



Orange County Mosquito and Vector Control District

Serving Orange County Since 1947

POLICY AND PERSONNEL COMMITTEE MEETING MARCH 16 AT 1:30 PM
PUBLIC RELATIONS COMMITTEE MEETING MARCH 16 AT 2:30 PM

**NOTICE AND AGENDA
 OF THE REGULAR MEETING OF THE BOARD OF TRUSTEES
 THURSDAY MARCH 16, 2023
 913th 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 AND ROLL CALL

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:	Peggy Huang	Yorba Linda
VICE-PRESIDENT:	Craig Green	Placentia
SECRETARY:	Cecilia Hupp	Brea

Aliso Viejo	Richard Hurt	Lake Forest	VACANT
Anaheim	Lucille Kring	Los Alamitos	Tanya Doby
Brea	Cecilia Hupp	Mission Viejo	Bob Ruesch
Buena Park	Joyce Ahn	Newport Beach	Joy Brenner
Costa Mesa	William Turpit	Orange	Jon Dumitru
Cypress	Bonnie Peat	Placentia	Craig Green
Dana Point	Mike Frost	Rancho Santa Margarita	April Josephson
Fountain Valley	Kim Constantine	San Clemente	Steve Knoblock
Fullerton	Fred Jung	San Juan Capistrano	John Taylor
Garden Grove	Stephanie Klopfenstein	Santa Ana	Nelida Mendoza
Huntington Beach	Mike Posey	Seal Beach	Sandra Massa-Lavitt
Irvine	Tammy Kim	Stanton	Gary Taylor
La Habra	James Gomez	Tustin	Rebecca Gomez
La Palma	Debbie S. Baker	Villa Park	Crystal Miles
Laguna Beach	Alex Rounaghi	Westminster	Amy Phan West
Laguna Hills	Erica Pezold	Yorba Linda	Peggy Huang
Laguna Niguel	Rischi Paul Sharma	County of Orange	Elizabeth Guillen-Merchant
Laguna Woods	Shari Horne		

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 Trustee
2. District Staff will give a presentation entitled "2023 Tip, Toss, Take Action Campaign"

D. OCMVCD COMMITTEE REPORTS TO THE BOARD OF TRUSTEES

1. Policy and Personnel Committee
2. Public Relations Committee

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 clarification or action.

1. Approve the DRAFT Minutes for the regular meeting on February 16, 2023
2. Approve Warrant Register for January 2023 (Exhibit A)
3. Approve Monthly Financial Report for January 2023 (Exhibit A)

F. BUSINESS ITEMS 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. Staff Presentation: Staff will give an update on operations activity in Orange County
4. Receive and File Trustee Terms of Office to Expire on January 2, 2023 at 11:59 AM
5. Receive and File Statement of Economic Interests 700 Forms for Filing
6. 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

J. DISTRICT LEGAL COUNSEL REPORT – Discussion and Possible Action

K. CORRESPONDENCE – Discussion and Possible Action

1. Trustee and Staff Reports from MVCAC Annual Conference January 29-February 1, 2023

L. FUTURE AGENDA ITEMS

M. ADJOURNMENT

1. Adjourn to the next regular meeting on April 20, 2023 starting at 3:00 p.m. at the Orange County Mosquito and Vector Control District offices, 13001 Garden Grove Blvd., Garden Grove, CA 92843



**POLICY AND PERSONNEL COMMITTEE
MEETING NOTICE
MARCH 16, 2023
1:30 P.M.**

TO: Policy and Personnel Committee
Fred Jung
Tammy Kim
Erica Pezold
Shari Horne
Vladimir Anderson
Tanya Doby
Jon Dumitru
April Josephson
Rebecca Gomez
Fullerton
Irvine
Laguna Hills
Laguna Woods
Lake Forest
Los Alamitos
Orange
Rancho Santa Margarita
Tustin

FROM: Tawnia Pett, Executive Assistant/Clerk of the Board

RE: Policy and Personnel Committee Meeting:
1:30 p.m., Thursday, March 16, 2023

AGENDA

1. Call Meeting to Order and Roll Call
2. Select Committee Chair
3. Public Comments
4. Approve minutes from January 11, 2023 meeting
5. Adjourn to Closed Session: Government Code Section 54954.5

Conference with Labor Negotiator
Agency Representative: Lora Young, District Manager
Unrepresented Employees: Director of Communications, Director of Operations, Director of Scientific Technical Services, Finance Manager, HR Manager, IT Manager

6. Reconvene to Open Session
7. Adjourn

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MINUTES OF POLICY AND PERSONNEL COMMITTEE MEETING

Orange County Mosquito and Vector Control District

TIME: 11:30 A.M., January 11, 2023

PLACE: Zoom Teleconference, Remote Meeting

Policy and Personnel Committee Members Present:

Fred Jung	Fullerton
Tammy Kim (Chair)	Irvine
Alex Rounaghi	Laguna Beach
Shari Horne	Laguna Woods
Tanya Doby	Los Alamitos
Jon Dumitru	Orange
April Josephson	Rancho Santa Margarita
Sandra Massa-Lavitt	Seal Beach

Policy and Personnel Committee Members Absent:

Rebecca Gomez	Tustin
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Others Present:

Richard Howard	District Manager
Lora Young	District Manager
Janet Felzner	Interim HR Manager
Tan Nguyen	Finance Manager
Tawnia Pett	Executive Assistant/Clerk of the Board

The meeting was called to order at 11:31 A.M.

- 1. Called the Meeting to Order and Roll Call:** Eight members of the committee were present out of nine members. Trustees Kempf and Massa-Lavitt arrived late.
- 2. Public Comments:** None
- 3. Approval of Minutes from the November 30, 2022 Meeting:** On motion from Trustee Jung, seconded by Trustee Horne and approved by unanimous vote, the committee approved the minutes from November 30, 2022.
- 4. Adjourned to Closed Session:** At 11:33 A.M. Committee Chair Kim called the meeting into closed session.
Conference with Labor Negotiators
Agency Representative: Rick Howard
Employee Organization: Orange County Mosquito and Vector Control District
Employee Association
- 5. Reconvened to Open Session:** The meeting reconvened at 12:08 P.M. There was no reportable action.
- 6. Adjourned:** The meeting adjourned at 12:09 P.M.



**PUBLIC RELATIONS COMMITTEE
MEETING NOTICE
THURSDAY MARCH 16, 2023
2:30 P.M.**

TO: Public Relations Committee

Bonne Peat	Cypress
Stephanie Klopfenstein	Garden Grove
Rischi Paul Sharma	Laguna Niguel
Joy Brenner	Newport Beach
Jon Dumitru	Orange
April Josephson	RS Margarita
Nelida Mendoza	Santa Ana
Rebecca Gomez	Tustin
Amy Phan West	Westminster

FROM: Tawnia Pett, Executive Assistant/Clerk of the Board

RE: Public Relations Committee Meeting:
2:30 p.m., Thursday March 16, 2023

AGENDA

1. Call Meeting to Order and Roll Call
2. Select Committee Chair
3. Public Comments
4. Review 2023 Summer Awareness Campaign
5. Adjourn

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MINUTES OF THE 912th MEETING

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

TIME: 3:00 P.M. February 16, 2023

PLACE: 13001 Garden Grove Blvd., Garden Grove, CA 92843

PRESIDENT:	Peggy Huang	Yorba Linda
VICE PRESIDENT:	Craig Green	Placentia
SECRETARY:	Cecilia Hupp	Brea

