Costa MVCD

David Wexler, Contra Costa MVCD

Additional Authors: Tim Mann, Chris Doll, Nola Woods, Andrew Pierce, Contra Costa MVCD

Surveillance and control of mosquitoes by boat and the use of storm drain mister for underground sources at Contra Costa MVCD

David Wexler, Contra Costa MVCD

Additional Authors: Sheila Currier, Tim Mann, Chris Doll, Nola Woods, Andrew Pierce, Contra Costa MVCD

Evolution of catch basin equipment in San Mateo County

Sean Jones, San Mateo County MVCD

Additional Authors: Casey Stevenson, San Mateo Co. MVCD

Jeep modifications for source reduction and treatment in Los Angeles County flood control channels

Mark Daniel, Greater Los Angeles County VCD

A review of application equipment used by the Kings Mosquito Abatement District

Kaitlyn Frazier, Kings MAD

Physical control at residential sites

Ryan Thorndike, San Mateo County MVCD

Trailer safety “Knowing Your Limits”

Hector Cardenas, Santa Clara MVCD

Tools and techniques for rodent surveillance and control

Tara Roth, San Mateo MVCD

Additional Authors: Brian Weber, Casey Stevenson, San Mateo MVCD

Underground storm drain spray wand components and modifications

Yessenia Curiel, Greater Los Angeles County VCD

Sacramento-Yolo A1 Super Duty Mist Blower modifications

Steven Ramos, Sacramento Yolo MVCD

Additional Authors: Ben Weisenberg, Sacramento Yolo MVCD



In Control: A Look at Operational Tools & Equipment

Concurrent Session B

Innovation & Discovery in Mosquito Control (.5 A/.75 B)

10:45AM-12:00 PM

Moderator: Jodi Holeman

An update on the regulatory status of the Wolbachia microbial pesticide

Stephen Dobson, Mosquito Mate

The long and winding journey: Florida Keys Mosquito Control – Oxitec project in the Florida Keys

Andrea Leal, Florida Keys Mosquito Control District

Developments for the *Aedes aegypti* sterile insect technique program in Lee County, FL

Rachel Moreale, Lee County MCD

Just add water: transforming *Aedes aegypti* control

Kevin Gorman, Oxitec

Additional Authors: Zoe Barnes and Ben Sperry, Oxitec

Wide open thinking on wide-area applications

Derek Drews, Clarke

A new perpetual capture carbon dioxide trap for year-round adult mosquito surveillance

Sarah Wheeler, Sacramento Yolo MVCD

Additional Authors: Ben Weisenburg, Kylie Letamendi and Marcia Reed, Sacramento Yolo MVCD



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12:30-1:00pm

Awards ceremony

1:00-1:30 pm

Break/Visit Exhibits live in virtual booths

Virtual Lounge- Young Professionals/New to the Profession

- Moderators- Kim Hung and Levy Sun

Congratulations!



1:30-3:30pm

Concurrent Session A Continued

In control: A look at Operational Tools & Equipment (1.25 A/.25 D)

The Prado Blaster

Nikia Smith, Northwest MVCD

Additional Authors: Eric Ballejos, Dennis Rowe, Tim Shellow, Matt Garfin, Northwest MVCD

Argo larvicide application using dual mounted Murayama dusters

Jason Sequiera Marin-Sonoma MVCD

ProMist dura electric ULV applicator feature review and update

Dan Fachel, Clarke

Additional Authors: Nancy Voorhees and Andrew Rivera, Clarke

DropVision AG: A diverse and dynamic tool for larval control

Piper Kimball, Leading Edge

Innovating at high elevations

Greg White, Salt Lake City MAD

Additional Authors: Ary Faraji, Brad Sorenson, Salt Lake City MAD

Overview of UAS operations for Northern Salinas MAD

Ken Klemme, Northern Salinas Valley MAD

Spraying drone swarms for mosquito abatement

Dan Kenel, Skyex Solutions

Inside look at the \$1,000,000 Mosquitofish facility at Delta Vector Control District

Mark Nakata, Delta VCD

Additional Authors: Mustappa Debboun, Mir Bear Johnson, Delta VCD

Best practices for Gambusia rearing

Mike Brown, Gambusia Solutions

Concurrent Session B

Invasion of the Body Biters: Statewide Efforts Against Aedes

(1.25 A/.5 B)

2:00-3:30 PM

Moderator: Jennifer Henke, Coachella Valley MVCD

Intro to the problem: WALS

Jennifer A. Henke, Coachella Valley MVCD

Pay to play: Targeting notifications to specific neighborhoods

Tammy Gordon, Coachella Valley MVCD

Aedes juice: An effective oviposition attractant for ovicups

Javier Valdivias, Delta VCD

Additional Authors: Jesse Erandio, Crystal Grippin, Mark Nakata and Mustapha Debboun

Delta VCD

How much product do we need? Using different rates for Aedes control

Jennifer A. Henke, Coachella Valley MVCD

Additional Authors: Gabriela Perezchica-Harvey, Geral Chuzel, Melissa Snelling and Artura Gutierrez, Coachella Valley MVCD

Fighting a phantom: Response to initial detection of Aedes aegypti in Yuba City

Erik Blosser, Sutter-Yuba MVCD

Additional Authors: Stephen Abshier, Merv Hunt, Joe Songer and Tim Houser, Sutter Yuba MVCD

The WALS to the cemetery: A look at efficacy under field conditions

Crystal Grippin, Delta VCD

Additional Authors: Mir Bear-Johnson, Javier Valdivias, Paul Harlien, Tim Christian, Bryan Ruiz, Mustapha Debboun, Delta VCD



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Invasion of the Body Biters: Statewide Efforts Against Aedes continued

WALS: Treatments using an A1 Super Duty Sprayer in three habitats of Orange County, California

Tim Morgan, Orange County MVCD

Additional Authors: Sokanary Sun, John Drake, Laura Krueger, Heather Hyland, Lora Young, Rick Howard, Amber Semrow, Additional Authors: Kiet Nguyen, Kassandra Reyes, Daisy Rangel, and Robert Cummings, Orange County MVCD

Evaluation of vehicle-mounted wide area larviciding efforts to control *Culex* and *Aedes* mosquito populations in Los Angeles County

Steven F. Vetrone, Greater Los Angeles County VCD

Additional Authors: Susanne Klueh, Greater Los Angeles County VCD

Effects of vehicle-mounted wide area Larviciding efforts on adult abundance of *Culex* and *Aedes* mosquito populations in Studio City, Los Angeles County

Susanne Klueh, Greater Los Angeles County VCD

Additional Authors: Faiza Haider, Steven Vetrone, Rande Gallant and Harold Morales, Greater Los Angeles VCD

Two years of *Aedes aegypti*: Two counties, two different stories

Samer Elkashef, Sacramento Yolo MVCD

Additional Authors: Marcia Reed, Kevin Combo, Garth Ehrke and Sarah Wheeler, Sacramento Yolo MVCD

A side-by-side evaluation and characterization of A1 mist blowers

Steven Ramos Sacramento Yolo MVCD

Additional Authors: Sarah Wheeler, Samer Elkashef and Marcia Reed, Sacramento Yolo MVCD

THANK YOU!!!!!!

This conference was the work of many.....thank you to the conference committee and our moderators! This conference would not have happened without their guidance and direction and is greatly appreciated!

Conference committee	Tamara Davis*
Truc Dever	Jodi Holeman*
Mary Joy Coburn*	Robert Ferdan
Anais Medina Diaz*	Dan Fisher
Jennifer Henke*	
Kim Hung*	
Dino Candito	
Joe Camacho	

Moderators	Nola Woods
Chris Barker	Susanne Klueh
Joel Buettner	Levy Sun
Sarah Wheeler	Paula Macedo
Laura Krueger	Peter Bonkrude
Ken Klemme	
Jared Dever	
Rick Howard	

*also a moderator

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Aerial Services



**If a picture is worth a thousand words
what are two worth?**

Mosquito and Vector Control Association of CA

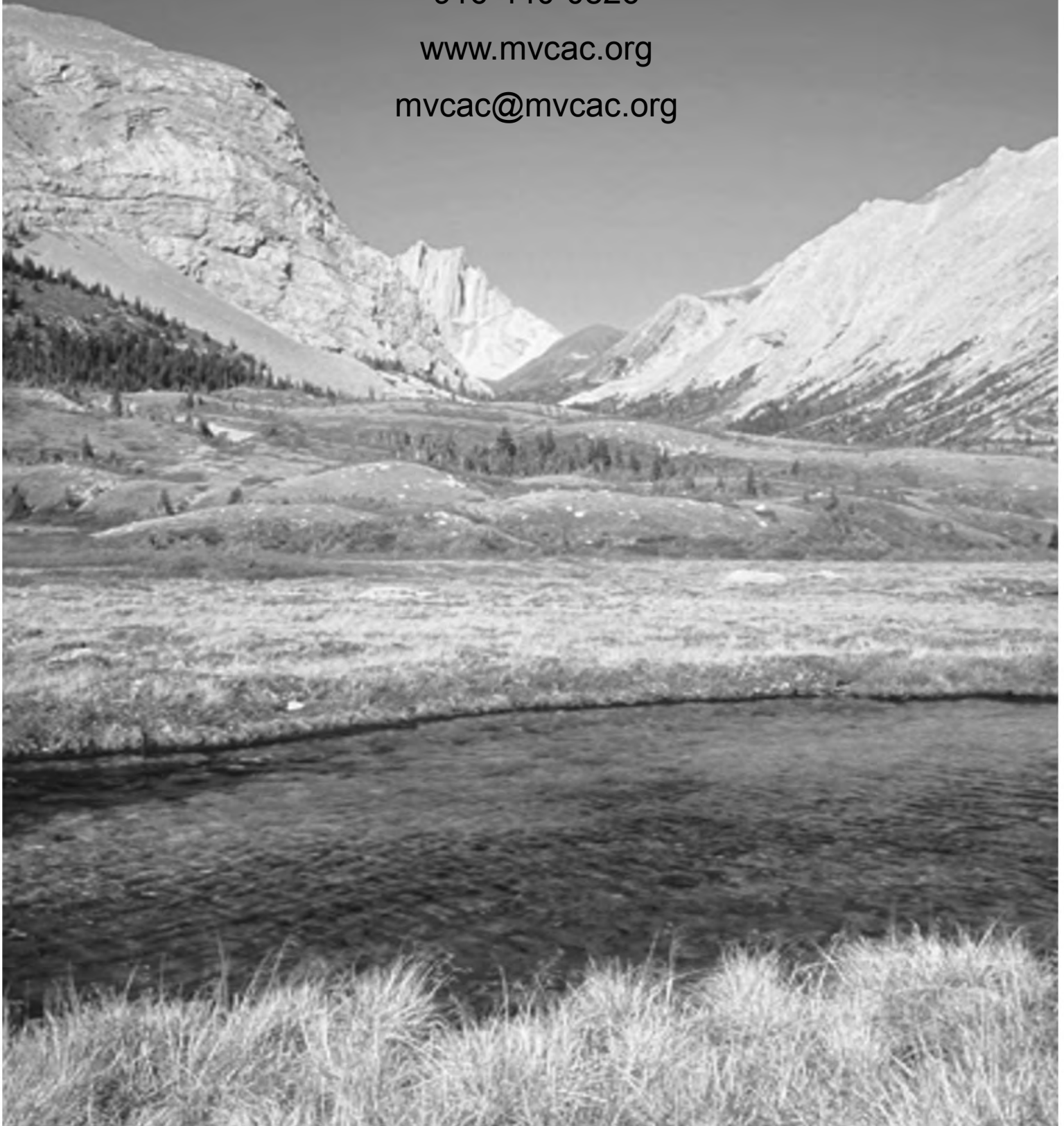
1 Capitol Mall Suite 800

Sacramento, CA 95814

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www.mvcac.org

mvcac@mvcac.org





Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Cheryl Brothers, Trustee

Name of Conference/Event: MVCAC Annual Conference

Date: February 1-3, 2021

Location: Virtual Meeting

2/1/2021

MVCAC BOARD MEETING

Rick H. Is on a new committee to study underground vaults that breed mosquitos.

COMPLETED 2 HOURS OF ETHICS TRAINING

POOL DISCOVERY AND VIOLATION SEQUENCE

San Gabriel follows much the same process as OC

TIDAL MARSHES

Extreme high tide left standing pools of water. Construction practices to remedy.

MARIN WATER AGENCY AND AQUATIC WEEDS

Complete coverage of water surface inhibits mosquito treatment and impacts flood control.

2/2/21

VIRUSES THAT JUMP FROM ANIMALS TO HUMAN

Control agencies funded by their county saw their budgets cut with Covid and resources shifted.

Extreme burden on agency response to WNV, etc.

AGE OF RESIDENTIAL PROPERTY AND DIFFERENCES

Older developments had more issues with flower pots and saucers,

Newer developments have more issues with backyard drains.

GREATER L.A.

leaves swag bags at home visits. Materials usually given at events.

SAN GABRIEL VALLEY

Identify a neighborhood champion to get the message out.

ORANGE COUNTY (yeah Rick)

During a pandemic, establish a state of emergency that will allow the GM to act quickly.
COVID EFFECT ON REVENUES

Ad Valorem (property based) taxes stayed even, Counties are obligated to pay agencies whether or not property tax is paid by owner. Teter Plan

2/3/21

PRESENTATION OF A SERIES OF STUDIES ON EFFECTIVE TREATMENTS AND TRAPS

FLORIDA KEYS

Ready to begin releasing sterile male mosquitos.

AWARDS PROGRAM

IMPACTS AND TREATMENTS FOR INVASIVE MOSQUITOS

I nearly every county in CA now. Game changer for all agencies.

Has potential to transmit some diseases.

Breeds in smaller amounts of water.

Found in rain gutters and downspouts.

EFFECTIVENESS OF SOCIAL MEDIA

Created a 'neighborhood app' that mirrors treatment areas.

DELTA DISTRICT

treating cemeteries to reduce breeding in flower cups.

SAC YOLO DISTRICT

Communities close to Ag land seem so accustomed to mosquitos that they don't often report or request treatment.

Date: February 9, 2021

Signed: *Cheryl Brothers*

Print Name: Cheryl Brothers



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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Rick Howard, District Manager

Name of Conference/Event: 89th Annual MVCAC Conference - 2021

Date: February 1 – 3, 2021

Location: Virtual Conference (originally scheduled for Monterey, CA)

I attended the 89th Annual Mosquito and Vector Control Association of California (MVCAC) *Virtual* Conference from February 1-3, 2021.

Due to the Covid-19 pandemic, the 2021 MVCAC conference was originally scheduled to take place in Monterey, CA, however, it was held virtually this year.

Before I get into the conference itself, I have to say that the virtual format for the conference was excellent, and that while the “in-person” experience was missing, the conference content was overall exceptional.

All of the sessions were pre-recorded in December and placed into the conference program based upon the overall subject matter of the session. I have attached a copy of the conference program for your review.

I presented a session titled “*Pandemic Pandemonium*” that focused on OC Vector’s response to the pandemic, and the actions that the District took even before the Governor issued his stay at-home orders on March 19, 2020.