TRUSTEES PRESENT:

Aliso Viejo	Richard Hurt	Laguna Woods	Shari Horne
Anaheim	Lucille Kring	Los Alamitos	Tanya Doby
Brea	Cecilia Hupp	Mission Viejo	Bob Ruesch
Buena Park	Joyce Ahn	Newport Beach	Joy Brenner
Costa Mesa	Bill Turpit	Orange	Jon Dumitru
Cypress	Bonnie Peat	Placentia	Craig Green
Fountain Valley	Kim Constantine	Rancho Santa Margarita	April Josephson
Huntington Beach	Mike Posey	Seal Beach	Sandra Massa-Lavitt
Irvine	Tammy Kim	Tustin	Rebecca Gomez
La Palma	Debbie S. Baker	Villa Park	Crystal Miles
Laguna Beach	Alex Rounaghi	Westminster	Amy Phan West
Laguna Hills	Erica Pezold	Yorba Linda	Peggy Huang
Laguna Niguel	Rischi Paul Sharma	County of Orange	Elizabeth Guillen-Merchant

TRUSTEES ABSENT:

Dana Point	Mike Frost	San Clemente	Steve Knoblock
Fullerton	Fred Jung	San Juan Capistrano	John Taylor
Garden Grove	Stephanie Klopfenstein	Santa Ana	Nelida Mendoza
La Habra	James Gomez	Stanton	Gary Taylor
Lake Forest	Vladimir Anderson		

Trustees Klopfenstein, J. Taylor, and G. Taylor had an excused absence.

OTHERS PRESENT:

Lora Young, District Manager
Amber Semrow, Director of Scientific Technical Services
Steve Shepherd, Director of Operations
Heather Hyland, Public Information Officer
Tawnia Pett, Executive Assistant/Clerk of the Board
Alan Burns, District Counsel

A. Opening:

1. **Call the Business Meeting to Order:** President Huang called the meeting to order at 3:01 P.M.
2. **Pledge of Allegiance:** President Huang asked Trustee Massa-Lavitt to lead the Pledge of Allegiance.
3. **Roll Call:** Roll call indicated 26 Trustees were present out of the current Board membership of 35.

B. Public Comments: One

1. OCMVCD Board Past President Kathryn Barr came to talk about when she was President of the Board of Trustees, and she brought photos from when she was one the board.

C. Presentations:

1. Recognized Outgoing District Manager Rick Howard: Staff created a video for outgoing District Manager Rick Howard. Trustees, members of the public, and staff all congratulated Rick Howard on his retirement.
2. Recognized Outgoing Trustees Viczorek, Massa-Lavitt, and Nguyen: Staff created a video for outgoing Trustees Viczorek, Massa-Lavitt, and Nguyen.
3. Recognized Trustees Years of Service: Trustee Kring 15 Years, Trustee Ruesch 5 Years.
4. District Staff gave a presentation entitled "75th Anniversary Year in Review".
5. District Counsel Burns gave a presentation entitled "Trustee Roles and Responsibilities".

D. OCMVCD Committee Reports to the Board of Trustees: None**E. Consent Calendar: Items for Approval by General Consent:**

On motion from Trustee Kring, seconded by Trustee Kim, and approved by unanimous vote, the Board of Trustees approved Consent Calendar Items E.2 through E.4. Agenda Item E.1 was passed by majority vote due to absences at the previous Board Meeting (Abstained: Trustees Doby and R. Gomez).

Ayes: Trustees Hurt, Kring, Hupp, Ahn, Turpit, Peat, Constantine, Posey, Kim, Baker, Rounaghi, Pezold, Sharma, Horne, Doby, Ruesch, Brenner, Dumitru, Green, Josephson, Massa-Lavitt, R. Gomez, Miles, West, Huang, and Guillen-Merchant.

Noes: None.

Abstained: None.

Absent: Trustees Frost, Jung, Klopfenstein, J. Gomez, Anderson, Knoblock, J. Taylor, Mendoza, and G. Taylor.

1. **Approval of Minutes:** Approved, without reading, the minutes of the special meeting held January 12, 2023, and 911th Meeting of the Board of Trustees held January 19, 2023.
2. **Approved Warrant Register for December 2022: (Exhibit A)** Received and filed.
3. **Approved Monthly Financial Report for December 2022: (Exhibit A)** Received and filed.
4. **Approved Board of Trustee Committee Assignments for 2023: (Exhibit A)**

F. Business Items:

1. **Adopted Resolution No. 553 Appointing District Manager Lora Young as District Treasurer: (Exhibit A)** On motion from Trustee Dumitru, seconded by Trustee Posey, and approved by unanimous vote, the Board of Trustees adopted Resolution No. 553 appointing District Manager Lora Young as the District Treasurer.

Ayes: Trustees Hurt, Kring, Hupp, Ahn, Turpit, Peat, Constantine, Posey, Kim, Baker, Rounaghi, Pezold, Sharma, Horne, Doby, Ruesch, Brenner, Dumitru, Green, Josephson, Massa-Lavitt, R. Gomez, Miles, West, Huang, and Guillen-Merchant.

Noes: None.

Abstained: None.

Absent: Trustees Frost, Jung, Klopfenstein, J. Gomez, Anderson, Knoblock, J. Taylor, Mendoza, and G. Taylor.

2. **Adopted Memorandum of Understanding with the Orange County Mosquito and Vector Control District Employee Association and Adopted Resolution No. 554 Amending the Personnel and Salary Resolution No. 482 to Modify Language and Certain Employee Benefits: (Exhibit A, B, C)** On motion from Trustee Kim, seconded by Trustee Rounaghi, and approved by majority vote, the Board of Trustees adopted a Memorandum of Understanding with the Orange County Mosquito and Vector Control District Employee Association and adopted Resolution No. 554 Amending Personnel and Salary Resolution No. 482 to Modify Language and Certain Employee Benefits.

Ayes: Trustees Hurt, Kring, Hupp, Ahn, Turpit, Peat, Constantine, Posey, Kim, Baker, Rounaghi, Pezold, Sharma, Horne, Doby, Ruesch, Brenner, Dumitru, Green, Josephson, Massa-Lavitt, R. Gomez, West, Huang, and Guillen-Merchant.

Noes: Trustee Miles.

Abstained: None.

Absent: Trustees Frost, Jung, Klopfenstein, J. Gomez, Anderson, Knoblock, J. Taylor, Mendoza, and G. Taylor.

G. Informational Items Only (No Action Necessary):

1. **Staff Presentation:** Director of Scientific Technical Services Semrow gave an update of vector activity in Orange County.
2. **Staff Presentation:** District Manager Young gave an update of outreach activity in Orange County.
3. **Staff Presentation:** Director of Operations Shepherd gave an update of operations activity in Orange County.
4. **Received and Filed Trustee Terms of Office to Expire on January 2, 2023 at 11:59 A.M.**
5. **Received and Filed Fiscal Year 2023-24 Budget Preparation Schedule**
6. **Received and Filed Statement of Economic Interests 700 Forms for Filing**
7. **Received and Filed Rescinding Orange County Mosquito and Vector Control District State of Emergency Declaration: (Exhibit A)**

8. Received and Filed Laboratory Reports – Included in agenda packet

H. President's Report and Trustee Comments:

1. Trustee Pezold asked for a brief one page summary to present to city councils after each board meeting.

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

1. Staff will be attending the AMCA Annual Conference February 27-March 3, 2023.
2. The District will be closed Monday February 20 in honor of the holiday.
3. District Inspectors will start the ride along program with Trustees. Contact Clerk Pett or District Manager Young if you want to do a ride along.

J. District Counsel Report: District Counsel Burns Reported:

1. The District enacted a forced entry warrant within the last month without incident. The Sheriff's Department was involved.

K. Correspondence:

1. Staff conference reports from MVCAC Manager's Meeting, December 6-7, 2022.

L. Future Agenda Items:

1. Secretary Hupp asked for an item regarding organic trash bins and rat infestations.

M. Adjournment:

1. President Huang adjourned the meeting at 4:30 P.M. to a regular meeting on Thursday, March 16, 2023.

I certify that the above minutes substantially reflect the actions taken by the Board of Trustees at its meeting held February 16, 2023.

Lora B. Young

Lora B. Young, District Manager

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

_____ meeting held _____

ATTEST: _____
Cecilia Hupp, Secretary



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

March 16, 2023

AGENDA REPORT

AGENDA ITEM E.2

Prepared By: Tan Nguyen, Finance Manager
Submitted By: Lora Young, District Manager

Agenda Title:

Approve Warrant Register for January 2023

Recommended Action:

Receive and file.

Executive Summary:

Receive and file payment of January warrant register dated March 16, 2023 in the amount of \$538,239.28 as presented by in-house check runs dated January 4, 5, 10, 12, 19, 23, 26, and 31, 2023.

Strategic Plan Compliance:

Complies with PRIORITY AREA 11: Fiscal Responsibility/Financial, GOAL 11.1: Conduct the Business and Operational Functions of the District in the most cost efficient and effective manner that prioritizes both fiscal and fiduciary responsibility to the residents of Orange County by ensuring a robust system of financial checks and balances are in place.

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: January 2023 Warrant Report

ORANGE COUNTY MOSQUITO & VECTOR CONTROL DISTRICT

REGISTER OF DEMANDS March 16, 2023

ACCOUNTS PAYABLE REGISTER

ORANGE COUNTY MOSQUITO & VECTOR CONTROL DISTRICT		
REGISTER OF DEMANDS - AP REGISTER 03/16/2023		
AP/Check Run	01/04/2023	104,599.75
AP/Check Run	01/05/2023	42,077.66
AP/Check Run	01/12/2023	21,286.26
AP/Check Run	01/19/2023	43,984.33
AP/Check Run	01/26/2023	13,642.59
AP/Check Run	01/31/2023	12,478.29
P/R CalPERS1	01/10/2023	38,159.08
P/R EDD	01/10/2023	25,813.58
P/R EEASSOC	01/10/2023	825.00
P/R ICMA	01/10/2023	23,399.56
P/R IRS	01/10/2023	34,598.84
P/R NATION	01/10/2023	4,705.00
P/R TASC	01/10/2023	2,076.05
P/R USB	01/10/2023	149.92
P/R EEASSOC	01/23/2023	825.00
P/R ICMA	01/23/2023	23,639.10
P/R USB	01/23/2023	113.03
P/R CalPERS1	01/26/2023	20,661.00
P/R CalPERS1	01/26/2023	20,661.00
P/R CalPERS1	01/31/2023	39,540.10
P/R EDD	01/31/2023	22,552.54
P/R IRS	01/31/2023	35,285.96
P/R NATION	01/31/2023	4,705.00
P/R TASC	01/31/2023	2,265.21
P/R TASC	01/31/2023	195.43
Total		538,239.28

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 16th day of MARCH 2023.



 Lora Young, District Manager



 Tan Nguyen, Finance Manager

Accounts Payable

Checks by Date - Summary by Check Date

User: dmedina@ocvector.org
 Printed: 2/13/2023 1:29 PM



Check No	Vendor No	Vendor Name	Check Date	Check Amount
ACH	ANDERSON	Vladimir Anderson	01/04/2023	100.00
ACH	BAKERD	Debbie Baker	01/04/2023	100.00
ACH	CONSTANT	Kim Constantine	01/04/2023	100.00
ACH	DOBYT	Tanya Doby	01/04/2023	100.00
ACH	DUMITRU	Jonathan Dumitru	01/04/2023	100.00
ACH	GOMEZ	James Gomez	01/04/2023	100.00
ACH	GOMEZR	REBECCA GOMEZ	01/04/2023	100.00
ACH	GREEN C	Craig S. Green	01/04/2023	100.00
ACH	HORNE	Shari Lucas Horne	01/04/2023	100.00
ACH	HUANG	Peggy Huang	01/04/2023	100.00
ACH	HUPP	Cecilia T. Hupp	01/04/2023	100.00
ACH	JOSEPH	April Josephson	01/04/2023	100.00
ACH	JUNG	Fred Jung	01/04/2023	100.00
ACH	KEMPF	SUSAN KEMPF	01/04/2023	100.00
ACH	KIM	TAMMY KIM	01/04/2023	100.00
ACH	KRING	Lucille Kring	01/04/2023	100.00
ACH	MASSA-LA	Sandra Massa-Lavitt	01/04/2023	100.00
ACH	MENDOZAN	NELIDA MENDOZA	01/04/2023	100.00
ACH	MILESC	Crystal Miles	01/04/2023	100.00
ACH	MINIKUS	Scott Minikus	01/04/2023	100.00
ACH	NGUYENC	CHI CHARLIE NGUYEN	01/04/2023	100.00
ACH	PEZOLDE	Erica Pezold	01/04/2023	100.00
ACH	RUESCH	Robert J. Ruesch	01/04/2023	100.00
ACH	SHARMA	RISCHI SHARMA	01/04/2023	100.00
ACH	SONNE	SUSAN SONNE	01/04/2023	100.00
ACH	TAYLORG	Gary Taylor	01/04/2023	100.00
ACH	TURPIT	WILLIAM TURPIT	01/04/2023	100.00
ACH	CalPERS	Calif. Public Employees' Retirement	01/04/2023	83,631.25
27206	POSEY	Mike Posey	01/04/2023	100.00
27207	TAYLOR	John Taylor	01/04/2023	100.00
27208	VICZOREK	Richard Viczorek	01/04/2023	100.00
27209	AFLAC	American Family Life Assurance Co., of Ca	01/04/2023	3,080.00
27210	Guard	Guardian - Appleton	01/04/2023	13,889.55
27211	VSP	Vision Service Plan	01/04/2023	998.95
Total for 1/4/2023:				104,599.75
ACH	ADAPCO	ADAPCO, INC.	01/05/2023	10,499.16
ACH	GENEWIZ	Azenta US, Inc.	01/05/2023	94.00
ACH	GRAINGER	Grainger	01/05/2023	23.33
ACH	SNUG	Springbrook National Users Group	01/05/2023	175.00
ACH	SPECTRUM	Charter Communications	01/05/2023	829.43
ACH	TARGET	Target Specialty Products	01/05/2023	303.68
ACH	VERIZON	Verizon Wireless Services LLC	01/05/2023	5,440.58
ACH	REYES	Kassandra Reyes	01/05/2023	150.00
27212	AT T FAX	AT&T	01/05/2023	328.68
27213	ATT2	AT&T	01/05/2023	257.75