Other District staff also presented including Communications Specialist Breanna Ball (who you will recall moved on last month to a new position in Wyoming), and Vector Ecologist Tim Morgan. You will receive links to these presentations under separate cover.

The conference included many technical sessions where new, updated, and emerging technologies were presented. Industry trends continue to showcase technologies, and how these technologies are forever changing the business of vector control.

Sessions that I paid particular attention focused on our ground based adulticide and larvicide programs, and more specifically, those focused on the use of the A-1 Super Duty liquid larvicide sprayer. Many Districts have acquired an A-1 (as OC Vector did in 2019) and are in the process of rolling out new and efficient programs centered around the use of the A-1.

I also moderated the Public Policy program and participated in a number of discussions in virtual “meeting rooms” to gain more insight.

In keeping with the goal of engaging staff from all over the state, evening, after hours social events even took place, with both virtual Bingo and Trivia contests. Please ask whose team won the Trivia contest! Hint, I was the Team captain!

All-in-all, I thought the conference was a huge success and I was happy that due to the “virtual” concept, many more of our staff were able to attend than would have been the case if the event were held in-person.

I would encourage members of the Board of Trustees to be sure to attend the 90th Annual Conference in Sacramento in early 2021.

Date: February 4, 2021

Signed: ***Rick Howard***

Print Name: Rick Howard



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Tawnia Pett Executive Assistant/Clerk of the Board

Name of Conference/Event: MVCAC Annual Conference

Date: February 1-3, 2021

Location: Virtual Meeting

During the poster session, staff from the Delta MVCD in Tulare County, reported that they have found a new variation of *Aedes aegypti* mosquito in their county. The new variation they found has a white or light yellow abdomen as opposed to the traditional striped abdomen traditionally found. This is something that will have to be addressed by our outreach in the future, to have residents look for this color variation too, when they are looking for the traditional “tiger striped” mosquitoes.

The Outreach and Education Symposia focused on how districts adapted their outreach programs to virtual platforms in 2020 because of COVID-19. Some districts made community advocate programs where members of the public could take virtual training and become neighborhood leaders on finding mosquito sources and could share mosquito info with their neighbors. Some districts had their inspectors hand out educational materials that would usually be handed out at outreach events when they went on home inspections. And still some other districts took their school programs entirely virtual with whole assemblies turned into a virtual presentation, the creation of smaller question and answer videos, and creating a science kit that was mailed out to over 2900 homes in the county.

On Wednesday I attended the Operations and Technology symposia. One presentation that was very interesting was by someone from the Sacramento-Yolo MVCD, they use the InRoute app for their navigation needs for conducting spraying events in their areas. This app is already available for download from app stores. Once the initial set up of the routes was in the app, they were accessible for use. What made this app so much better than other driving apps used for personal use, is it also included weather conditions so that can be watched while the spray events are taking place to make sure the event is following labeled directions. Another interesting talk in this symposia was by staff from the Salt Lake City MVCD. They have a program where they working with the local university engineering department to create item for

the district. The district gives them the parameters of what they are looking for, and agrees to pay for the materials used, and the students have two semesters to try to design what the district asked them to make. That could be something this district could look to in the future to start a similar program.

Overall it was a great conference and it was a great success for being the first virtual program put on by the state association.

Date: February 3, 2021

Signed: *Tawnia Pett*

Dept Mgr Signature: *Fidel P. Herra*

Print Name: Tawnia Pett



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Tan Nguyen

Name of Conference/Event: MVCAC


Date: 2/3/2021 – 2/4/2021

Location: Online

This was my first time attending MVCAC conference, although it was all online it was a wonderful opportunity to gain a greater understanding of the industry. As a finance person who is not out in the field, it can be difficult to understand the overall work of the District, but the MVCAC conference is an opportunity to learn and close that gap of understanding. For instance, on day two there was a discussion about how COVID-19 has affected public health, you learned about the challenges other agencies are going through and it is relevant to what is going on in the OCMVCD. In the Q&A session, it was a learning experience to hear what methods other agencies are using to control the vectors within their district versus what is use here things such as aerial adulticide.

There was also a session on tools and innovation that is being use in the industry, since the District has recently started to use drones, it was good to hear about the effectiveness of it from other districts that are using the same tools and methods. There were also technical sessions on the science of vector borne diseases. As a person who works with the budget and finance within the District, it is important to understand why a drone is being budgeted for, why certain tools are required. This conference was able to help me understand the needs of the District to budget more effectively.

Date: 2/9/21

Signed: 

Print Name: Tan Nguyen



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: TINA PACIFIC, HUMAN RESOURCES MANAGER

Name of Conference/Event: MVCAC ANNUAL CONFERENCE

Date: FEBRUARY 2-3, 2021

Location: VIRTUAL

The annual conference for the Mosquito and Vector Control Association of California (MVCAC) took place on virtually on February 2nd and 3rd 2021. I attended this conference in a limited capacity as a presenter on February 2, 2021.

The conference included a keynote presentation that addressed the impact that COVID 19 has had on Public Health Departments. Additionally, there were several informative sessions that were geared toward certified Mosquito and Vector Control professionals. I attended the poster sessions presented by public health students and vector control professionals. These sessions were an opportunity for these individuals to share research projects pertaining to everything from mosquito habitats in storm drains to flea borne diseases in humans.

The afternoon was spent in two symposiums - Community Engagement & Education and Public Policy, Governance & Operations During the COVID crisis.

The presentations included various vector control professionals speaking on the challenges and solutions that arose out COVID-19. I was able to learn of the creative solutions that districts were able to implement to navigate through this time. My presentation focused on the challenges and changes specific to Human Resources. Following the presentations, I attended the Q&A sessions where I was able to field questions from colleagues share ideas moving forward. The evening networking events were engaging and I enjoyed interacting with many colleagues in a fun atmosphere. I thought the conference organizers did a great job of making

the virtual conference easy to access. I especially appreciated the number of OCMVCD staff that was able to attend because of the virtual format and the lower overall cost of this conference.

Date: February 9, 2021

Signed: *Tina Pacific*

Print Name: Tina Pacific



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Elizabeth Escobar

Name of Conference/Event: MVCAC 89th Annual Conference


Date: 02/01-03

Location: Virtual

The MVCAC Annual Conference provided several examples of the continual support and hard work this is very apparent through research. This year particularly brought on several challenges and restrictions in Vector Control and proved that adaptation was the key in controlling and monitoring vectors. I was exposed to several interesting project such as the Sonoma Greek Enhancement project, which proposes to enhance tidal exchange and drainage within the fringing tidal marsh along the western bank of Sonoma Creek. This marsh routinely ponds water for long periods which leads to high mosquito production rates. We also learned in creative ways to engage communities and the power od education during a world pandemic. The utilization of health communication such as media advocacy and social marketing allows for reliable and vetted resources to be accessible to the community. The importance of a well comprehensive communication plan during a very difficult time proved to be vital.

Attending this conference has demonstrated the great work that is conducted within counties and health departments to ensure the safety and well-being of its residents.

Date: February 9, 2021

Dept Mgr Signature: 

Signed: Elizabeth Escobar

Print Name: Elizabeth Escobar



Orange County Mosquito and Vector Control District

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Staff Name and Title: Lora Young, Director of Communications

Name of Conference/Event: Annual MVCAC Conference 2021

Date: February 1-3

Location: Virtual Conference

The 2021 Annual Conference was hosted virtually this year, which allowed participants to see various presentations. Below are some highlights for presentation, I attended:

Community engagement:

The community engagement forum focused on the changes different districts had made in response to COVID and shifting outreach to an online forum. One of the presentations focused on automating community activism programs to reduce staffing and time spent coordinating with residents. The program required 3 staff members time on the front end to develop the automation process and 4 different software's (\$1200/annually). The bite back program allowed residents to sign up and depending on their choices would email them options for involvement. Once implemented this program did allow staff to eliminate the need for one seasonal staff to run the bite back program. Other presentation focused on the shift to mobile advertising and the cost effectiveness of using this method versus the traditional advertising avenues such as billboards. The impressions for mobile ads were increased this year due to stay at home orders and the increased use of streaming services.

Policy:

The policy sessions again focused on the need to implement systems in place to continue work in the event of emergencies. One key presentation focused on the need for districts to implement SOPs and work processes to help with continuation of work with limited staff or staff being out with COVID. This was very informative in that many processes are memorialized through past practices and have not been documented for future employees.

Equipment:

The highlight of the equipment sessions for me was the discussion on how a District modified their A1 systems to assist in better functionality, this included dampening the noise and modifying the system to allow the driver to see the systems readouts. This would be interesting in that we use our A1 and have a concern with the noise element. Another session discussed how using two navigation systems allowed the ULV applications to reduce staff from 3 people to 1. I think this would be a system to look into in order to assist with the increase in ULV applications we have conducted year to year.

Overall, the conference was very informative and allowed the opportunity to learn new strategies, the networking opportunities were in the form of virtual loungers and allowed the opportunity to discuss key topics. I found that although in-person allows for informal networking, these virtual lounges were very effective in discussing key topics of concern.

Date: February 9, 2021

Signed: *Lora B. Young*

Print Name: Lora Young



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Luan Ngo, IT Manager

Name of Conference/Event: MVCAC

Date: 2/4/2021

Location: Virtual

For this year's 2021 MVCAC conference, it is not surprising that the conference was conducted 100% online. The sessions were divided up into different time slots and the content were prerecorded videos. There was several presentation at the conference that dedicated talks about how COVID has changed the landscape and operations for Vector Control. For Placer Mosquito and Vector Control, Meagan Leuvano gave an interesting talk about how they were able to make COVID remote learning into an opportunity to roll out a new outreach virtual assembly. The assembly is comprised of recorded videos uploaded and shared on Youtube to help educate kids and parents about mosquitoes and how to keep your home mosquito free. These videos are especially catchy because it contains segments that interacts and tests kids with multiple choice questions. I think this is something that can benefit our District moving into 2021 as we design and plan out our outreach and education content.

During these uncertain times, it became quickly apparent to all Districts that they must prioritize safety for all their staff working in the office and in the field. Many adopted remote working for staff that will not have their duties affected. This opened up a whole new possibility for the future even after returning to normal. This was all made possible with the diligence and quick thinking of the technology support team.

Unmanned Aerial Surveillance (UAS) was another interesting topic that was discussed. It really transformed vector control agencies in many ways. It is a tool that can provide accessibility to hard to reach terrain. It is also extremely safe because it can be performed remotely with a remote control. The heavier drones can even provide pesticide application that ground based vehicles can not reach. It might be a large investment upfront but it is much more cost effective long term due to savings in time and man hours.

Date: 2-8-21

Signed: 

Dept Mgr Signature: Lora B. Young

Print Name: LUAN NGO



Orange County Mosquito and Vector Control District

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Staff Name and Title: Heather Hyland, Public Information Officer

Name of Conference/Event: MVCAC Annual Conference

Date: Feb 1-3

Location: Virtual

Attending the 2020 MVCAC conference was a wonderful opportunity to gain more knowledge and observe what methods other agencies are using to control the vectors within their district. Every year I learn something new. This year it was virtual which was not as engaging and did not leave the opportunity to network and collaborate, but the presentations were just as good and even BETTER. Some speakers added some spice and fun to their presentations, and it was engaging.

This year at MVCAC, one of the main focal points for agencies was COVID precautions and how different agencies handled the pandemic with the resources they had. These were important sessions to attend based on a global pandemic and what OCMVCD can learn from other agencies and bring it back to implement into our own COVID plans.

Aedes was another highlighted topic that more agencies are having to address due to the increase of this species.

Highlights at MVCAC:

- 1) Bite Back Software Program SGV. I think Levy Sun from SGV knocked it out of the park with a stellar and modern approach to a presentation that I would like to use sometime in the future. SGV Bite Back program is truly a new step to virtual vector control. I appreciated the work that went into this in depth program and it is something I hope we can bring to the table when we can or add these details to our Advocate program and sew in the software to the existing one to make it more data friendly.
- 2) Virtual Classroom, Placer County. This was such a highlight of the symposium. Placer County hires actors to and creates virtual classrooms that allows classes not only to participate with the curriculum, but they also implement their staff at the agency to be a part of the program. This is something I am very interested in adding to the future of our programming.

- 3) Widespread consequences of COVID to Local Public Health Agencies-
Dr. Oscar Alleyne great an outstanding presentation about COVID. The charts and data he presents really gave you a whole new perspective of COVID globally. It was interesting to see his survey response results. Living in CA, this presentation showed me that as a larger agency and county we have the upper hand to resources and team effort compared to others. I appreciated the presentation and it gave me some ideas to bring to the COVID team.

Overall, the presentations were calculated, researched, and executed very well.

I truly enjoyed being present for the Community Outreach sessions at the conference because I was able to see what other agencies are doing in my line of work. The presentations sparked some ideas that I can bring back for our team. I appreciated what other Districts were doing to use a creative approach to outreach.

Overall, attending conferences such as MVCAC enables you to interact with agencies across the state providing you with a different outlook to new and fresh ideas. The Virtual Q&A was engaging because we could talk to each other and ask questions about the presentations, so that was a nice addition to the conference. The photo contest was a highlight as well.

Date: 2/4/2021

Signed: Heather Hyland

Dept Mgr Signature: Lora B. Young

Print Name: Heather Hyland



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Jodie D Stoddard

Name of Conference/Event: MVCAC 89ths Annual Conference

Date: February 1-3, 2021

Location: Virtual

It was so nice to be able to attend the MVCAC conference this year during the pandemic in an online format. We learned the importance of working with your cities and Trustees. There was one specific Talk given by Jared Dever and his strides towards getting a swimming pool maintenance ordinance accepted for each city. It is important that vector control activities, even during a pandemic, continue because the threats of West Nile virus, encephalitis, and other diseases don't go away because other problems arise. It is important to stay safe and maintain protocols to keep doing our best to provide our services for the public. There are other challenges besides the pandemic for controlling vector borne diseases including resident participation in source reduction and common practices to exclude these vectors from your home. Many vector control agencies have been unable to find out of the box ready tools and equipment for use in the many habitats that must be surveyed and treated. The out of the box ideas that they have come up with and management of chemical release as indicated by the product labels, is not only innovative, but inspiring. The new and improved ways of using drones to get to hard to reach locations for not only imagery but to treat these areas is quite amazing. Some of the companies not only provide the drones, but also a service to get areas treated.

There are so many projects being piloted by new students and other vector control employees to find out how resistance to the products we use is processed in the vectors we control and diseases like WNV, Encephalitis, Malaria, tick-borne diseases, etc. and their annual findings and counts. One talk in particular stood out where the midgut membrane was being studied that processes the chemicals.

The Tuesday morning memorial was touching. My compliments to everyone who worked on getting this put together so that the conference occurred and we can keep up on our knowledge of what is going on in our communities, and to work on collaborating with our colleagues to help find new and better ways to maintain public health.