Check No	Vendor No	Vendor Name	Check Date	Check Amount
27214	CAGATE	California Gate & Entry System	01/05/2023	1,083.60
27215	CINTAS	Cintas Corporation No. 2	01/05/2023	3,075.00
27216	CROWN	Crown Maintenance	01/05/2023	230.00
27217	HARPER	Harper & Burns, LLP	01/05/2023	3,408.00
27218	KWEST	K'WEST Printing	01/05/2023	1,923.35
27219	LIEBERT	Liebert Cassidy Whitmore	01/05/2023	2,446.55
27220	LIFE	Life Technologies	01/05/2023	1,029.67
27221	MATAX	MATAX LLC	01/05/2023	2,095.21
27222	McFadden	McFadden-Dale Industrial Hardware, LLC	01/05/2023	73.05
27223	QDOXS	Q Document Solutions, Inc,	01/05/2023	142.51
27224	QIAGEN	QIAGEN INC.	01/05/2023	1,955.56
27225	SCE	Southern Calif. Edison	01/05/2023	5,100.15
27226	SMART	Smart & Final Stores Corp	01/05/2023	524.80
27227	SOLV	Safeguard Business Systems	01/05/2023	298.79
27228	STAPLES	Staples Business Advantage	01/05/2023	505.22
27229	TOYOTAGG	Toyota Place	01/05/2023	84.59
Total for 1/5/2023:				42,077.66
ACH	EEASSOC	OCVCD Employee Association	01/10/2023	825.00
ACH	ICMA	MissionSquare Retirement (ICMA)	01/10/2023	23,399.56
ACH	USB	PARS/U.S. Bank N.A. Minnesota	01/10/2023	149.92
ACH	CalPERS1	CalPERS	01/10/2023	38,159.08
ACH	EDD	Employment Development Dept.	01/10/2023	25,813.58
ACH	IRS	Internal Revenue Service	01/10/2023	34,598.84
ACH	NATION	Nationwide Retirement Solutions	01/10/2023	4,705.00
ACH	TASC	Total Administrative Services Corp.	01/10/2023	2,076.05
Total for 1/10/2023:				129,727.03
ACH	GG DISP	Republic Waste Svcs of So. Calif., LLC	01/12/2023	1,860.57
ACH	MICROSOFT	MICROSOFT CORPORATION	01/12/2023	2,831.41
ACH	ZEISSNER	Benjamin Zeissner	01/12/2023	78.00
27230	AT&T	AT&T	01/12/2023	69.57
27231	AUTO Z	Auto Zone, Inc.	01/12/2023	2,705.17
27232	BAUSAD	DANA BAUSA	01/12/2023	150.00
27233	BLACKHL	BLACKHOLE TECHNOLOGIES INC	01/12/2023	53.55
27234	CHEM	Chem Service Inc.	01/12/2023	64.20
27235	CINTAS	Cintas Corporation No. 2	01/12/2023	1,826.93
27236	GENESEE	Genesee Scientific Corporation	01/12/2023	633.02
27237	HILLS	Hill's Bros. Lock & Safe, Inc.	01/12/2023	108.75
27238	KWEST	K'WEST Printing	01/12/2023	1,625.81
27239	LIVESCAN	A Livescan Center OC Inc.	01/12/2023	20.00
27240	MARTIN D	Daniel Martinez	01/12/2023	575.00
27241	Nguyen	Kiet Nguyen	01/12/2023	150.00
27242	OFFICE	OFFICE DEPOT, INC.	01/12/2023	281.54
27243	OREILLY	O'Reilly Auto Enterprises, LLC	01/12/2023	164.87
27244	ORVAC	ORVAC ELECTRONICS	01/12/2023	1,712.43
27245	PHAM	THANH PHAM	01/12/2023	150.00
27246	Sea Life	Sea Life Designs, Inc.	01/12/2023	3,550.12
27247	SPARK	Sparkletts	01/12/2023	505.82
27248	TOYOTAGG	Toyota Place	01/12/2023	72.73
27249	WESTCOAS	RJ International	01/12/2023	1,595.77
27250	ALEMAN	MIGUEL ALEMAN	01/12/2023	39.00
27251	DELIRA J	JOSEPH DE LIRA	01/12/2023	39.00
27252	GARCIA J	Jerry Garcia	01/12/2023	39.00
27253	LOSTAU	Robert Lostaunau	01/12/2023	78.00

Check No	Vendor No	Vendor Name	Check Date	Check Amount
27254	MARTIN J	JULIAN MARTINEZ	01/12/2023	78.00
27255	PHAM K	KYLIE PHAM	01/12/2023	72.00
27256	SEIBLY	AUSTIN SEIBLY	01/12/2023	78.00
27257	VANG T	TOULENG VANG	01/12/2023	78.00
Total for 1/12/2023:				21,286.26
ACH	IRON	Iron Mountain Records Mgmt, Inc.	01/19/2023	244.74
ACH	LINDE	LINDE GAS & EQUIPMENT INC.	01/19/2023	1,127.44
ACH	SPECTRUM	Charter Communications	01/19/2023	1,494.00
ACH	Steri	STERICYCLE	01/19/2023	1,050.14
ACH	TARGET	Target Specialty Products	01/19/2023	779.95
ACH	FM	CARDMEMBER SERVICE	01/19/2023	18,374.78
27258	AMAZON	AMAZON/SYNCB	01/19/2023	1,238.36
27259	AT T	AT&T MOBILITY	01/19/2023	32.00
27260	CINTAS	Cintas Corporation No. 2	01/19/2023	871.60
27261	FISHER	Fisher Scientific	01/19/2023	45.92
27262	HILLS	Hill's Bros. Lock & Safe, Inc.	01/19/2023	42.25
27263	HOME DEP	Home Depot Credit Services	01/19/2023	409.11
27264	INSIGHT	Insight Public Sector, Inc.	01/19/2023	11,762.49
27265	LIEBERT	Liebert Cassidy Whitmore	01/19/2023	4,050.00
27266	SCG	Southern Calif. Gas Co.	01/19/2023	1,950.46
27267	TOYOTAGG	Toyota Place	01/19/2023	96.24
27268	WESTCOAS	RJ International	01/19/2023	414.85
Total for 1/19/2023:				43,984.33
ACH	EEASSOC	OCVCD Employee Association	01/23/2023	825.00
ACH	ICMA	MissionSquare Retirement (ICMA)	01/23/2023	23,639.10
ACH	USB	PARS/U.S. Bank N.A. Minnesota	01/23/2023	113.03
Total for 1/23/2023:				24,577.13
ACH	CalPERS1	CalPERS	01/26/2023	20,661.00
ACH	CalPERS1	CalPERS	01/26/2023	20,661.00
ACH	ARIASA	Adina Arias	01/26/2023	234.05
ACH	BENNETT	Stephen Bennett	01/26/2023	234.05
ACH	BOBBITT	Catherine Bobbitt	01/26/2023	234.05
ACH	CAMPBELL	JAMES CAMPBELL	01/26/2023	116.50
ACH	CAVILEER	Raymond Cavileer	01/26/2023	234.05
ACH	CUMMINGS	Robert F. Cummings	01/26/2023	234.05
ACH	DAIKER	John Daiker	01/26/2023	260.80
ACH	EDISON	SUZANNE R. EDISON	01/26/2023	329.80
ACH	EVER	SANDRA EVERINGHAM	01/26/2023	104.90
ACH	FOGARTY	Carrie Fogarty	01/26/2023	234.05
ACH	Goedhart	Gerard Goedhart	01/26/2023	234.05
ACH	Huff	Robert Huff	01/26/2023	234.05
ACH	KELLER	JUSTINE KELLER	01/26/2023	116.50
ACH	KIMBALL	Deborah Kimball	01/26/2023	234.05
ACH	KOENIG	Steve Koenig	01/26/2023	234.05
ACH	LACHANCE	Glenn LaChance	01/26/2023	362.40
ACH	LOUGHNER	LINDA LOUGHNER	01/26/2023	243.00
ACH	MCCARTY	Danny McCarty	01/26/2023	234.05
ACH	MILLER J	Jon Miller	01/26/2023	234.05
ACH	MONTANI	Karen Montani	01/26/2023	100.07
ACH	NIEWOLA	Urszula Niewola	01/26/2023	234.05