Date: 2/8/21

Signed: 

Dept Mgr Signature: Lora B. Young

Print Name: Jodie D. Stoddard



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Amber Semrow, Director of Scientific Technical Services

Name of Conference/Event: Mosquito and Vector Association of California (MVCAC)

Date: February 2-3, 2021

Location: Virtual

It was a wonderful opportunity to attend the MVCAC Annual Conference which was hosted virtually this year. There were many high caliber presentations. Karen Holcomb from the DART Lab at UC Davis gave a talk entitled *Relating mosquito collection effort to the reliability of West Nile virus risk estimates*. Karen used a computer model to see how much surveillance is needed to adequately quantify risk. A key point her analysis showed is that surveillance should be sustained at moderate levels year-round to avoid underestimating risk. She is developing an app for districts to use in the future. As interesting was Katherine Brisco's talk about *High abundance and volume of competing water bodies may suppress the expected control of Aedes aegypti and Aedes albopictus populations when using In2Care traps in Hawaii*. Katherine is also with UC Davis and her work illustrated the importance of reducing/eliminating competing containers (breeding sources) in environments prior to using In2Care traps.

The symposium on Innovation & Discovery in Mosquito Control had speakers who presented on the emerging technology of Sterile Insect Technique (SIT). The speakers covered three SIT methods that are being implemented in the US which include, *Wolbachia* bacteria infected mosquitoes, Oxitec genetically modified mosquitoes, and irradiated (X-ray) mosquitoes. Each unique method involves the release of altered male mosquitoes to breed with wild female mosquitoes. In general, their offspring are rendered unviable or no offspring are produced at all thereby reducing mosquito populations. Another standout symposium was the called *Invasion of the Body Biters: Statewide Efforts Against Aedes*. Talks presented in this session highlighted how several districts are using the Wide Area Larviciding Spray (WALS) system approach to combat invasive *Aedes* species with some success. We are actively investigating SIT opportunities and continue to evaluate the WALS strategy.

Date: February 8, 2021

Signed: 

Print Name: Amber Semrow



Orange County

Mosquito and Vector Control District

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Staff Name and Title: Daisy Rangel, Ph.D., Microbiologist

Name of Conference/Event: MVCAC

Date: Feb 2-3, 2021

Location: Online Conference


___I participated in the MVCAC online conference this year and it was a great learning experience for me. I learned a lot of new application methods, types of traps, and new technologies that can be used to improve vector control, especially in managing the ongoing *Aedes* mosquito abundance problem that Orange County and nearby counties are experiencing. The information I learned will increase my understanding of areas of the vector world I am not commonly aware of and will be useful for when interested parties or members of the public ask me, I can properly respond to their questions and concerns regarding these topics.

There were many other talks of great importance that related more to the work that I do in the Microbiology laboratory. Most importantly, I was able to view a *Dirofilaria immitis* talk which was about how to improve the protocol for testing this parasitic worm. *D. immitis* is the widespread filarial vector-borne disease for which dogs are the natural hosts. The vector of this nematode is mosquitoes and the talk I listened too with great interest was presented by the student Zaina Chaban in the lab of Tara Thiemann at the University of the Pacific.

Zaina was able to identify wild mosquito species infected with *D. immitis*, and she described her procedure in full detail that we can follow her example in our laboratory. I contacted Tara after the conference and she agreed to send me positive mosquito samples so that we can use them as controls for our in-house testing. Attending this conference allowed me to learn about improvements to her protocol and start a new collaboration with Tara and her lab. At OCMVCD, we have been testing for *D. immitis*, this past year, however, we have not been able to detect presence of infected mosquitoes. With this new and improved protocol I look forward to troubleshooting our PCR protocol by applying the positive mosquito samples I will be receiving from Tara and Zaina.

Date: 02/05/2021

Signed: 

Dept Mgr Signature:  Print Name: Daisy Rangel



Orange County

Mosquito and Vector Control District

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Staff Name and Title: Amanda Penicks, Laboratory Field Intern

Name of Conference/Event: MVCAC 2021

Date: 2/2/2021

Location: Virtual/Online

The Mosquito and Vector Control Association of California's 2021 conference had an array of topic areas that aid to the furthering of my education and development in this career of public health. It was an incredible experience, being on an online platform but, still being able to learn and take in information as well as engage with professionals from across the state.


One major take away from the conference was how the current state of the nation, with the COVID-19 pandemic, has impacted not only our industry but, the transmission of zoonotic diseases. Many of the presentations touched on the aspect of how surveillance of specimens and zoonotic disease transmission was impacted due to COVID restrictions and limited the available staff on site. However, the limited travel factor of the population did seem to play a beneficial role in minimizing the expanse or range to vectors (*Aedes*, *Culex*, and tick species). According to one of the presentations, in an analysis of Human West Nile Virus cases from 2011 to 2020, the case numbers were lower for the year 2020 when compared to the other years being viewed.


Another speaker from the Coachella Valley explained how the climactic change to the environment in her district's area is contributing to the increased abundance of mosquito populations. As Coachella Valley is located near the Salton Sea, the water that would typically replenish the now receding lake is contributing to the accumulation of stagnant water within the agricultural regions of the area; creating a favorable environment that impacts both their urban and rural populations. This insight did lead me reflecting on our county, and if there are any environmental factors that contribute or have the capability of aiding exponential mosquito population growth.

There were also a variety of poster submissions. A portion of the submissions discussed varying aspects of *Aedes aegypti*. One individual from Delta Vector Control discussed the

morphological variations of *Aedes aegypti* within Tulare county. He explained how a pale type has emerged within their wild type population and one of the major differentiating characteristics was the pale-yellow scales on the dorsal and ventral sides of the abdomen. It will be interesting to see their findings on the new genetic cluster to see if this type has the same or differing vector competency.

Date: 2/9/2021

Signed: 

Dept Mgr Signature: 

Print Name: Amanda Penicks



Orange County

Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Kiet Nguyen, Vector Ecologist

Name of Conference/Event: 89th Annual Mosquito and Vector Control Assoc. of California

Date: February 1st to February 3rd

Location: Virtual Conference

The 89th Mosquito and Vector Control Association of California Conference was rich with ground-breaking research and informative regional reports. The conference consisted of multiple reports on pesticide resistance and gene expression in local mosquitoes. Additionally, other districts presented on new control techniques using unmanned aerial systems (UAS).

An aspect often missed about West Nile virus (WNV) cases and hospitalizations, is the total monetary burden to the healthcare system when a victim is recovering from the disease associated with WNV. Robert Snyder from the California Department Public Health gave a revealing presentation on the true costs for each patient hospitalization. Each patient recovering from WNV infection can cost up to 3.5 million dollars. The takeaway from this presentation is that the ounce of prevention is worth more than the pound of cure.

Day three of the conference was exceptional. Many talks focused on invasive Aedes mosquito detection and control efforts. There were also many presentations on advancements in mosquito control technology, focusing on making mosquito control more efficient, environmentally friendly, and more efficacious.

Ken Klemme gave an entertaining talk about Unmanned Aerial systems (UAS) usage in Northern Salinas County. His talk focused on system checks and safety protocol when in the field and deploying a flight mission. Public awareness and outreach during a flight mission is critical during a plan flight mission. Residents often approach our team, asking questions about the aircraft. Having prepared literature and a district representative on site to answer questions is an affected approach.

Mark Nakata, who was a former district intern and currently a Vector Ecologist with Delta Mosquito Abatement District gave an in-depth technical review of Delta's indoor fish hatchery

facility. Mark was essential in planning, developing, and building the facility for Delta. His presentation focused on major hurdles and technical details of the indoor fish rearing facility. All aspects of the hatchery was considered, from size of the tanks, lighting, feeding apparatus, ambient temperature, and humidity.

Date: 2/8/2021

Signed: *Kiet Nguyen*

Dept Mgr Signature: *Archie Lemmon*

Print Name: Kiet Nguyen



Orange County

Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: David Taylor, B.C.E. - Research Associate

Name of Conference/Event: 89th Annual MVCAC Conference 2021

Date: February 01-03, 2021

Location: "Monterey, California" but presented on-line due to COVID-19

This was my first time attending the conference and found it to be informative, instructional, and inspirational. Especially appreciated was the memorial for those that were lost during this last year and thought it was very special and heartfelt by all.

It was enlightening to see how swimming pools impact mosquito control and the difficulty in obtaining decent results. Obviously anything that can be done to streamline and simplify the process for Districts and the Public will be a benefit. The new ordinance should go far to resolve these issues.

A presentation that stimulated me thinking was the one on VectorSurv being used for ticks. Could it be repurposed and used for tracking our public phone calls and emails. This is something that I think should be explored further. It may have a use in determining public concerns throughout the county and possibly to specific areas within the county and maybe confirm or alert us to issues of specific concerns. Maybe next year with the information obtained with this program I could make a presentation with respect to this subject.

Dr. Alley's presentation brought home how Vector Control Districts have had to adapt to COVID and that there are other factors to consider other than the disease itself such as burnout. These other factors may need to be taken into consideration and may require attention in our operations whether it involves public contacts our staff.

One thing I noticed was that the presenters all seemed to speak/present so fast that it was difficult to keep up while taking notes. That being said, I look forward to viewing the on-line version when it is made available and allows me to see the presentations I missed and review the ones I attended. All in all, I would recommend this enjoyable conference to anyone with an interest. Thank you for allowing me to attend!

Date: 02/05/2021

Signed: David Taylor, B.C.E.

Dept Mgr Signature:

David Taylor

Print Name:

David Taylor, B.C.E.



Orange County

Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Xiaoming Wang; Research Associate

Name of Conference/Event: 89th Annual Conference, MVCAC

Date: Feb 1-3, 2021

Location: Online (Webinars and Zoom Discussion)

I attended the annual conference virtually from Feb 2nd-3rd, 2021, which is another knowledge explosion in vector and vector-borne disease control. Briefly:

- 1) I joined talks and discussions on insecticide resistance of *Aedes* and *Culex* mosquitoes; introduction, spread and control of *Aedes*, especially *Aedes aegypti*. There were talks on *Aedes* invasion, response, larvicide, pesticide resistance and novel control techniques. There was even a special session for the statewide efforts against *Aedes*. It turned out *Aedes* challenge was increasing in California while being recognized and emphasized. Those gave us inspirations on how to respond quick to current *Aedes* situation in Orange County, as well as potential increasing *Aedes* crisis like expansion and resistance.
- 2) I also listened to presentations on innovative mosquito control techniques using Sterile Insect Technology (SIT) on *Wolbachia* mosquitoes and Oxitec mosquitoes, and other creative traps and pesticide applications. I believe this shields a light on new and future mosquito control efforts for the district.
- 3) There were at least two impressive presentations on the spatial-temporal analysis and risk modeling for *Culex* mosquitoes and West Nile Virus. It's a very important tool for us to fully utilize our district database with years of efforts.
- 4) Presentations on the use of WALIS® in Coachella Valley, Delta and Orange County (Tim's talk) for vector control showed the new and promising solution on vector management and control. Other tools like vehicle-mounted wide area larviciding and new oviposition attractants for ovicups and traps were also inspiring.
- 5) There were several presentations on the mosquitoes in underground storm water (USDS). These studies are closely related to my PacVec project with district. A comparison with their results and ours was done. Specially, a UCR prestation on the analysis of catch basin pyrethroid residuals was an important deeper exploration.

- 6) I helped Ms. Jia Li to present the result of Rickettsial infections in fleas in poster session, and intensively joined the Q&A session on Zoom. I also attended presentations on non-mosquito vectors, such as ticks and tick-borne diseases, which will be very helpful for my future involvement in disease diagnosis with our microbiologist. Furthermore, in the session of PacVec presentations, there were talks on novel mosquito control strategies, and the use of new genomic and metagenomics techniques. This also gave me new ideas on further studies in microbiology lab.

This conference enabled me to learn more via webinars, virtual lounge and session discussions. I also got a chance to communicate with colleagues on both techniques and career developing. Overall, it's a great opportunity and experience to feature our work, and interact with other districts and universities.

Date: 02/08/2021

Signed: 

Dept Mgr Signature: 

Print Name: Xiaoming Wang



Orange County

Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Kassandra Reyes, Administrative Specialist

Name of Conference/Event: MVCAC 2021

Date: 2/1/2021-2/3/2021

Location: Virtual


This was the first conference that I have been able to attend and although it was all virtual this year I was pleased with the setup and found it extremely informative. I selected sessions on the impacts of COVID-19, Community Engagement, Public Policy, Operations and Technology, and Statewide efforts against Aedes. I look forward to taking a look back at a few talks and watching the webinars that I didn't have the opportunity to sit through.

I appreciated the fact that we had the opportunity to listen to all the poster presentations and rewind their talk if there was anything we missed. Our former Intern, Jia Li presented a poster on Flea-borne typhus data that was very well done. While watching Jia's statistical analysis on the flea data I learned that male fleas were more likely to test positive for felis than the female cat flea. I also learned that Orange County fleas were more likely to test positive than fleas in Los Angeles. Jesse Erandio's poster about morphological variations of the Aedes Aegypti really caught my eye; the way he compared photos of the pale Aedes with the Aedes that we all know was very helpful; I look forward to hearing their future findings.

The Webinar on Community Engagement & Education was also very enjoyable. I loved hearing how the other districts education programs were adapting to the pandemic. I thought the educational "bill nye-like" videos were a great idea and could be something our district can adopt. I also thought it was a great idea to have their lab personnel work with the communication staff to catch the attention of the students.

Overall, I felt that this year's conference was a great one. I hope they consider keeping this format for future years.

Date: 2/8/2021 **Signed:** Kassandra Reyes

Dept Mgr Signature:  **Print Name:** Kassandra Reyes



Orange County

Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Laura Krueger, Vector Ecologist

Name of Conference/Event: MVCAC Virtual Annual Meeting

Date: Feb 1-3, 2021

Location: Virtual Conference

This was the first virtual MVCAC Annual Conference and I was so pleased with the platform and ease of sharing information. This was also the first virtual conference where I moderated a symposium and participated on the social committee, and it was exciting to learn that over 530 people were in attendance for the Challenges and Opportunities in Vector-borne Diseases Symposium. Professionally, I benefited from the MVCAC virtual moderator training and I feel more prepared for the next opportunity. The symposium highlighted other vectors such as ticks, mice, rats around homeless encampments, and plague. There is definitely an opportunity for OCMVCD to expand the rodent control program around homeless encampments in OC and Alameda MAD will share the protocols and specific information, if requested.

OCMVCD former Intern, Jia Li, a UCI MPH student who completed her biostatistics MPH using flea-borne typhus data, presented her research during the poster session. Jia included a five-minute explanation of the poster and it was well received. Jia's poster found cat fleas to be the most likely flea infected with *R.typhi* and *R. felis* in Orange County.

The Operational Equipment seminars were of interested to MVCAC. Vector Ecologist Tim Morgan presented on the three field efficacy trials OCMVCD staff conducted in 2020 to determine the efficacy of WALS treatments with the A1SD. The trials were considered effective at reducing larval mosquito density in bioassay cups and the program will expand in 2021.

Date: 2/8/21

Signed: Laura Krueger

Dept Mgr Signature: *Ambly Sauron*

Print Name: Laura Krueger



Orange County

Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences, and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Michael V. Saba: Biologist

Name of Conference/Event: MVCAC 89th Annual Conference

Date: February 1-3, 2021

Location: Orange County MVCD (Virtual and Zoom)

The Mosquito and Vector Control Association of California 89th Annual Conference offered a glimpse into some of the most innovative and progressive ideas and research I have seen since I began my tenure in vector control in 2007. I selected sessions on Community Engagement and Education, Public Policy, Governance and Operations During the COVID-19 Crisis, Operations and Technology, Innovations & Discovery in Mosquito Control and Operational Tools and Equipment. Standouts for me included Levy Sun's (San Gabriel Valley MVCD) presentation on community level interaction, Ken Klemme's (North Salinas Valley MAD) discussion of UAS operations and safety and Mark Nakata's (Delta VCD) description of his forthcoming mosquitofish facility design, construction, and features.

Although I manage our mosquitofish and biological control program (Program), I was able to extract very beneficial information from these very different programs that I will integrate into my program. Levy Sun provided me with additional insights to consider when working with the public and several of these tips will be beneficial to incorporate into the way that Operations staff and I approach fish service requests and distribution. Ken Klemme's talk helped me discover methods to improve staff preparation and safety when working with staff in my Program, especially as it pertains to field work. Finally, Mark Nakata provided a narrative about a new design of automated fish feeder that may also be of great benefit to our program, as high-end and reliable fish feeding products in aquaculture are often cost-prohibitive and rife with issues. Perhaps one of the best parts of these conferences is not just knowing that I will always be seeing updated research and information when I attend, but that I will also be able to bring back fresh ideas that can advance and improve our Program.

These speakers, along with many other presentations in the last two days, helped to remind me of what a special privilege it is to do this work and why I chose to be here in the first place: to take my unique skillsets, combine them with empathy, critical thinking, and objectivity, and use

these attributes to make this world a little better, reduce unnecessary suffering and create/contribute some things of benefit to the vector community whenever possible. I move forward with renewed vigor and enthusiasm as I approach my program's current and forthcoming challenges and goals. I really appreciate the opportunity to attend such conferences, when possible, and am grateful for my management's support.

Date: February 4, 2021

Signed: Michael V Saba

Dept Mgr Signature: 

Print Name: Michael V. Saba



Orange County
Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Philip Shin, Laboratory Fishery Assistant

Name of Conference/Event: MVCAC 89th Annual Conference

Date: February 1-3, 2021

Location: Orange County MVCD Zoom Online

This was the first MVCAC I have attended during my time at OCMVCD. With the challenges of corona virus halting our ability to attend in person, this year's conference was held entirely online through zoom presentations. I was able to observe the different technologies and techniques used by other vector control agencies to combat vectors through methods of efficiency. For example, Northwest Mosquito and Vector Control District uses prado blasters equipped on their Argo amphibious vehicles, to obtain a wider application of pesticide in wetland ponds. With the ever-growing presence of aedes mosquitoes, it was motivating to see all the other districts collaborate through different means. This year with covid-19 being a main concern, both Rick Howard and Tina Pacific gave informative presentations on our District's response and the safety measures taken into effect. Besides the talks on aedes and covid-19, I found that drone technology was being pushed to accelerate our agencies into the future. I enjoyed the rare footage of a drone almost hitting an overhead power line and falling out of a tree. While most people would not be as apparent to showing us their failures, I applaud this person for showing us the close calls and the potential disasters of flying a drone. His emphasis on the importance of a safety checklist will not be forgotten. It was interesting to know that Skyx drones offer autonomous spraying, making it easier for pesticide applications. While they started off in the agricultural industry, their need to find certified drone operators brought them in relations with Vector Control Districts. It excites me to see the future of drone technology being used in our own district as well as others. On the final day of the conference, I was able to see the progress of Mark Nakata's \$1,000,000 mosquito fish facility at Delta Vector Control District. This presentation resonated with me, leaving an awe of everything Mark has accomplished in the past few years. Overall, this conference was a great opportunity to learn about the current and future projects that many Vector Control Districts had to offer.

Date: 2/4/21

Signed: Philip Shin

Dept Mgr Signature:

Philip Shin

Print Name:

Philip Shin



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Sokanary Sun, Assistant Vector Ecologist

Name of Conference/Event: MVCAC 2021

Date: February 1-3, 2021

Location: Virtual (from any desktop or laptop)

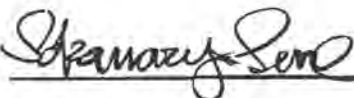
I have been attending MVCAC for 4 consecutive years, and every year I take home, share, and discuss valuable topics learned and sincerely enjoyed. Sharing said knowledge is imperative for an optimal District workflow, as well as come up with strategies and policy implementation for Integrative Vector Management. From the trustee session on day 1, I deeply appreciated the two presentations that demonstrated how mosquito control and environmental habitat restoration can work together and does not have to be mutually exclusive.

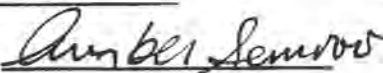
From day 2, I was especially moved by this year's plenary speaker, Dr. Oscar Alleyne. He discussed the disruptions of local public health agencies due to COVID-19, but also highlighted the benefits and new opportunities, mostly from having to adapt to physical distancing and increase virtual outreach. Dr. Alleyne also stressed the importance of public outreach to help combat misinformation and to gain trust. I really enjoyed Karen Holcomb's talk during the Reeves New Investigator Award Presentation. Karen discussed mosquito abundance reduction after aerial spraying in different regions of California, as well as using various factors to create a computer modeling framework. Robert Snyder's talk during the 2:15 pm Mosquito Biology & Disease symposium itemized the hospitalizations and health costs due to West Nile Virus (WNV). This presentation is so important because sometimes disease risk itself is not enough to get the public or legislature to take disease seriously. Therefore, associating the financial costs of a disease can help persuade the public that it is much more cost effective promote disease prevention than to treat it.

From Day 3, The Pacific Southwest Center of Excellence in Vector-Borne Diseases (PacVec) symposium was my favorite. The whole symposium consisted of in-depth scientific research with much merit that can help guide Integrative Vector Management with data. Karen Holcomb analyzed the optimal number of mosquito surveillance traps that need to be set (in a county overall) to accurately estimate West Nile Virus (WNV) or other disease risk in a risk computer model. In general, she found that the WNV model is more likely to underestimate than to

overestimate disease risk. The Operational Tools and Equipment symposium displayed various vector control vehicles/equipment and how some were modified to suit the specific needs of their districts. The Statewide Efforts Against Aedes symposium varied from presentations about methods and strategies in mosquito control, to new and innovative techniques for *Aedes* lures, such as the "Aedes Juice". The "Aedes Juice" is just recycled water that used to contain *Aedes* larvae. Javier Valdivias and his team found that *Aedes aegypti* were more attracted to "Aedes Juice" than both alfalfa-based and tap water as breeding water attractants.

Date: 2/4/2021

Signed: 

Dept Mgr Signature:  Print Name: Sokanary Sun



Orange County

Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Robert F. Cummings/former Laboratory Director

Name of Conference/Event: Mosquito and Vector Control Association of California (MVCAC) 89th Annual Conference

Date: February 1 – 3, 2021

Location: Virtual Zoom Conference c/o Orange County Mosq. & Vector Control District

The Mosquito and Vector Control Association of California (MVCAC) held its 87th Annual Conference from February 1-3, 2021. Because of Covid-19 restrictions, the conference was held virtually via Zoom. Topics covered included status reports on West Nile virus (WNV) activity, the spread of invasive day-biting mosquitoes (Asian tiger, *Aedes albopictus*, and the yellow fever mosquito, *Aedes aegypti*), and other items of importance to vector control districts in California and the U.S.

Of particular interest to me were presentations about the new strategies that have been proposed to suppress populations of the extremely pestiferous, day-biting *Aedes aegypti* mosquito. The methods discussed included the release of large numbers of laboratory-bred male mosquitoes that can suppress their own populations through the principle called "Sterile Insect Technique (SIT), which is similar to the approach used for controlling the Mediterranean fruit fly and other agricultural pests. Three SIT methods are under evaluation, and all involve releasing lab-reared male *Ae. aegypti* that after mating: 1) transfers a gene that only kills female mosquitoes to her offspring, 2) transfers a type of bacteria (*Wolbachia*) that kills all offspring, or 3) produces no offspring since the released males are sterile via radiation with X-rays. Each population suppression method has its advantages/disadvantages, and the District must evaluate each to determine the best SIT method to use. OC Vector is in discussion with other districts to help lower costs by taking a regional, multi-agency approach to control *Ae. aegypti*.

Date: February 8, 2021

Signed: *Robert F. Cummings*

Dept Mgr Signature:

Robert F. Cummings

Print Name: Robert F. Cummings



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Steve Shepherd, Director of Operations

Name of Conference/Event: MVCAC 2021 Annual Conference

Date: February 1st – 3rd, 2021

Location: Online event


This was my first opportunity to attend a MVCAC conference. This was also the first conference I have attended online. The price to attend was very reasonable which allowed our entire operations staff to participate this year. The team was able to view the sessions, visit with product representatives, and collaborate with other Districts. Our staff will also gain nearly 15 CEU's (continuing education units) needed to maintain their vector control licenses, making this conference a tremendous value.

I utilized the conference to learn about the best practices that were shared by other districts. I gained the most learning about the other districts utilizing drone technology and other application methods.

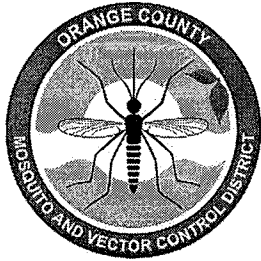
This was a positive first online learning opportunity and I hope to see this format continue to allow more District staff to attend without the additional travel related expenses.

Date: 2/4/21

Dept Mgr Signature: _____

Signed: 

Print Name: Steve Shepherd



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Cesar Sanchez Vector Control Inspector 2

Name of Conference/Event: MVCAC


Date: 02/03/21-02/04/21

Location: Online

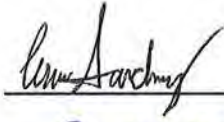
Attending this year's online MVCAC was very captivating and well organized despite the circumstances of a global pandemic. It was also despairing to see the amount of beloved and important individuals we have lost throughout the industry this past year. As well as the challenges covid-19 created, from the suspension of some vector programs to the way we engage with the public. Although not all was bad news. The research that was presented provided better understanding in several aspects of vectors and vector borne diseases. For example, the analysis conducted in Placer County regarding *Aedes Aegypti* habitat that found older homes are more prone to have container breeding sources and newer homes more likely have yard drains sources. Another investigation also mentioned that there are no patterns that predict West Nile Virus outbreaks and that for the 3rd year in a row overall cases are low. Furthermore, that segment also stated that the peak of WNV hospitalization has shifted from August to September. Overall, the one thing that stood out to me the most is how advanced the steering of sterile male mosquito research is and how they can track these mosquitos with a protein called DSRED2 which makes them glow under a certain light filter. In conclusion, I believe attending this year's online MVCAC conference not only provided high valued knowledge to me but also to our district that will help us better engage all aspects of vector control.

Date: 02-03-21

Dept Mgr Signature:



Signed:



Print Name:

Cesar Sanchez



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Anthony De Lira Vector Control Inspector II

Name of Conference/Event: 89th MVCAC Annual Conference

Date: February 1, 2021 – February 3, 2021

Location: Virtual Conference

The 89th MVCAC Annual conference was held virtually this year, but that did not prevent it from being a very beneficial, and valuable event. A wide variety of important discussions, innovations, and presentations were given on how vector control districts throughout California adjusted to the COVID-19 pandemic. All districts had to revise operational methods and implement new strategies to keep all staff, and residents as safe as possible. All while juggling the imminent mosquito season that was a few months away. All districts prioritized staff safety, operational efficiency, and public health.

The unavoidable spread of invasive *Aedes* mosquitoes was also a featured subject, and an ongoing problem for mosquito agencies throughout California. Some agencies detected them for the first time, others have a continuous spread of invasive mosquitoes throughout their district. Another popular subject was the introduction of unmanned aircraft technology (drones) to different agencies in order to survey terrain and utilize as a treatment method to inaccessible mosquito breeding habitats. The evolution of technology is quickly advancing, and with these advances we see the opportunity to utilize emerging technology and adapting it to mosquito, and vector control related needs.

Contra Costa MVCD presented their arsenal of tools and equipment used to survey, mitigate, and treat mosquito breeding wetlands and habitats with the usage of amphibious driving vehicles, and UTV's. An important presentation that stood out to me was the jeep modifications done to GLACVCD fleet of flood vehicles. The usage of debris blades to move debris, dirt, vegetation and trash in flood channels to allow a constant flow of water was innovative, to help reduce mosquito breeding, and pesticide applications.

Overall, this virtual conference was very beneficial because it showed that through unprecedented times, adaptation to an emergency like this pandemic is possible. It did not halt our commitment to the protection of the residents in our districts, and it demonstrated that by

using technology we were able to successfully accomplish many tasks with limited resources. It brought forth new ideas, presented the adaptation of new technologies. The pros and cons to utilizing certain types of equipment, and studies of pesticide applications were conducted with the results in controlling mosquitoes documented, but most importantly it helped connect and bring together mosquito and vector control districts once again.

Date: February 4, 2021

Dept Mgr Signature:



Signed:



Print Name:

Anthony De Lira



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Dana Zamora

Name of Conference/Event: MVCAC Annual Conference

Date: February 2-3, 2021

Location: Virtual

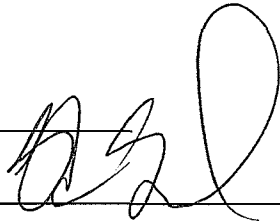
I had the pleasure of attending the MVCAC 89th Annual Conference. Even though it was the 89th Annual Conference it was the first virtual conference MVCAC has held. This being my second time attending a MVCAC Annual Conference I really enjoyed the virtual format and experience. I participated in a lot of live events that I normally would not have had time for at the regular in person conference. I also got to virtually talk to and hear from a lot more staff members from other districts than I would have at a in person event.

The conference started off with a In Memoria of all the people that agencies have lost over the last year. It featured one of our own, Miguel Arias. It was a touching tribute, and I am thankful that the MVCAC included this in the program. I watched a lot of great presentations over the two-day conference on many topics ranging from Pyrethroid resistance in Aedes and Culex, the effectiveness of WALS treatments, and of course many presentations regarding on the challenges other districts are facing on controlling Aedes mosquitoes. The presentations that most interested me were part of the day two symposium on Innovation & Discovery in Mosquito Control. There were some great presentations on using Wolbachia mosquitoes to control Aedes and how they have been testing this in places such as Puerto Rico. They discussed the public's reaction to this method of control as well as the effectiveness in controlling the Aedes population. This topic really interests me, and I hope that our district will one day be able to use this method of control as well. I also found the presentations from the Sacramento Yolo MVCD as well as the one from Delta VCD on their staff inventing new attractants and traps for mosquito surveillance, and how effective they have been for them. Learning about new techniques, tools, and technology that could benefit OCMVCD is very interesting and important to me.

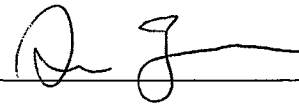
This last year has been very trying for all of us at OCMVCD as well as all the districts across the state. It was nice to come together even virtually to discuss how our services, staff, and programs have been affected due to Covid-19 and how we are adapting to this new normal. On a lighter note, I participated in all of the virtual lounges as well as had some fun with MVCAC Bingo. I am thankful that the district allowed me to attend this educational event.