Check No	Vendor No	Vendor Name	Check Date	Check Amount
ACH	PARSONS	John Parsons	01/26/2023	234.05
ACH	Plummer	John Clark Plummer	01/26/2023	234.05
ACH	POSPISIL	Terry Pospisil	01/26/2023	234.05
ACH	REES	JETTE REES	01/26/2023	170.10
ACH	Rehders	Renee Rehders	01/26/2023	234.05
ACH	REINIG	Allyson Reinig	01/26/2023	234.05
ACH	Reisin	Caroline Reisinger	01/26/2023	234.05
ACH	RINCON	Claudio Rincon	01/26/2023	234.05
ACH	RODRIG	Agripino Rodriguez	01/26/2023	234.05
ACH	SHAW	LAWRENCE SHAW	01/26/2023	234.05
ACH	SIPE	Russell Sipe	01/26/2023	234.05
27269	AT T FAX	AT&T	01/26/2023	334.74
27270	CINTAS	Cintas Corporation No. 2	01/26/2023	1,205.92
27271	CROWN	Crown Maintenance	01/26/2023	249.00
27272	DOJ	State of California	01/26/2023	49.00
27273	DuBose	Michael DuBose	01/26/2023	195.00
27274	JACOT	Jacot Plumbing Inc.	01/26/2023	135.50
27275	JC MARG	ZUNIGA JUAN	01/26/2023	310.00
27276	JENADES	JENADES ELECTRICAL INC	01/26/2023	229.00
27277	JORGED	Jorge Alvizo Dominguez	01/26/2023	800.00
27278	PARS	Public Agency Retirement Svcs	01/26/2023	302.60
27279	PROACTIV	Proactive Work Health Medical Center, Inc.	01/26/2023	69.00
27281	ROSS	Cynthia Ross	01/26/2023	179.50
27282	STAPLES	Staples Business Advantage	01/26/2023	120.32
27283	SUN	Sun Badge Company	01/26/2023	800.62
27284	WESTCOAS	RJ International	01/26/2023	483.55
27285	WOODRUFF	Woodruff Spradlin & Smart	01/26/2023	375.00
27286	XEROX	Xerox Financial Services	01/26/2023	616.62
Total for 1/26/2023:				54,964.59
ACH	CalPERS1	CalPERS	01/31/2023	39,540.10
ACH	EDD	Employment Development Dept.	01/31/2023	22,552.54
ACH	IRS	Internal Revenue Service	01/31/2023	35,285.96
ACH	NATION	Nationwide Retirement Solutions	01/31/2023	4,705.00
ACH	TASC	Total Administrative Services Corp.	01/31/2023	2,265.21
ACH	ARCO	ARCO Business Solutions	01/31/2023	9,216.29
ACH	OC TOLL	OC Toll Roads	01/31/2023	222.00
ACH	TASC	Total Administrative Services Corp.	01/31/2023	195.43
27287	RECORDS	Records Systems Associates, Inc.	01/31/2023	3,040.00
Total for 1/31/2023:				117,022.53
Report Total (179 checks):				538,239.28



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

March 16, 2023

AGENDA REPORT

AGENDA ITEM E.3

Prepared By: Tan Nguyen, Finance Manager
Submitted By: Lora Young, District Manager

Agenda Title:

Approve Monthly Financial Report for January 2023

Recommended Action:

Receive and file

Executive Summary:

Receive and file the Orange County Mosquito and Vector Control District Monthly Financial Report for January 2023.

Strategic Plan Compliance:

Complies with PRIORITY AREA 11: Fiscal Responsibility/Financial, GOAL 11.1: Conduct the Business and Operational Functions of the District in the most cost efficient and effective manner that prioritizes both fiscal and fiduciary responsibility to the residents of Orange County by ensuring a robust system of financial checks and balances are in place.

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 January 2023

Orange County Mosquito and Vector Control District
Monthly Financial Report
Month Ending January 31, 2023

Fund No.	Fund	Cash Balance 12/31/2022	Revenue	Expenditures	Transfers	Accrual Adjustment	Cash Balance 1/31/2023	Cash Balance 1/31/2022
10	Operating	\$ 11,498,720	\$ 738,025	\$ 854,292	\$ -	\$ (15,279)	\$ 11,367,174	\$ 11,097,768
20	Vehicle Replacement	606,466	2,576	-	-	-	609,042	593,034
30	Liability Reserve	366,701	1,558	-	-	-	368,259	371,572
40	Equipment Replacement	831,548	3,533	-	-	-	835,081	842,593
50	Emergency Vector Control	1,664,908	7,073	-	-	-	1,671,981	1,687,022
60	Facility Improvement	12,679,759	78,412	(1,535)	-	-	12,759,706	9,597,386
70	Habitat Remediation	100,002	-	-	-	-	100,002	100,002
90	Retiree Medical Insurance	(184,169)	2,296	17,836	-	-	(199,709)	(17,475)
95	Retirement Contingency	5,483	23	-	-	-	5,506	305,143
99	Payroll Clearing	457,959	-	-	-	3,024	460,983	64,193
		\$ 28,027,377	\$ 833,496	\$ 870,593	\$ -	\$ (12,255)	\$ 27,978,025	\$ 24,641,238

Cash & Investment Balances:		Monthly Yield
California LAIF	\$ 18,561,372	2.425%
O.C. Treasurer	1,750,562	2.887%
Stifel Brokerage account		
Money market (par)	23,237	0.15%
Fixed income - Muni (par)	2,140,000	2.59%
Fixed income - other (par)	3,082,000	2.94%
Unamortized premium/(discount) on investments	85,925	n/a
F&M Checking	1,630,538	n/a
Payroll Checking	647,996	n/a
F&M HBP	46,395	0.05%
Petty Cash - Checking	10,000	n/a
Total Cash and Investments	\$ 27,978,025	

Section 115 Irrevocable Trust Balances:		3-month return
PARS Post-Employment Benefits Trust	\$ 4,079,099	6.76%
PARS Pension Trust	2,804,717	6.75%
Total PARS Trust Balances	\$ 6,883,816	

Lora B. Young

Lora Young
District Manager

Tan Nguyen

Tan Nguyen
Finance Manager

Monthly Cash Flow

Month	Revenue	Expenditures	Transfers	Accrual Adjustment	Monthly Cash Flow	Prior Year Comparison
July	\$ 39,633	\$ 1,027,418	\$ -	\$ 365,164	\$ (622,621)	\$ (663,757)
August	68,523	1,941,868	-	(15,922)	(1,889,267)	(1,674,411)
September	147,624	1,574,774	-	(80,400)	(1,507,550)	(1,289,522)
October	138,259	1,070,062	-	135,686	(796,117)	(877,655)
November	2,178,028	881,899	-	(46,881)	1,249,248	1,838,186
December	6,929,219	905,618	-	24,439	6,048,040	4,615,914
January	833,496	870,593	-	(12,255)	(49,352)	169,082
February					-	(711,155)
March					-	(229,058)
April					-	3,590,299
May					-	(463,251)
June					-	(1,282,429)
Total YTD	\$ 10,334,782	\$ 8,272,232	\$ -	\$ 369,831	\$ 2,432,381	\$ 3,022,243

Revenues: 58% of Fiscal Year

10-Operating Fund	Budget	Actual	Percentage
Property Taxes	\$ 7,242,091	\$ 4,328,340	59.8%
1996 Benefit Assessment	1,578,625	909,064	57.6%
2004 Benefit Assessment	7,378,639	4,213,688	57.1%
Interest and Concessions	40,000	62,605	156.5%
Miscellaneous	15,000	4,241	28.3%
Successor Agency Passthru/Residual	425,000	413,890	97.4%
Rent for Cell Sites	29,909	18,974	63.4%
VCJPA Pooled Services	65,000	-	0.0%
CDPH - CA State Grant	-	-	0.0%
Charges for Services	60,000	39,184	65.3%
Total Operating Fund Revenues	16,834,264	9,989,986	59.3%

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

Note 1

Monies come through the County and are unpredictable

No.	Other Funds	Budget	Actual	Percentage
20	Vehicle Replacement	13,000	25,768	198.2%
30	Liability Reserve	2,500	2,802	112.1%
40	Equipment Replacement	5,000	6,354	127.1%
50	Emergency Vector Control	9,500	12,722	133.9%
60	Facility Improvement	300,000	280,513	93.5%
70	Habitat Remediation	-	-	0.0%
90	Retiree Medical Insurance	33,000	16,595	50.3%
95	Retirement Contingency	1,500	42	2.8%
	Total Other Funds	349,000	344,796	98.8%
	Total Revenue	\$ 17,198,764	\$ 10,334,782	60.1%

Note 1

Note 1

Note 1

Note 1

Note 1: Through the fiscal year, interest is recorded as revenue when cash payments are received. At year-end, any difference between the market and book value of investments held is an unrealized gain or loss and is recorded as a component of interest revenue. Interest rates and market value have an inverse relationship whereby rising interest rates result in declining market value. Consequently, interest receipt trends do not predict the year-end interest revenue that will be reported in the annual financial statements. The majority of revenue in funds 20, 30, 40, and 50 is interest earnings.

Expenditures: 58% of Fiscal Year

No.	10-Operating Fund	Budget	Actual	Percentage
110	Trustees	\$ 66,660	\$ 25,079	37.6%
120	District Manager	471,230	250,673	53.2%
130	Legal Services	137,000	40,721	29.7%
140	Non-Departmental	347,000	145,853	42.0%
	Executive	1,021,890	462,326	45.2%
210	Administrative Services	878,165	400,208	45.6%
220	Insurance	832,600	811,554	97.5%
	Administrative Services	1,710,765	1,211,762	70.8%
310	Technical Services	2,165,641	1,198,429	55.3%
350	SIT Program	193,853	126,174	65.1%
	Scientific Technical Services	2,359,494	1,324,603	56.1%
410	Field Operations	7,362,558	3,805,631	51.7%
430	Vehicle Maintenance	938,669	334,701	35.7%
440	Building Maintenance	284,109	120,618	42.5%
	Operations	8,585,336	4,260,950	49.6%
510	Public Information	825,432	320,417	38.8%
520	Information Technology	871,107	460,078	52.8%
530	Public Service	181,189	90,302	49.8%
	Public Information	1,877,728	870,797	46.4%
	Total Operating Fund Expenditures	15,555,213	8,130,438	52.3%

Annual insurance premiums were paid in August.

Partial payment for SIT equipment occurred early in the fiscal year.

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	255,200	22,339	8.8%
70	Habitat Remediation	-	-	0.0%
90	Retiree Medical Insurance	225,800	119,455	52.9%
95	Retirement Contingency	200,000	-	0.0%
	Total Other Funds	681,000	141,794	20.8%
	Total Expenditures	\$ 16,236,213	\$ 8,272,232	50.9%

STIFEL PRESTIGE® ACCOUNT STATEMENT

1 1 1 D195950 SSNR00901

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



Your Financial Advisor (LU04):
SANDRA HEDSTROM WHEELER
Telephone: (805) 783-2921

Office Serving Your Account:
4460 BROAD STREET
SUITE 210
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

What are your financial resolutions for 2023? Put away more for retirement? Start saving for college? Review estate planning matters? Whatever your goals may be, your Stifel Financial Advisor can help.

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.

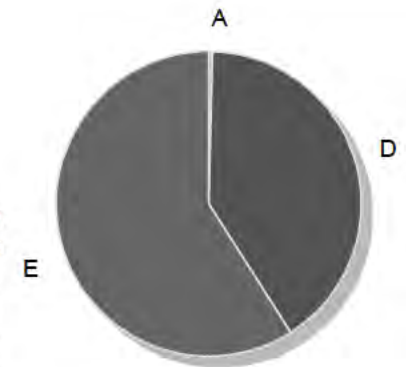
Thank you for allowing Stifel to serve you. In order to protect your rights, including rights under the Securities Investor Protection Act (SIPA), please promptly report, in writing, any inaccuracies or discrepancies in this account or statement to the Compliance Department of Stifel at the address below. 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	January 31	December 31
Net Cash Equivalents **	23,237.00	4,631.65
Net Portfolio Assets held at Stifel	5,036,445.63	5,006,769.44
Net Portfolio Assets not held at Stifel		
Net Portfolio Value	\$5,059,682.63	\$5,011,401.09
YOUR CHANGE IN PORTFOLIO VALUE	January 31	December 31
Net Cash Flow (Inflows/Outflows) ²		
Securities Transferred In/Out		
Income and Distributions	18,605.35	4,600.19
Change in Securities Value	29,676.19	1,450.99
Net Change in Portfolio Value	\$48,281.54	\$6,051.18

** 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 January 31, 2023 (\$)	Percentage of your account
A Net Cash Equivalents**	23,237.00	0.46%
D Fixed Income-Muni	2,050,941.80	40.53%
E Fixed Income-Other	2,985,503.83	59.01%
Total Assets	\$5,059,682.63	100.00%





ASSET SUMMARY

	Value as of January 31, 2023			% of assets *	Gains/(-)Losses		
	<i>At Stifel</i>	<i>Not at Stifel</i>	<i>Total</i>		<i>Unrealized</i>	<i>Realized</i>	
					<i>This Period</i>	<i>Year-to-date</i>	
Cash							
Cash Sweep**	23,237.00		23,237.00	0.46%			
Margin Balance							
A. Net Cash Equivalents	\$23,237.00		\$23,237.00	0.46%			
B. Equities							
C. Preferreds							
D. Fixed Income-Muni	2,050,941.80		2,050,941.80	40.53%	-151,020.56		
E. Fixed Income-Other	2,985,503.83		2,985,503.83	59.01%	-115,579.27		
F. Mutual Funds							
G. Unit Investment Trusts							
H. Insurance Products							
I. Alternative Investments							
J. Other Investments							
K. Stifel Smart Rate Program **							
Net Portfolio Assets	\$5,036,445.63	\$0.00	\$5,036,445.63	99.54%	-\$266,599.83	\$0.00	\$0.00
Net Portfolio Value	\$5,059,682.63	\$0.00	\$5,059,682.63	100.00%	-\$266,599.83	\$0.00	\$0.00