Date: 2/4/2021

Dept Mgr Signature: _____



Signed: _____



Print Name: _____

Dana Zamora



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: John Drews Inspector for operations

Name of Conference/Event: MCVCAC

Date: 2/2,2/3 2021

Location: My office virtual

2021 MVCAC I would first like to say. I appreciate the opportunity to attend, 2nd much respect to all who organized and worked so hard to make this happen. The speakers were excellent and technically seemed to go off without a hitch.

The opening speaker Oscar Alleyne gave a very interesting talk on how the pandemic affected Vector control agencies in our state. Many had to scale back basic programs, some even had closures. While some even struggled getting proper PPE.


As far as treating for mosquito's, the new wave of the future seems to be un maned drones. More and more districts are training their staff on the use of this technology. The use of drones will save on the overall costs of large area treatments. And is also a much safer way to apply chemicals in extremely hard to reach terrane.

Still one of the most talked about subjects was invasive Aedes. As more and more districts have to deal with this pest. We collectively must try to come up with new ways to combat this mosquito. Some districts are even adulticiding. Some are using in2care traps with peryproxifin to get the mosquito to control itself. In the end it is my opinion that the value of community engagement is our greatest tool. We are a public health agency. And the better we can communicate a health threat, that is easily understood. The more help we will be able to count on from the public. Vector Control is a shared responsibility.

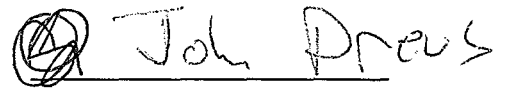
Date: 2/4/2021

Signed: John Drews

Dept Mgr Signature:

A handwritten signature in black ink, consisting of a large, stylized 'A' followed by a cursive 'D' and a long horizontal stroke.

Print Name:

A handwritten name in black ink, starting with a circled 'A' followed by the words 'John' and 'Drews'.



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

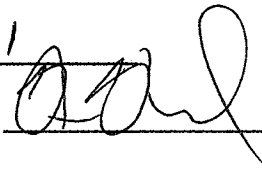
Staff Name and Title: DAVID MILLER, FLEET & EQUIPMENT MAINTENANCE
SUPERVISOR


Name of Conference/Event: MVCAC

Date: FEB1-FEB3, 2021

Location: MY DESK

This is the summary of the talks and/or videos I viewed in the last couple of days. Most of the information was more of a refresher course, which in part is the purpose of continuing education. I did enjoy the talks on new and modified equipment. It was interesting to see how some of the tools and procedures have changed or evolved such as the use of drones for surveillance and treatment of out of the way, or hard to reach places. Some of the tools used haven't changed at all, which seems to be a tried-and-true method, such as heard spreaders and spray equipment or the spray wand from Greater L.A. catch basin treatments. It is interesting to me to see how different equipment is designed, re-designed, or modified to adapt to the needs of the different areas to be treated and can be fine-tuned to adjust to those needs.

Date: 2-4-21
Dept Mgr Signature: 

Signed: 
Print Name: DAVID MELLER



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Roland Bausa

Name of Conference/Event: MVCAC

Date: 02/03/2021

Location: Garden Grove

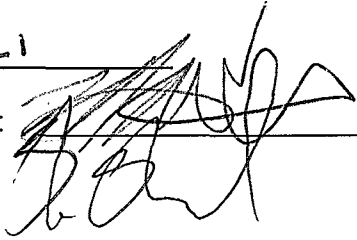
I enjoyed the MVCAC very much; the whole conference was very interesting and informative. One of the presentations I enjoyed was the one from the Florida Keys Mosquito Control District. I believe the Oxitec's *Aedes Aegypti* Box that they used appeared to be promising. I also found interest in Oxitec's Mosquito technology; it made me think that this type of technology might be the future of Mosquito control. This technology would work better because it's a targeted suppression; it's non-toxic, and it's a male only release.

One of the other presentations that I enjoyed was "Live Trapping Norway rats." Homelessness has been a massive problem in the United States, specifically the big cities in California. Alameda Vector Control in the Bay Area has shown concern about the rat populations in these homeless encampments. They have set up a live trapping program to determine how bad the rat problem is and survey what ectoparasites are present on the rats in these encampments. Their study concluded that the Norway rat populations and the ectoparasites that accompany them are well established in these homeless camps.

Overall, I was highly impressed by the MVCAC, and I learned a lot about what other districts are doing about mosquitos and other vectors; I think this will benefit me in regards to my career as a Vector Control Technician. I am grateful that the district provided me the opportunity to attend this meeting.

Date: 2-4-21

Dept Mgr Signature: _____

A handwritten signature in black ink, appearing to be 'R. Bausa', written over a horizontal line.

Signed: _____

A handwritten signature in black ink, appearing to be 'Roland Bausa', written over a horizontal line.

Print Name: Roland Bausa



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Kara Miller

Name of Conference/Event: MVCAC 89th Annual Conference

Date: February 1st – 3rd, 2021

Location: Virtual Online / Orange County Mosquito and Vector Control District

MVCAC Annual Conference was virtual this year and allowed more staff to participate and earn Continuing Education Units to maintain their Vector Control licenses. The conference provided the opportunity to learn how other mosquito and vector control districts operate and see the tools they use in the field. There were also virtual lounges that we were able to join and have discussions with other mosquito and vector control staff members. Being able to communicate and sharing ideas with other districts is very beneficial to our staff.

This year all districts faced the challenges of operating during the COVID-19 pandemic. E. Oscar Alleyne, DrPH, MPH NACCHO was the plenary speaker and gave a talk on the Widespread Consequences of COVID-19 to Local Public Health Departments. He discussed the impacts to routine operations that vector programs are experiencing due to the pandemic. The most concerning issue to me was the shortage of PPE that is needed for chemical control applications. Some agencies developed guidelines or recommendations for PPE by extending the usage of PPE through COVID-19.

Vanessa Hill from Placer County MVCD gave a talk on *Aedes aegypti* habitats at residential properties. When doing inspections, they found that it is best to prioritize larger properties, yard drains, and flowerpot saucers. Larger properties had, on average, more containers than smaller properties. Yard drains and flowerpot saucers were the most common containers to hold standing water.

Alameda County MVCD has many homeless encampments within the city of Oakland that are impacted by Norway rats. They currently do live trapping for rats at these encampments to test rats for diseases. Some of these diseases include Hanta Virus, Rat-bite fever, Leptospirosis, Bartonella, Murine typhus, and flea-borne typhus. Norway rats are common in homeless encampments because of the constant food supply and harborage. ACMVCD has the sheriff's department come in and provide safety training on homeless encampments. I do believe

OCMVCD should look into having training on homeless encampments to protect our staff.

Mosquitoes are known to cause over 800,000 deaths each year. In 2020, I found it interesting that there was a decrease in human West Nile Virus cases. More than 79% of hospitalized WNV patients had underlying conditions. Hospitalization cost for patients with WNV disease is about \$142,000. Government programs pay approximately \$620 million inpatient hospital charges. The primary prevention of West Nile Virus is vector control, public education, and personal protective behaviors. California reports more WNV disease cases than any other US state.

Ruben Rosas from Sacramento Yolo MVCD did a presentation on routing methods for truck-mounted applications that seemed to be very easy to use and could be beneficial to our district compared to what we currently use. They use InRoute Route Planner, and it can store multiple routes, visit weather conditions, and have audio alerts for navigation and pesticide application.

Utility vaults have been a concern here at our district for field inspectors. Ryan Amick from Greater LA County VCD gave a talk regarding utility vaults throughout their county. It would cost utility lots of time and money to fix vaults to prevent mosquitoes from breeding. It also takes large numbers of inspections and treatments using traditional larvicides. At Greater LA they use Sumilarv 0.5G for a long-lasting pesticide that is effective.

Greater LA County VCD showed us the modification they did to the left-handed jeeps they use in the flood controls. They have added a debris blade to the front of their jeeps that I feel would be helpful to our flood control crew. During a Q&A session, I learned that Jeep no longer makes the two-door Jeeps that vector control districts use. However, Jeep will produce them with a minimum order of 50. Several vector control agencies thought it would be a good idea, down the road, to place a Jeep order together to meet the minimum order. This is something that OCMVCD should look into when the time is right.

Ryan Thorndike from San Mateo County MVCD demonstrated different methods they use during inspections. They take the extra step of removing water or drilling holes in water features. They even break up water features that hold water that residents no longer want. To do is, it would require inspectors to have extra equipment such as brooms, hand pumps, drills, generators, and sledgehammers. Doing these steps may take longer on your first inspection but would reduce continuous inspections at these properties.

Skyex Solutions did a presentation on their drones and software. This technically defiantly would be very useful in the vector control industry. Drone applications would save time and give the ability to reach areas that field inspectors may not be able to reach by foot.

The conference was a great opportunity to gain knowledge and was very valuable for all staff members. I think MVCAC should continue to do these conferences virtually so that all staff members can financially afford to attend these conferences.

Date:

2/5/2021

Dept Mgr Signature:



Signed:



Print Name:

Kara Miller



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Agripino Rodriguez Vector Control Inspector II

Name of Conference/Event: MVCA 89th Annual Conference.

Date: February 2 and 3

Location: Monterey Ca.

MVCAC 89th Annual Conference Summary February 2-3, 2021.

The tribute paid to our colleagues who die in 2020 was sad and sentimental, but it was good that MVCAC remember them in a special Memoriam, and they always be in our hearts.

Widespread consequences of COVID-19 to local Health Departments:

Smash Act. Strengthening Mosquito Abatement for safety and Health Act. Bill H.R. 1310.

- This bill amends the Public health service act to revise and extend through FY 2023 center for disease control and prevention (CDC) grants for mosquito control programs.
- The grants programs are expanded so the grants may be used to address emerging infectious mosquito borne diseases and to improve existing control programs.
- The CDC must give preference to applicants that have (1) a public health emergency due to mosquito borne disease or, (2) a control program that is consistent with existing State preparedness plans.

The aedes aegypti in Placer County seems to be very similar to most of the districts, a few minor differences and techniques to control them.

Most of the Vector Control Districts used different techniques and different products to control mosquitoes, aerial spraying is changing to the new technology, using now drones instead of big aircraft.

Challenges and opportunities in Vector Borne Disease:

There is different type of ticks in California that transmit different kind of disease, Like the American dog tick that causes The Rocky Mountain Spotted Fever, and tularemia.

Brown dog tick that also carried the Rocky mountain spotted fever.

Western Blacklegged tick that causes Anaplasmosis, and Lyme disease.

Soft Tick that causes the tick- borne relapsing fever

Pacific Coast tick, its well known that causes pacific coast tick fever, rocky mountain spotted fever and tularemia.

Majority of the Vector Control Districts in California are moving to the new drone technology for the application of mosquito control products from aerial vehicles. The drone technology is moving fast to make our way to treat mosquitoes easier and avoiding inspectors to get hurt while spraying difficult sites with a lot of thick vegetation, and rocks under water.

Date: 2/4/2021

Dept Mgr Signature:



Signed:



Print Name:

Pino Rodriguez



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Matt Eseltine

Name of Conference/Event: 2021 MVCAC

Date: Feb 1-3 2021

Location: In house

Conferences like these are always a great way to learn new aspects of the profession we have chosen to pursue. This is the first time I have attended the MVCAC conference as normally it is cost prohibitive to send the entire staff to such an event. Having said that, I felt as though attending this year's event remotely was very informative.

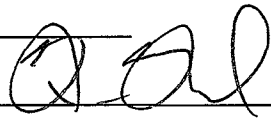
While many people spoke about a broad range of topics, I felt that the technology and equipment sessions were of the greatest value. It is important to learn what other districts are doing in the pursuit of controlling vectors in their counties. In particular it was interesting to see how other Districts manage workflow and data as they track such things as storm drains and utility vaults. One District in particular spoke of having over 6000 utility vaults that must be treated regularly. Another District spoke about software they are utilizing to guide their adulticide teams while in neighborhoods, thus eliminating any overlaps in their routes etc. Other sessions discussed vehicles they use for treatment in large marsh areas. Tracked vehicles and those that can traverse water as deep as 3 feet are used to treat very large swampy and coastal areas.


I was particularly interested in the sessions discussing drones and their use in the control of mosquito larvae in large marsh areas.

Placer County gave a talk on their door-to-door efforts to discover the extent of spread of aedes mosquitos in their District.

Overall, I felt that the MVCAC conference was very informative and valuable as a way to learn more about vector control as a whole. It is a shame that it is financially hard for Districts to send their entire staff to these conferences annually.

Date: 2/3/21

Dept Mgr Signature: 

Signed: 

Print Name: Matt Eseltine



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: John Newton – G.I.S. Coordinator

Name of Conference/Event: 2021 MVCAC

Date: February 2, 2021 & February 3, 2021

Location: Virtual Conference

The conference was very well organized. It is always great to see how other Districts approach real world problems, as we do. Typically, there is the opportunity to meet with other professionals in our industry, which is a great learning tool. I hope that next year we will be able to return to that format.

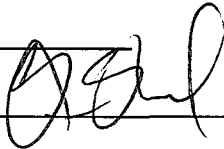
Presentations were varied and well done. The conference started with us being brought up to date on information related to Tick-Borne disease surveillance as well as trapping strategies of the Norway rat. Also discussed were hantavirus pulmonary syndrome and human plague cases in South Lake Tahoe. Covid Virus got most of the attention in 2020, but West Nile Virus is our main concern. There were a few presentations on West Nile and how we can surveil it. The burden of West Nile on humans and the costs of hospitalizations were also discussed. Of course, invasive Aedes is still a major topic of discussion.

Of great interest to me was the talk on decentralized data technology. As we anticipate a possible move of District offices, it is of great concern to have a seamless move of personnel and the data we need to serve the community. Drones were a hot topic and seems to be the way of the future. The future is now. The talk on enhanced routing methods was very interesting because I route the nighttime adulticiding trucks for the District. It was nice to see the underground vaults issue mentioned. It is a huge problem for most districts.

Thank you for the opportunity to attend this conference, virtually or in person.

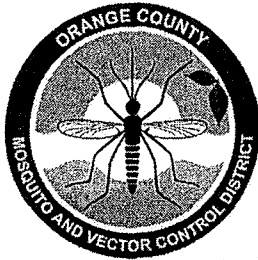
Date: 2/4/2021

Dept Mgr Signature: _____

A handwritten signature in black ink, appearing to be 'J. Newton', written over a horizontal line.

Signed: JOHN NEWTON

Print Name: John Newton



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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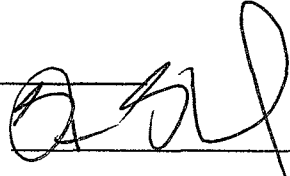
Staff Name and Title: Raymond Cavileer Inspector III

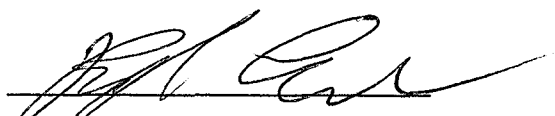
Name of Conference/Event: 2021 MVCAC

Date: Feb. 2-3 2021

Location: Online

See enclosed paper.