INCOME & DISTRIBUTION SUMMARY

	<i>Security Type</i>	<i>Year-to-date</i>	<i>This period</i>
Dividends	Tax-Exempt		
	Taxable		
Interest	Tax-Exempt		
	Taxable	18,605.35	18,605.35
Capital Gain Distributions			
Return of Principal			
Other			
Total Income & Distributions		\$18,605.35	\$18,605.35

INFORMATION SUMMARY

	<i>Security Type</i>	<i>Year-to-date</i>	<i>This period</i>
Accrued Interest Paid	Tax-Exempt		
	Taxable		
Accrued Interest Received	Tax-Exempt		
	Taxable		
Gross Proceeds			
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	23,237.00	23,237.00	34.86	0.15%
Total Net Cash Equivalents	\$23,237.00	\$23,237.00	\$34.86	0.15%

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>
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	99.2980 109,227.80	100.3398 110,373.74	427.17	-1,145.94	2,563.00	2.35%
FARRELL PA AREA SCH DIST AGM B/E TXBL CPN 1.270% DUE 08/15/23 DTD 08/18/20 FC 02/15/21 CUSIP: 311690HM6 <i>Original Cost: 50,930.00</i>	S&P: AA Moody: A1 Cash	50,000	98.1850 49,092.50	100.4101 50,205.07	292.81	-1,112.57	635.00	1.29%
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: AA- Moody: Aa3 Cash	110,000	96.5710 106,228.10	100.8937 110,983.08	183.15	-4,754.98	2,197.80	2.07%



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>
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: 77,557.81</i>	S&P: A- Moody: A1 Cash	70,000	99.0480 69,333.60	104.3244 73,027.07	238.18	-3,693.47	2,858.10	4.12%
AMARILLO TX HOTEL OCCUP TAX REV AGM B/E TXBL CPN 3.070% DUE 08/15/24 DTD 03/15/16 FC 02/15/17 CUSIP: 023039AF7 <i>Original Cost: 80,422.25</i>	S&P: AA Cash	75,000	97.8870 73,415.25	103.5023 77,626.75	1,061.71	-4,211.50	2,302.50	3.14%
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	96.5800 193,160.00	101.7222 203,444.41	1,669.33	-10,284.41	5,008.00	2.59%
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	93.7130 159,312.10	100.9273 171,576.33	839.43	-12,264.23	2,850.90	1.79%
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: 117,294.45</i>	S&P: AA+ Moody: Aa2 Cash	110,000	100.0550 110,060.50	100.6133 110,674.66	825.00	-614.16	3,300.00	3.00%



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>
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	93.4040 233,510.00	100.4803 251,200.69	513.35	-17,690.69	4,017.50	1.72%
FLORIDA ST BRD ADMIN FIN CORP REV SER A B/E TXBL CPN 1.258% DUE 07/01/25 DTD 09/16/20 FC 01/01/21 CUSIP: 341271AD6 <i>Original Cost: 101,351.00</i>	S&P: AA Moody: Aa3 Cash	100,000	92.3070 92,307.00	100.8566 100,856.65	104.83	-8,549.65	1,258.00	1.36%
KENTUCKY HSG CORP REV SER B B/E TXBL CPN 3.312% DUE 07/01/25 DTD 12/01/16 FC 07/01/17 CUSIP: 49130TVJ2 <i>Original Cost: 216,995.00</i>	S&P: AAA Moody: Aaa Cash	200,000	96.5900 193,180.00	104.9968 209,993.68	552.00	-16,813.68	6,624.00	3.43%
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: Aa3 Cash	100,000	93.1410 93,141.00	102.4095 102,409.49	661.67	-9,268.49	1,985.00	2.13%
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	93.0400 93,040.00	101.6714 101,671.38	583.33	-8,631.38	1,750.00	1.88%
BAY AREA TOLL AUTH CA TOLL BRDG REV SAN FRANCISO F 1 B/E TXBL CPN 2.425% DUE 04/01/26 DTD 09/26/19 FC 04/01/20 CUSIP: 072024WR9 <i>Original Cost: 133,472.85</i>	S&P: AA Moody: Aa3 Cash	125,000	94.5390 118,173.75	104.4482 130,560.20	1,010.42	-12,386.45	3,031.25	2.57%

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>
UNIVERSITY CA REV RFDG GENL SER AS B/E TXBL CPN 2.587% DUE 05/15/26 DTD 04/20/16 FC 11/15/16 CUSIP: 91412GE27 <i>Original Cost: 161,363.00</i>	S&P: AA Moody: Aa2 Cash	150,000	94.9700 142,455.00	105.0369 157,555.29	819.22	-15,100.29	3,880.50	2.72%
MASSACHUSETTS EDL FING AUTH ED LN ISSUE L SR SER A REV B/E TXBL CPN 4.038% DUE 07/01/26 DTD 06/13/18 FC 01/01/19 CUSIP: 57563RPM5 <i>Original Cost: 248,805.20</i>	S&P: AA Cash	220,000	97.8660 215,305.20	109.0018 239,803.87	740.30	-24,498.67	8,883.60	4.13%
Total Fixed Income-Muni		2,140,000	\$2,050,941.80	\$2,201,962.36	\$10,521.90	-\$151,020.56	\$53,145.15	2.59%
Municipal Bonds held may or may not be tax free. Please consult with your tax advisor.								
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>
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	99.5240" 99,524.00	100.0000 100,000.00	492.60	-476.00	1,450.00	1.46%
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	99.4400" 238,656.00	100.0000 240,000.00	1,105.97	-1,344.00	3,480.00	1.46%
MICROSOFT CORP NOTE CPN 2.375% DUE 05/01/23 DTD 05/02/13 FC 11/01/13 CALL 03/03/23 @ 100.000 CUSIP: 594918AT1 <i>Original Cost: 102,711.00</i>	S&P: AAA Moody: Aaa Cash	100,000	99.4810 99,481.00	100.0000 100,000.00	593.75	-519.00	2,375.00	2.39%