Date: 2/4/21
Dept Mgr Signature: 

Signed: 
Print Name: Ray Cavileer

This year's conference while having a few minor technical issues went well considering the logistics involved. The opening was somewhat difficult, as I was made aware of several colleagues from other districts who were no longer with us.

The programs I attended pointed out that Aedes is more widespread in areas of the state that were believed to not support Aedes. An example being Shasta/Placer County. Seeing various methods used to track and control mosquitoes at other agencies was also helpful. Seeing how Greater L.A. had modified their flood route Jeeps to incorporate a retractable plow on the front, as well incorporating spray nozzles fore and aft on the vehicle's bumper was interesting. Learning how to modify the existing liquid mixture used in our gravid traps to better attract Aedes mosquitoes is something I hope our lab will look into. Seeing a timeline of when to switch from gravid traps containing this modified mixture to BG traps was also helpful.

There were many talks on drones, and software designed for both the treatment of agricultural pests and vector control. Many of can be incorporated into existing data collection software. One speaker talked about the use of G-30 in ariel applications to avoid chemical resistance to Altosid. Day 1 appeared to show a 50% drop in mosquito breeding followed by 13 days in which no larva was detected. Another talk which would be helpful for our gutter crews using paper route books was on Google My Maps where a district created an audible turn by turn route for their spray vehicle.

Ticks were another topic. Tick borne diseases appear to be on the rise in Southern California. Some of this can be traced to better trapping. Programs are being created to incorporate tick data into many of the district's existing databases. Travel related tick borne disease were on the decline due to Covid-19.



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: JOSÉ TORRES - FLEET AND EQUIPMENT SERVICES TECHNICIAN

Name of Conference/Event: 2021 MVCAC

Date: FEBRUARY 2, 2021 & 3, 2021

Location: VIRTUAL CONFERENCE

THE CONFERENCE WAS DIFFERENT THIS YEAR - IT WAS INTERESTING TO DO IT VIRTUALLY. I AM GRATEFUL THAT WE WERE STILL ABLE TO HAVE A CONFERENCE EVEN IF IT WAS VIRTUALLY. ALL THE PRESENTATIONS WERE VERY INFORMATIVE. I ENJOYED LEARNING MORE ON THE WEST NILE VIRUS AND TO SEE HOW OTHER DISTRICTS DID THINGS.

Date: 2-8-2021

Dept Mgr Signature:

Signed:

José Torres

Print Name:

José Torres



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: LESLEY SABA - VECTOR CONTROL INSPECTOR II

Name of Conference/Event: 2021 MVCAC

Date: 02/02/21 - 02/03/21

Location: ONLINE

THE OVERALL TAKE AWAY FROM THIS CONFERENCE TO ME WAS HOW INNOVATIVE, RESILIENT, & CREATIVE THE STAFF OF THESE DISTRICTS ARE. FROM BEING ABLE TO EXTRACT SALIVA FROM MOSQUITOES TO HAVING TO MAKE ENDLESS MODIFICATIONS TO EQUIPMENT TO BETTER SERVE SERVICE AREA TOPOGRAPHY & ECOLOGY, THE ONGOING EFFORTS OF THE EXTREMELY TALENTED & DEDICATED STAFF WAS INCREDIBLE TO SEE. ALSO, BASED ON THE PRESENTATION ABOUT INZCARE TRAPS IN HAWAII, I HOPE TO FIND A BETTER WAY TO MAKE THEM WORK. IT WAS A BIT DISHEARTENING TO SEE THEY

Date: 02/04/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: LESLEY SABA

WEREN'T VERY EFFECTIVE WHEN THERE WAS A HIGH ABUNDANCE OF COMPETING WATER SOURCES.



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: John Savage Vector Technician II

Name of Conference/Event: MVCAC 2021

Date: 2/2/2021 - 2/3/2021

Location: Monterey, California (virtual)

Due to Covid this year, MVCAC was held virtually, so I watched the symposiums from my desktop. Quite different than last year as I attended all three days of the 2020 conference. To say this bluntly, it wasn't fun. Felt more like a webinar on a rainy day without the rain. MVCAC is something I look forward to, but not if it's going to continue like this.

The most interesting talks were the drone technology talks, especially the way SkyX operates. Grakin L.A. Jeep "bulldozer" concession kit was also something that we at OCMVCD may benefit from in some of ~~our~~ flood channels. Delta Vector Control's fish program was on point, especially for it being a one man show.

Hopefully next year will be as years past and we will be able to meet with our friends and colleagues from other districts. Too many real world and digital world problems this year.

Date: 2/4/20
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: John Savage



Orange County Mosquito and Vector Control District


A Public Health Agency Serving Orange County Since 1947

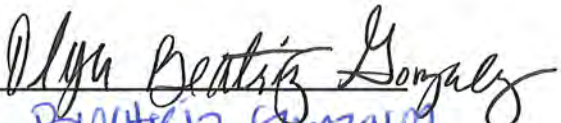
Conference and Meeting Report

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Staff Name and Title: Beatriz Gonzalez,
Name of Conference/Event: MVCAC
Date: 2/2/2021 - 2/3/2021
Location: 89th Annual Conference (Virtual)

The 89th Mosquito and Vector Control Association of California Conference was hosted virtually due to Covid restrictions. Although we couldn't meet physically, the conference was well organized and informative. MVCAC did an amazing job as always hosting very informative symposiums that covered various topics such as pros and cons Covid presented to all vector control districts, aerial surveillance and treatments by drones, Aedes aegypti habitats, vector borne diseases, mosquito biology and pesticide application. I enjoyed many of the presentations and some not to much but as always every year I learn something new from the different agencies and presenters. During Symposium A - Mosquito Biology & Disease session, I learned that mosquitoes alone are known to cause over 80,000 death each year, representing 18 percent of all infectious diseases. One of the presentations that stood out the most to me was the one Ana Ramirez from U.C. Davis presented. Her presentation was on Vector Competence of California mosquitoes to Chikungunya virus. I learned that there hasn't been any local transmission in California however since 2015 there has been 140 travel association cases in Los Angeles county alone. Like Covid we have to consider the long term impacts and transmission that invasive Aedes can have in our communities health. These interactions at MVCAC are vital to combat invasive Aedes mosquitoes and vector borne diseases, by sharing valuable information to implement at our district.

Date: 2/2 - 2/3
Dept Mgr Signature: 

Signed: 
Print Name: Beatriz Gonzalez



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: NICK MOREY - TECH II

Name of Conference/Event: MVCAC CONFERENCE

Date: FEB 2 - FEB 3

Location: _____

DURING THE SESSIONS I WAS ABLE TO LEARN FROM THE EXPERIENCES OF OTHER MOSQ. ABATEMENT STAFFS AND LABS ACROSS CALIFORNIA AND OTHER HIGHLY IMPACTED STATES LIKE FLORIDA. MY MAIN TAKEAWAY WAS THE PREVALENCE OF AEDES. EACH DISTRICT HAS FACED THE THREAT OF AEDES USING DIFFERENT STRATEGIES. SOME AGENCIES ARE FARTHER ALONG IN THEIR BATTLE AGAINST AEDES. THERE WERE PROMISING IDEAS ABOUT HOW TO USE WALS TREATMENTS, STERILE MALE RELEASE, AND WOLBACHIA BACTERIA. A PROMISING OPTION - INDCARE STATIONS - DIDN'T SEEM TO HELP IN THE AEDES BATTLE IN A SMALL TEST IN HAWAII.

Date: 2/4/21

Signed: 

Dept Mgr Signature: 

Print Name: NICK MOREY



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Jerry Sims / Operations Supervisor


Name of Conference/Event: MVCAC 2021


Date: February 2-3, 2021

Location: Online

MVCAC 2021 featured a number of presentations involving community engagement and education during the COVID-19 crises. It was interesting how various CA mosquito control districts addressed the range of challenges to an industry that deals directly with the public through inspections and outreach. Many districts, including OCMVCD, developed "contact-free" protocols when performing residential inspections which feature follow-up via phone, email and/or literature distribution. Some districts partnered with community-based volunteer organizations to distribute outreach materials on a neighborhood basis. Others took full advantage of Zoom and other online meeting platforms to host virtual meetings for HOA groups, community organizations, etc. Many districts went into details regarding the COVID-19 prevention procedures on their respective campuses and I was pleased that OCMVCD was in line with the range of industry precautions discussed and in many cases exceeded them.

Many significant advancements in mosquito control technologies have been achieved in recent years and are being incorporated readily by districts throughout the state. Tracking software for adulticiding/larviciding operations has made great strides, resulting in more efficient and cost-effective applications. Drone application technology is being incorporated by districts whose responsibilities include large marsh environments. Such aerial applications allows a high level of product placement accuracy and greatly reduces the risk of injury to staff who formerly would be required to wade into marsh environments with heavy backpack equipment. I gained insight into how other district grappled with access issues involving large utility vaults and the proper products in order to achieve the longest control. Several districts discussed treatment vehicle modifications which should be considered here at OCMVCD.

Date: 2-4-21
Dept Mgr Signature: 

Signed: 
Print Name: JERRY SIMS



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Danny Bui – Inspector II

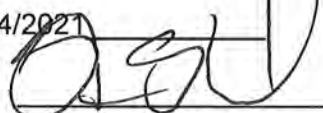
Name of Conference/Event: MVCAC Annual Conference

Date: 2/2/21-2/3/21

Location: Online

This year for the annual MVCAC annual was very different compared to past conferences. It was done virtually due to the pandemic and I was able to attend from home. However, that does not mean I learned any less than if I attended in person. As always, there was such a wide variety of topics covered. The knowledge gained from these presentations are priceless. Getting different perspectives and seeing how other districts operate across California is such wonderful experience. We can gain new ideas of what works for other districts and apply it at ours. You can see how much thought, time, and research was put into these presentations.

I attended 2 days of presentations. It is tough to decide which symposium to attend, since all the talks are so valuable. I learned how local public agencies dealt with covid at their workplace, how important it is for PIOs to network, how different properties have different types of breeding sources, how the water levels in the Salton Sea affected mosquito breeding abundance, app software for treatment routes, all the different types of new tools and technologies different districts are utilizing for their fight against vectors. A real cool one that I really liked is GLAVCD's modified Jeeps used in flood channels. How a \$1,000,000 Mosquitofish facility looks. Lastly, drones and aerial treatment really is the future for mosquito control. They are being utilized more for treatments in the marshes and hard to reach areas.

Date: 2/4/2021
Dept Mgr Signature: 

Signed: 
Print Name: Danny Bui



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Carlos Martinez Vector Control Inspector III

Name of Conference/Event: Mosquito and Vector Control Association of California

Date: February 2nd and 3rd 2021

Location: Virtual Meeting

This year the 89th meeting of the Mosquito and Vector Control Association of California was held totally online due to the pandemic. Even though we did not get to physically be there, the Association did a remarkable job in making this event a virtual event. From visiting the virtual vendor booths, to attending the virtual lounges, there was a lot of information you were exposed to. The many presentations given were also very informative. The many topics included trapping Norway rats in homeless encampments to treating mosquitoes with a drone. However, the presentation that I found most interesting and of immediate value was the talk given by Jodi Holeman from the Consolidated Mosquito Abatement District. The topic of her presentation was Mosquito control in subterranean electrical transformer/utility vaults. In her talk, she spoke about the difficulties in dealing with this source. The challenges included communications with the utility companies and the departments that oversaw them, the training needed to access the interior of the vaults, and sometimes locating the vaults themselves. However, the biggest challenge is the manpower and time needed to treat the vast number of vaults that exist. This topic resonated with me because of the experience I have had with this source. The utility vaults can be a major source for *Aedes aegypti* so it is good to hear that it is being discussed by other districts so that this challenge can be addressed as soon as possible.

Date: 2/4/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Carlos Martinez



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Todd Harries - Inspector II

Name of Conference/Event: MVCAC 89th Annual Conference

Date: February 2nd – 3rd 2021

Location: Virtual

The Mosquito and Vector Control Association of California's Annual Conference was very informative. I found even though it was virtual, the conference was a complete success. The conference had many related symposiums covered like Operations, Surveillance, and Newer Technology. Some of the topics that stood out were Northwest's Mosquitoes Rig called the Prado blaster, it can reach large volumes of unwalkable areas. They use a fire like hose and nozzle head that sprays over 50 feet. The symposium on the use of drones that eliminate the damage of access that is limited to, it also eliminates the manpower with the use of machines. Keeping safety as the most important factor while flying drones. Greater L.A.'s fabricated Jeep for flood channels has a spray wand and spray nozzles attached to the front and back of it. The Jeep also has a debris blade which results in less pesticide application. The Conference was a great opportunity to further my knowledge and my commitment to serve the residents of Orange County.

Date: 2-4-21

Dept Mgr Signature:

Signed:

Todd Harries

Print Name:

TODD HARRIES



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Richard Arnold Inspector II

Name of Conference/Event: MVCAC Conference

Date: 2/2/21 – 2/3/21

Location: (Virtual via zoom) Garden Grove, Ca

On 2/2/21, I attended (via Zoom) the conference regarding the Mosquito Abatement and Vector control throughout the country.

I watched presentations from many professionals, including the consequences of Covid-19. The presenter Oscar Alleyne discussed the effects of COVID-19 on the operation of health departments across the country.

The next presentation was on vector-borne diseases and the probability of new diseases being established in the USA. Some of the presenters discussed Dengue Fever and the chikungunya virus.

On 2/3/21, I watched presentations on A-1 super duty sprayers' operations and the design and modification done to jeeps to allow spraying from the cabs. The plans were different from our own in that most modified the cab area to separate the driver from the chemical area and reinforced the area in the event of a spill.

Overall, I felt the conference was very well done considering the current status of Covid-19 and the limited personal contacts we are allowed by State restriction.

Date: 2/4/21
Dept Mgr Signature: 

Signed: 
Print Name: Richard Arnold



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: JOHN HILL - VECTOR CONTROL INSPECTOR III

Name of Conference/Event: 2021 MVCAC

Date: FEBRUARY 1 - FEBRUARY 3, 2021


Location: MONTEREY, CA

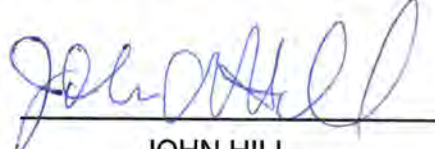
It was made quite clear that this year was difficult and challenging for Districts around the state and the country due to the pandemic. In watching the sessions over the 2 days, I came away with three main themes that appeared to be universal. The first theme was the most obvious in that COVID-19 presented Vector Control workforces many challenges that had to be addressed and overcome. Reduced work forces, hiring freezes, loss in revenues, and lack of personal protective equipment (PPE) were just some noted. Some staff found out what life was like telecommuting, while field staff was trying to control the usual in unusual circumstances. Decentralizing technology was a central theme in many presentations.

Another theme was Aedes and the challenges faced to control this invasive species. From Placer County, CA to the Florida Keys, Aedes is trouble and agencies are using everything from truck mounted units, to helicopters, to sterile release of male mosquitoes, to remote controlled drones in an attempt to control this invader.

Aerial application of pesticide was the third major theme throughout the conference and the drone technology has clearly come a long way. Application for Aedes and Culex mosquitoes was shown to be successful but costly. Trying to match timing, type of chemical, and technique can be difficult.

There were many great talks besides the three main themes, such as tick related diseases and their prevalence, exposure to Hanta virus in the Sierra's, and plague outbreaks in South Lake Tahoe. It was a good conference.

Date: 2/4/2021
Dept Mgr Signature: 

Signed: 
Print Name: JOHN HILL



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Teresa Olivas Vector Assistant
Name of Conference/Event: MVCAC Annual Conference
Date: February 2-3
Location: Online

The 2021 MVCAC Conference was different this year due to COVID-19. It was a virtual conference that was put together very well and knowledgeable.

The Memoriam they did for our colleagues that we lost in 2020 was done well and honorable to or colleagues we loss.

It was good to hear how MVC Districts and VC Districts has good safety plans for there employees. GLAVD rented a large storage container and had it converted into a locker room for there seasonal employees. OCMVD has there employees due a Health Survey before work. Some have downloaded an App for electronic time clock on there Ipad or Iphone.

Mark Daniels from GLAVD had an interesting presentation on how they modify there jeeps for spraying and clearing the flood channels. It was interesting to see how they have there jeeps setup different then ours.

I learned about how to prepare a drone for surveillance and treatments for some areas that they use to treat by boat. And how GLAVD modify there storm drain wand components to get a better and long treatment.

Steven Ramos from SAC YOLO talk about how he did modifications to an A1 Super Duty Mist Blower so that it could spray both sides at one time.

The presenters were very informative on there presentations. It was nice to see and hear from all the Districts. Hope to have a in person Conference next year.

Date: FEB 4, 2021

Dept Mgr Signature: [Handwritten Signature]

Signed: T. Olivas

Print Name: Teresa Olivas



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Nathan Dingman Vector Control Inspector 2

Name of Conference/Event: MVCAC 89th Annual Conference

Date: 02/02/2021 – 02/03/2021

Location: Virtual


Covid-19 has played a detrimental role to public health departments and we have had to adjust the way we operate while battling mosquito abatement. Alameda County was ahead of the curve, decentralizing their districts technologies due to a construction project that began in 2018.

I found it interesting that Californian has more West Nile cases then any other state. Costing roughly \$142,000 per patient. 44% of California's cases occur in 2% of the states area. There have been near 2400 deaths as of 2019 due to West Nile Virus country wide.

I found the topics of technology most interesting. Using technology to aid in the routing and application of underground and spray route vehicles seems very beneficial. In both efficiency and tracking workflow. Just as unmanned air crafts, which we have begun to implement, appear to be a game changer for technicians. Most importantly in the applicator's safety, but also improves efficiency, lessens the environmental impacts, and is cost effective.

Some districts used other vehicular equipment that could be very useful. The Argo with dual dusters looked like an advantageous setup. This vehicle can go over land and water. The jeep modifications done by Greater LA, for their flood control program could be very useful for our concrete bottomed channels. It would be an efficient and quick way to perform source reduction without having to rely on and wait for the county public works to open up and remove the debris and overgrowth in our flood control channels.

Date: 2/4/2021

Dept Mgr Signature: 

Signed: Nathan Dingman

Print Name: Nathan Dingman



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Eddie Garcia Vector Inspector II

Name of Conference/Event: MVCAC 89th Annual Conference

Date: January 5th and 6th

Location: Telework

What I enjoyed overall is the opportunity to interact with other Districts. You get to see what type of equipment and technologies they are implementing. For me, the talks that I found the most interesting were drone technology and aedes mosquitos. I believe that in the near future drones will be a tool that most Districts will be using either for water detection or pesticide treatments. What was also interesting was how other Districts are dealing with aedes. I like to evaluate how I manage my zone versus how other District control theirs in regards to aedes surveillance. I really enjoyed the idea of carrying a hammer drill to drill holes in ponds that are out of service to prevent water pooling.

Date: 2/4/2021

Dept Mgr Signature:

Signed:

Print Name: Eddie Garcia



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Willebaldo Garcia Technician II

Name of Conference/Event: MVCAC 89 ANNUAL CONFERENCE

Date: FEBRUARI 1- 3 . 2021

Location: Monte rey ca

Awareness about how vector control programs are being impacted by covid 19
Vector programs have been experiencing varying levels of impact to routine operations
Impacts phisicals,emotionals ,mental health and economics

Challenges with Aedes mosquitos in the communities to give the right message about
Aedes mosquitoes and generate ideas to fight together against aedes mosquitoes in the
neighborhoods.

Invasion of the body biters statewide , Aedes mosquitoes , make a good neighbor project .
Targeted property inspections ,identifying the presence of Aedes mosquitoes and evaluating
potential aedes habitat at diverse residential property types.

Wnv exhibths considerable inter annual and geographics variations. Effective allocation of public
health resources is challenging and often reactive ,highliting the need for accurate real time
forecast of wnv transmission.

In 2 care station , for Aedes mosquitoes ,attracts gravid female aedes mosquitoes
That exhibit criptic container breeding behavior ,visiting females is contaminated with two active
ingredients piproxyfen (ppf) a larvar growth regulator (effective at 5ppb) ,
Biological fangus (Beauveria bassiana).

Date: 2-4-2021

Dept Mgr Signature: 

Signed: Willebaldo Garcia

Print Name: Willebaldo Garcia



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Francisco Garcia, Vector Control Inspector II

Name of Conference/Event: MVCAC 89th Annual conference

Date: February 02-03, 2021

Location: Virtual



The Mosquito and Vector Control Association of California (MVCAC) Annual conference was as always, a great opportunity to learn from informative symposiums that covered topics like new pesticides, operations, surveillance, technology and how the new COVID-19 virus is impacting local public health departments.

One of the main topics was about invasive Aedes adapting to California life, and how most districts have had to adapt their operations to control and stop the spread, using different tools like social media, outreach, new equipment, pesticides and technology.

Other mosquitoes species stand out too, in the way they affected the general public, as well as tick-borne diseases, fleas, and their hosts in California.

One of the biggest take away points from the conference this year was all the new technology being used in the industry like Unmanned aircraft Systems (UAS), treatments using an A1 super duty sprayer for WALS applications, VectorSurv API and CalSurv Gateway among others.

Overall the conference was a fantastic opportunity to learn from other colleagues the latest research in the industry.

Date: 02.04.2021 Signed: 
Dept Mgr Signature:  Print Name: Francisco Garcia.



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Tony Moreno VC Inspector III

Name of Conference/Event: MVCAC Virtual Conference 2021


Date: February 1-3 2021

Location: OCMVCD

One of the biggest benefits of attending conferences like this one is the ability to freely interact with the other attendees from various agencies and companies. It was quite a change to have this virtually. The accumulation of knowledge is still extremely valuable in a setting like this. Getting the opportunity to see what other Vector Control agencies are doing in their efforts to mitigate mosquito populations is extremely insightful. It gives us a chance to possibly reevaluate, and view from differing perspectives, the things that we do here at OCMVCD. The chance to see new and upcoming technologies being utilized in practical application is very beneficial. Though I do enjoy seeing what these private companies have to offer in terms of new tools, methods or potentially new pesticides, I find that getting the chance to see other agencies in action provides the best learning opportunity.

Particularly interesting were watching the methods other agencies utilized in their treatments of large areas like marshes and wetlands. I doubt that we would be able to get something like an Argo, but it would be pretty fun to have. Though, I'm not too sure if it would make too much of a difference for us. It wouldn't seem to be all that practical.

Overall I thought MVCAC put on a great presentation, but I really can't wait until we can go back in person.

Date: 02/03/2021
Dept Mgr Signature: 

Signed: 
Print Name: Antonio J Moreno



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Hector Gonzalez Inspector II

Name of Conference/Event: MVCAC virtual conference

Date: February 2nd and 3rd, 2021

Location: OCMVCD

This year's conference was unlike any other conference the association has ever hosted it was completely virtual. This year we heard from more than 90 presenters organized into 9 symposia. The highlight of this year was the extraordinary dedication and perseverance of those in our field during a time when restrictions and obstacles have halted progress in other industries. I like seeing all types of equipment and vehicles of different districts. We all have the same ideas with different concepts. Backpack spraying in hip waders might be a thing of the past according with Skyx AGRI-TECH company providing self-flying pesticide-spraying drone solutions. I want to thank everyone that gave a presentation and provided us with their research. I look forward to seeing everyone in the near future in Riverside for our next conference. Rest in peace to all the people that passed away this year especially Miguel Arias you will always be remembered as a legend here at OCMVCD.

Date: 2/4/2021

Dept Mgr Signature:

Signed:

Print Name:

Hector Gonzalez



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Luis Brito / VC Inspector II

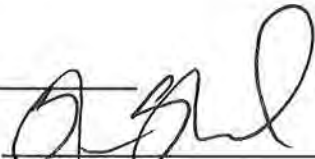
Name of Conference/Event: 89th MVCAC Virtual Conference

Date: February 01-03, 2021

Location: OCMVCD

The MVCAC virtual conference was a little different this year but provided great videos and opportunities to learn about other agencies and how they conduct field operations as well as various types of surveillance and data management. Some of the districts had excellent topics on new and improved equipment to be used in the field. One of them that I found interesting was a company called SKYX. Their main focus was for the operator to apply pesticides precisely using drone technology.

Some of the presenters talked about dealing with covid-19 and how they have been using social media as their main platform to interact with the public. I think overall this conference had a lot of interesting topics and great presenters with tons of information to take in. Who knows, maybe virtual conferences will be the future. I always appreciate the opportunity to expand my knowledge and learn about other agency methods.

Date: 02/04/2021
Dept Mgr Signature: 

Signed: 
Print Name: Luis Brito



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Roland Jen, Urban Water Program Manager

Name of Conference/Event: MVCAC Annual Conference 2021

Date: 2/1 – 2/3

Location: Online

I've attended MVCAC several times, with this one being unique as a virtual conference. That said, it was well organized to provide the same information and opportunity for discussion that would normally occur in a conference room.

The conference had speakers from all around California, and beyond, providing updates on research, findings, experiments, and how different Districts, as well as the Department of Public Health, are working with similar challenges that we face here. These updates allow us to see what works and incorporate good ideas into our own activities. Important information such as current disease status, changes in sea level, and so on provide context for us to act upon.

Among the presentations, the equipment that other District's use was highlighted for usefulness. Tools such as ditchers, spraying equipment, testing equipment, etc. The presentation I got the most out of was from Sonoma Water, which discussed collaboration efforts between Vector and Flood Control to both improve a wetlands issue and improve flood capacity, which is important. There were also other collaborative projects between Vector and other agencies highlighted.

Another presentation by the CDPH was excellent in that it studied the costs of treating WNV patients in the hospital, which provides a good perspective on the financial costs of vector control versus the benefit, on top of the human benefit.

The MVCAC conference is also useful because it provides Continuing Education Units for Vector Control Certification, which would need to be performed one way or the other within the cycle, regardless of how it is delivered.

Date: 2/4/2021

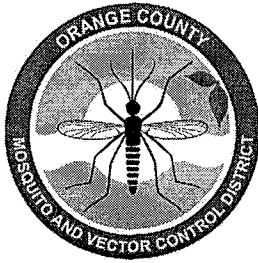
Dept Mgr Signature: _____

Steve Shepherd

Signed: _____

Print Name: _____

Roland Jen



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Michael DuBose

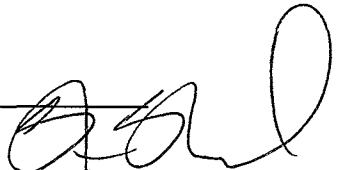
Name of Conference/Event: MVCAC 89th Annual Conference

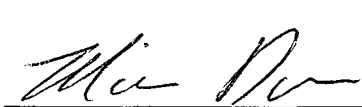
Date: February 2-3, 2021

Location: Virtual Online Conference

MVCAC held its first virtual, online conference in response to the COVID-19 pandemic. President Truc Dever welcomed attendees. There was also a memorial address held for vector control staff that passed away in 2020. Several symposiums were presented by vector control and other related professionals. Vector and vector-borne disease presentations included topics such as Aedes and Culex mosquitoes, ticks, lice, rats, mice, plague, hantavirus, Lyme disease, dengue virus and West Nile virus. Related topics included COVID-19, funding for local public health agencies, sterile male mosquitoes and Unmanned Aircraft Systems (UAS). Vector control agencies that utilize UAS systems are considered early adopters of the technology. Some benefits of unmanned aircraft are improved treatment efficiency and reduced environmental impact for large area mosquito sites.

There were several sponsors and exhibitors in attendance at the conference. Sponsors included companies like Adapco, Target and Clarke. Aerial Services, Frontier Precision and Leading Edge were among a number of exhibitors. I enjoyed my discussion with Leading Edge's, Bill Williams and Piper Kimball regarding their UAS, Precision Vision. We discussed the potential of the aircraft to reduce mosquito populations in large sources throughout Orange County. Their team also mentioned that our District will utilize a second, unmanned aircraft system in 2021.

Date: 2/4/21
Dept Mgr Signature: 

Signed: 
Print Name: Michael DuBose



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Cynthia Ross- Seasonal Coordinator

Name of Conference/Event: MVCAC Conference

Date: Feb 1-3, 2021

Location: Virtual Conference

I really enjoyed the virtual format that was used this year due to COVID restrictions. I thought it went smoothly and I think it would be a great idea to keep this as an option so that more people could attend and benefit from the work being done around the State and the world in vector control. I particularly enjoyed a talk about ticks in schools. This district had set up a program where they would inspect schools and make recommendations on changes, they need to do to reduce ticks with pictures to illustrate what they should look like when done. We have some problems with ticks but not as much as districts up in the north half of the state but I think this model could be adapted to work for Aedes mosquitoes in schools.

Date: 2/8/2021

Dept Mgr Signature: _____

Signed: _____

Print Name: _____

Cynthia Ross



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: John Drake IVM

Name of Conference/Event: MVCAC Annual Conference

Date: February 1-3, 2021

Location: Online

A mosquito abatement district in N. CA did a trial of using Natular G30 in salt water marshes from a helicopter. The treatment was done in January and in their trial cups had 100% mortality after 13 days. They were still finding larvae in the marshes but with the treatment in January they did not have to retreat until April. OCMVCD has many marshes that cannot be treated completely from the ground. We can use the treatment drone and G30 and do our own testing in the marshes. The only issue is the cost of G30. Vectobac G and GS our normal larvicide for marshes costs approx. \$2.75 a pound where G30 costs approx.. \$16.97 a pound.

There were many presentations on Sumilarv. Sumilarv has the active ingredient pyriproxyfen which is an IGR. The easiest form to use the product would be in the 10 gram water soluble packets. The efficacy results were mixed depending upon the source treated and the amount of organic material present in the source. This is a product we can use here after doing some trials for efficacy.

The district now has a treatment drone and there some presentations of the use of drones for mosquito control. The big takeaway was have a pre flight check list and follow it.

The presentation on Aedes mosquitoes comparing newer homes to older homes. Newer homes on the average have more backyard drains then older homes. Backyard drains hold water and can easily breed aedes mosquitoes. Larger properties have more containers that can breed then smaller properties. When checking for Aedes breeding sources look for the drains in the newer homes.

Homeless encampments generally have trash, left over food and temporary structures. This environment can attract Norway rats. The Norway's burrow under the trash and temporary structures. Trapping and surveying the encampments can be hazardous due to the trash and finding burrows under the trash heaps. Best bait for live trapping Norway's in an environment like this is mackerel and peanut butter mix.

The presentation on hospital costs for West Nile Virus patients was interesting. The

presentation just focused on the hospital stay and not the costs associated with other therapies and doctor visits after leaving the hospital. The average cost of the hospital stay for a WNV patient was \$142,000 dollars. Over the 14-year study that cost was 839 million for all WNV patients in CA hospitals. This is good information to talk with our public about why we treat inspect for mosquitoes.

Date: 2/4/2021

Dept Mgr Signature: _____



Signed: _____



Print Name: _____

John Drake

Widespread consequences of COVID 19 to Local Public Health Dept's - 1.5 credits B ✓
 Evaluation of Residential property types for Aedes Aegypti Habitats - 1.5 credits B ✓
 Temporal impacts of aerial applications app on mosq
 Symposium A - challenges + opportunities in vector Borne Diseases - .25 credits C ✓
 .75 credits D ✓
 Symposium B - Public Policy + Governance + ops During COVID 19 - 1 credit A ✓



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

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Staff Name and Title: Bill Mudge Tech II

Name of Conference/Event: MVCAC for CEU's

Date: 2/2/2021

Location: VIRTUAL

TRIC Deaver's Intro: 2020 yr in Review, virtual Booths, spoke about credits!
 MEMORIALS FOR FALLEN - DR OSCAR ALLEYNE; COVID Impact on vector control dist's. 7 Human coronaviruses since 1960's. Spoke about how vector controls + other public health have been dealing with COVID + Egypt shanties + social distancing + adjustments made to still continue work! J. NASSAR: spoke about placent county's battle with Aedes aegypti. First found in 2019. they targeted residential neighbor hoods to try and get a control on breeding sources. KARAN MALCOMB; spoke about efficiency of aerial sprays + the temporary effect on west Nile carrying mosquitoes! she went over dosage + spacing of aerial spraying!
 Symposium A - challenges + opportunities in vector Borne Diseases. - ANNE KJENTROP spoke about ticks + Lyme disease in CA, other diseases passed from ticks to humans! A DENA why spoke about RATS, there tendencies + also the vectors they carry (fleas) also live will be carried on rats!
 most of the research done around + in homeless camps!

Date: 2/2/2021
 Dept Mgr Signature: [Signature]

Signed: [Signature]
 Print Name: William Mudge

JOE BUINS spoke about Hantavirus - primary Reservoir is Deer mice. Death occurs in 30-40% of cases. most cases are in Eastern Sierras.
 BRIAN JACKSON - spoke about Plague, + rodents that carry fleas that spread plague!
 most research done around Lake Tahoe.

Symposium B - public policy + governance -

Pick Howard spoke about pandemic start of outbreak model some
AND our response. Truc Dexter spoke about adjustments in workplace staggered
shifts + telecommuting! John Bliss spoke about funding for vector control
Doris's pandemic! Tina spoke about dealing with COVID-19 from a human
resources person. Wesley Collins spoke about operations + how they
were able to adjust to COVID-19 + continue to operate.

Symposium A - Operations + Technology - 1.25 credits - A, .50 - B ✓
 Symposium B - Innovation + Discovery in Mosquito Control - .50 credits A, .75 - B ✓
 Symposium B - Invasion of Body Bites; Statewide Efforts Against Aedes - 1.25 - credits - A, .50 - B ✓



Orange County Mosquito and Vector Control District

A Public Health Agency Serving Orange County Since 1947

Conference and Meeting Report

Staff of the Orange County Mosquito and Vector Control District and its Board of Directors attend a variety of educational seminars, conferences and symposia annually. This report provides a brief summary of the event attended, and the organizational value of that attendance to the District.

Staff Name and Title: Bill Mudge Tech II

Name of Conference/Event: MVCAC For CEU'S

Date: 2/3/2021

Location: VIRTUAL

Symposium on operations + technology - Speakers spoke about technology + how it helps improve operations work flow in communication, data tracking, centralizing work where it is needed. Also new technologies involve Drones + computers to help speed up treatment cycles. But in the end someone needs to go on site to inspect + sample to see if positive for mosquito larvae.

Symposium on Innovation + Discovery in Mosquito Control. Speakers spoke about Wolbachia. Also spoke about how females are specialized. Spoke about treatments + ways to control mosquitoes in Hawaii + Florida. Also spoke about new CO2 based trap set year round!

Symposium on Invasion of Body Bites: Spoke about how this mosquito Aedes B. g. g. Have change our game plans as vector control agencies! Spoke about mosquito isn't going away! Also it is a matter of time before we encounter Dengue fever.

Date: 2/3/2021
 Dept Mgr Signature: [Signature]

Signed: [Signature]
 Print Name: William Mudge

Spoke about treatment types Backpack, Aerial, Truck. Spoke about online surveys + surveys from public help getting information out!



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Staff Name and Title: Scott Chambers - Vector Control Inspector II

Name of Conference/Event: Widespread consequences of Covid 19

Date: 2/2/21

Location: Online

E. Oscar Alleyne talks about the problems and challenges we face during the current pandemic. Strategies to maintain a productive workflow.

Date: 2/4/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Scott Chambers



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Staff Name and Title: Scott Chambers - Vector Control Inspector II


Name of Conference/Event: Reeves New Investigator Award

Date: 2/2/21

Location: Online

The first speaker talked about collecting *Aedes Aegypti* samples and where they can be found. The second speaker talked about aerial spray efficacy and showed trap count data.

Date: 2/4/21
Dept Mgr Signature: 

Signed: 
Print Name: Scott Chambers



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Staff Name and Title: Scott Chambers - Vector Control Inspector II

Name of Conference/Event: Symposium A - ^{challenges + opportunities} in Vector Borne Diseases

Date: 2/2/21

Location: Online

this talk was about tick borne diseases and how they are below average in 2020. then the talk turned to Fleas and rodents. they also talked about rodent trapping in tahoe ~~areas~~ due to a human being infected with plague.

Date: 2/4/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: scott chambers



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Staff Name and Title: Scott Chambers - Vector Control Inspector II

Name of Conference/Event: Symposium A (part 2) - Mosquito Biology + Disease

Date: 2/2/21

Location: Online

First they talked about surveillance Programs designed to detect Arboviruses + Encephalitis. then they talked about WNV cases being lower in 2020 due to covid. then there was a talk mosquito abundances in coachella. there was a talk on where WNV cases in CA were. there was also a talk about Dog heartworm.

Date: 2/4/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Scott Chambers



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Staff Name and Title: Scott Chambers - Vector Control Inspector II


Name of Conference/Event: Symposium A - Operations + Technology

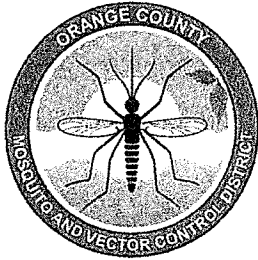
Date: 2/3/21

Location: Online

The first talk was about Mt. Shasta Vector Control District's use of tech. Next was a talk about technology being used to do our jobs and their benefits especially ~~and~~ during this pandemic. VectorSurv APF software is used to manage mosquito data. Learned about pros + cons of using drone technology. Then a talk on Ariel treatments and their effects on mosquito populations. A talk about mosquito breeding in utility vaults and a talk on breeding in swimming pools.

Date: 2/4/21
Dept Mgr Signature: 

Signed: 
Print Name: Scott Chambers



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Mosquito and Vector Control District

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Staff Name and Title: Scott Chambers - Vector Control Inspector II

Name of Conference/Event: Symposium A - In control part I

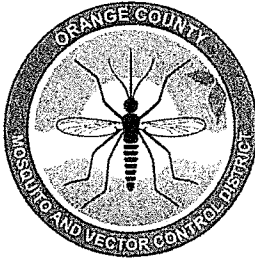
Date: 2/3/21

Location: Online

This talk was about various vehicles used for pesticide application, ~~as~~ source reduction and surveillance. Greater LA Vector control had a truck that cleared debris from flood ~~drain~~ channels that I thought could be useful in Orange County.

Date: 2/4/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Scott Chambers



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Staff Name and Title: Scott Chambers - Vector Control Inspector II

Name of Conference/Event: Symposium B - Invasion of the Body Biters

Date: 2/3/21

Location: Online

this talk was about how Aedes mosquito was forcing CA vector control districts to come up with new ways to deal with the problem. social media is an important part to get the word out and exchange information. Tim Morgan from OCMVCD gave a talk on our AI superduty.

Date: 2/4/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Scott Chambers



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Staff Name and Title: Cory Hearst Inspector II

Name of Conference/Event: Widespread Consequences of COVID19 to local Public Health

Date: 2/2/2021

Location: Online

The man with the cool bow tie spoke about the challenges that we are facing during the pandemic. Things that people can do to get through this and keep doing our jobs to the best of our ability.

Date: 2/9/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Cory Hearst



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Staff Name and Title: Cory Hearst Inspector II

Name of Conference/Event: Reeves New Investigator Award

Date: 2-2-2021

Location: Online

Vanessa Hill spoke about the good neighbor project and how they went about collecting samples and data after ID'ing the presence of *Aedes Aegypti*. Most Common sources were found to be flower pots and yard drains.

Karen Holcolmb spoke about aerial spraying and the effects those applications had on trap counts. They were studying mostly *Pipians* and *Tarsalis*.

Date: 2/9/21

Dept Mgr Signature: _____

Signed: _____

Print Name: _____

Cory Hearst



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Staff Name and Title: Cory Hearst Inspector III

Name of Conference/Event: Symposium A - Challenges + Opportunities in Vector Borne Diseases

Date: 2-2-2021

Location: Online

They began talking about tick borne diseases and how cases in 2020 are down, probably due to COVID.

Then they talked about rats and different flea borne diseases associated with rodent activity and homeless camps.

They talked about the "Urban Cycle" which involved rats or the "Suburban Cycle" which involve stray cats and possums in the spread of flea borne diseases. There was part of the symposium

where they talked about Hantavirus Pulmonary Syndrome and described in detail, 3 cases in CA, one of which was fatal.

Finally talking about rodent trapping in S. Tahoe because of human plague cases.

Date: 2/9/21
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Cory Hearst



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Staff Name and Title: Cory Hearst Inspector II

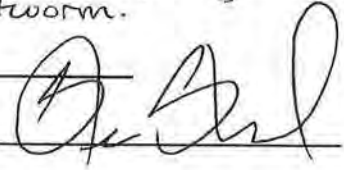
Name of Conference/Event: Symposium A (2) Mosquito Biology + Disease


Date: 2-2-2021

Location: Online

They started off talking about the CA Arbovirus Surveillance Program and Encephalitis and how they employ the use of dead bird collection, mosquito testing and Sentinel Flocks of chickens. Then they talked about West Nile Virus activity in CA. Stating that cases were down in 2020, probably due to COVID. Then they talked about WNV Hospitalizations and the costs in CA. Then they spoke about mosquito collection in Coachella Valley where they said things like population trends, rising temps, trap locations and the Salton Sea drying up are effecting mosquito abundance. Mary Beth Danforth spoke about what areas tend to have more WNV activity. She said 44% of cases in CA were only in 2% of the state. and were lower in elevation. The next to speakers talked about surveillance and adjusting it seasonally, followed up by a section on Dog Heartworm.

Date: 2/9/21

Dept Mgr Signature: 

Signed: 

Print Name: Cory Hearst



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Staff Name and Title: Cory Hearst Inspector II

Name of Conference/Event: Symposium A: Operations and Technologies

Date: 2.3.2021

Location: Online

Started off with a talk about invasive aedes mosquitos and Mt. Shasta Vector controls use of technology to fight the spread. Modern technology has made it easier to find and treat mosquitos. There was a talk about decentralizing your districts tech, with cameos from Malcolm McDowell + Gilbert Godfrey In times of covid we are more reliant on technologies to do our jobs, while successfully social distancing. There was a section on Vectorsurv API software used for managing mosquito data. API stands for Application Program Interface. CalSurv Gateway also did a talk about their new updates and things. they mostly used examples involving tick data. Next we heard about early adopters of drone technology (UAS) they gave the pros and cons. pros are, they are safer for inspectors and are extremely efficient. The cons, being that they are expensive, The video... Ironically kept crashing. Next we heard about the effects of Aerial spraying on Non target species of insect. Helicopter treatments for squ + m + i followed by the benefits of digitizing your maps + routes

Date: 2/9/21 Signed: [Signature]

Dept Mgr Signature: [Signature] Print Name: Cory Hearst

There were 2 talks about the use of scumlar in underground utility vaults and in pools. The talk about Electrical vaults cut out and came back as a talk about midge fly. As far as electrical vaults, do put your hand in them. stay above the lid and dont use liquid pesticides.



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Staff Name and Title: Cory Hearst Inspector II


Name of Conference/Event: Symposium A(2) In Control: A look at operational tools and equipment


Date: 2.3.2021

Location: Online

This symposium was mostly on equipment. There was one on the pros and cons of Argos, Side by Sides & UTV's. There was a little talk about boat use and underground spray truck setups and some boat mounted setups as well. Other vehicles were also mentioned. They showed some examples of old, vintage spray vehicles. There was a section on some spray jeep mods that seemed pretty cool. They were used for flood channel control. The big one was the debris blade, used for clearing blockages. Several more talks showcasing various vehicles and equipment. Delta has a \$1,000,000 Mosquito Fish Facility. They described Physical control of residential sites. methods including tipping and removal of containers. They described equipment and PPE used and a broom and bucket method for emptying ponds when there's no pump. Then they switched to Rats. The tools needed for different environments showcase of some underground spray wands. Then some A-1 mods.

Date: 2/9/21

Dept Mgr Signature: 

Signed: 

Print Name: Cory Hearst



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Staff Name and Title: Cory Hearst

Name of Conference/Event: Symposium B: Invasion of the Body Writers


Date: 2.3.2021

Location: Online

They started off describing how Aedes has changed our industry and effects of large area larvaciding. They also went over new outreach methods and the SMART program

Specific Measurable Attainable Relevant Timely. They talked about using social media and online resources, such as utilizing digital Ad space to get your message out. Digital media is more effective and less expensive. They talked about using water that previously contained Aedes larva and calling it "Aedes Juice". A lot of districts are deploying BG traps. There was talk about WALS treatment in cemeteries. There was a lot of talks about treating w/ the AI super duty trucks.

Date: 2/3/21

Dept Mgr Signature: 

Signed: 

Print Name: Cory Hearst

“This agenda shall be made available upon request in alternative formats to persons with a disability, as required by the American with Disabilities Act of 1990 (42 U.S.C. § 12132) and the Ralph M. Brown Act (California Government Code § 54954.2). Persons requesting a disability related modification or accommodation in order to participate in the meeting should contact the Orange County Mosquito and Vector Control District at (714-971-2421), during regular business hours, at least twenty-four hours prior to the time of the meeting.”

"Materials related to an item on the Agenda submitted after distribution of the agenda packet are available for public inspection in the District Office located at Orange County Mosquito and Vector Control District offices, 13001 Garden Grove Blvd., Garden Grove, CA 92843 during normal business hours."