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>
U S TREASURY NOTE CPN 2.875% DUE 09/30/23 DTD 09/30/18 FC 03/31/19 CUSIP: 9128285D8	Moody: Aaa Cash	120,000	98.7660 118,519.20	99.9875 119,985.05	1,175.28	-1,465.85	3,450.00	2.91%
CITIGROUP GLBL MKTS HLDG MEDIUM TERM NOTE CPN 5.200% DUE 11/30/23 DTD 11/30/22 FC 12/30/22 CUSIP: 17330YDC1 <i>Original Cost: 251,255.00</i>	S&P: A Moody: A2 Cash	250,000	98.2310 245,577.50	100.4197 251,049.29	36.11	-5,471.79	13,000.00	5.29%
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	96.7810" 193,562.00	100.0000 200,000.00	1,419.45	-6,438.00	3,300.00	1.70%
SANTANDER UK PLC NOTE CPN 4.000% DUE 03/13/24 DTD 03/13/14 FC 09/13/14 CUSIP: 80283LAJ2	S&P: A Moody: A1 Cash	175,000	98.8890 173,055.75	98.8029 172,905.00	2,683.33	150.75	7,000.00	4.04%
U S TREASURY NOTE CPN 2.500% DUE 05/15/24 DTD 05/15/14 FC 11/15/14 CUSIP: 912828WJ5 <i>Original Cost: 251,268.32</i>	Moody: Aaa Cash	250,000	97.3090 243,272.50	100.3180 250,794.89	1,346.69	-7,522.39	6,250.00	2.57%
U S TREASURY NOTE CPN 3.000% DUE 06/30/24 DTD 06/30/22 FC 12/31/22 CUSIP: 91282CEX5	Moody: Aaa Cash	100,000	97.8520 97,852.00	99.5147 99,514.72	265.20	-1,662.72	3,000.00	3.07%
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	96.0260 96,026.00	101.8118 101,811.79	198.58	-5,785.79	2,383.00	2.48%
U S TREASURY NOTE CPN 2.250% DUE 10/31/24 DTD 10/31/17 FC 04/30/18 CUSIP: 9128283D0 <i>Original Cost: 103,230.00</i>	Moody: Aaa Cash	100,000	96.4490 96,449.00	102.0404 102,040.41	578.04	-5,591.41	2,250.00	2.33%



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>
SOUTHERN CA EDISON CO 1ST & RFDG MTG BOND SER E CPN 3.700% DUE 08/01/25 DTD 08/02/18 FC 02/01/19 CALL 06/01/25 @ 100.000 CUSIP: 842400GN7 <i>Original Cost: 150,425.00</i>	S&P: A- Moody: A3 Cash	150,000	97.3420 146,013.00	100.2287 150,343.09	2,775.00	-4,330.09	5,550.00	3.80%
SOCIETE GENERALE UNSECD MEDIUM TERM NOTE STEP CPN 1.000% DUE 08/19/25 DTD 08/19/20 FC 02/19/21 CALL 02/19/23 @ 100.000 CUSIP: 83369MD25	S&P: A Moody: A1 Cash	50,000	89.9010 44,950.50	98.5100 49,255.00	225.00	-4,304.50	500.00	1.11%
BMO HARRIS BANK NA CHICAGO IL CD FDIC #16571 CLLB CPN 3.000% DUE 11/26/25 DTD 05/26/22 FC 08/26/22 CALL 02/26/23 @ 100.000 CUSIP: 05600XFJ4	Cash	145,000	95.6500 " 138,692.50	100.0000 145,000.00	798.50	-6,307.50	4,350.00	3.14%
SIMON PPTY GRP LP NOTE CPN 3.300% DUE 01/15/26 DTD 01/13/16 FC 07/15/16 CALL 10/15/25 @ 100.000 CUSIP: 828807CW5 <i>Original Cost: 131,249.00</i>	S&P: A- Moody: A3 Cash	120,000	96.0040 115,204.80	106.1901 127,428.12	176.00	-12,223.32	3,960.00	3.44%
MORGAN STANLEY SR NOTE CPN 3.875% DUE 01/27/26 DTD 01/27/16 FC 07/27/16 CUSIP: 61746BDZ6 <i>Original Cost: 100,291.00</i>	S&P: A- Moody: A1 Cash	100,000	97.5360 97,536.00	100.2598 100,259.80	43.06	-2,723.80	3,875.00	3.97%
LEGG MASON INC SR NOTE CPN 4.750% DUE 03/15/26 DTD 03/22/16 FC 09/15/16 CUSIP: 524901AV7 <i>Original Cost: 130,942.50</i>	S&P: A Moody: A2 Cash	125,000	100.4840 125,605.00	103.9128 129,891.01	2,243.06	-4,286.01	5,937.50	4.73%

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>
BANK AMERICA CORP SR NOTE CPN 3.500% DUE 04/19/26 DTD 04/19/16 FC 10/19/16 CUSIP: 06051GFX2 <i>Original Cost: 105,286.00</i>	S&P: A- Moody: A2 Cash	100,000	97.1160 97,116.00	104.1597 104,159.70	991.67	-7,043.70	3,500.00	3.60%
FEDL HOME LOAN BANK BOND CPN 0.940% DUE 05/26/26 DTD 05/26/21 FC 11/26/21 CALL 11/26/21 @ 100.000 CUSIP: 3130AMH39	S&P: AA+ Moody: Aaa Cash	135,000	90.0450 121,560.75	100.0000 135,000.00	229.13	-13,439.25	1,269.00	1.04%
BROOKFIELD FIN INC GTD NOTE CPN 4.250% DUE 06/02/26 DTD 06/02/16 FC 12/02/16 CALL 03/02/26 @ 100.000 CUSIP: 11271LAA0	S&P: A- Moody: A3 Cash	115,000	98.3050 113,050.75	98.1793 112,906.25	801.01	144.50	4,887.50	4.32%
FEDL FARM CREDIT BANK BOND CPN 0.900% DUE 06/15/26 DTD 06/15/21 FC 12/15/21 CALL 02/07/23 @ 100.000 CUSIP: 3133EMH21	S&P: AA+ Moody: Aaa Cash	50,000	89.9890 44,994.50	99.8897 49,944.87	57.50	-4,950.37	450.00	1.00%
U S TREASURY NOTE CPN 2.250% DUE 02/15/27 DTD 02/15/17 FC 08/15/17 CUSIP: 912828V98 <i>Original Cost: 101,787.19</i>	Moody: Aaa Cash	98,000	94.5000 92,610.00	103.1011 101,039.11	1,018.61	-8,429.11	2,205.00	2.38%
FEDL HOME LOAN BANK BOND CPN 2.010% DUE 02/25/27 DTD 02/25/22 FC 08/25/22 CALL 05/25/22 @ 100.000 CUSIP: 3130AQUD3	S&P: AA+ Moody: Aaa Cash	100,000	92.4390 92,439.00	98.7550 98,755.00	871.00	-6,316.00	2,010.00	2.17%

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>
STATE BANK OF INDIA NEW YORK NY CD FDIC #33682 CPN 2.200% DUE 03/10/27 DTD 03/10/22 FC 09/10/22 CUSIP: 856285J36	Cash	59,000	91.1120" 53,756.08	100.0000 59,000.00	512.09	-5,243.92	1,298.00	2.41%
Total Fixed Income-Other		3,082,000	\$2,985,503.83	\$3,101,083.10	\$20,636.63	-\$115,579.27	\$87,730.00	2.94%
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			\$5,036,445.63	\$5,303,045.46		-\$266,599.83	\$140,875.15	2.80%
Total Net Portfolio Value			\$5,059,682.63	\$5,326,282.46		-\$266,599.83	\$140,910.01	2.79%

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		\$4,631.65	\$1,083.33	\$3,548.32	\$0.00
Buy and Sell Transactions	Assets Bought					
	Assets Sold/Redeemed					
Deposits	Deposits Made To Your Account					
Withdrawals	Withdrawals From Your Account					
Income and Distributions	Income and Distributions	18,605.35	18,605.35	18,605.35		
Cash Sweep Activity	Cash Sweep Activity			-19,688.68	19,688.68	
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		\$23,237.00	\$0.00	\$23,237.00	\$0.00
Securities Transferred	Securities Transferred In/Out					

ACTIVITY DETAILS				CASH EQUIVALENTS		
			This period	Cash	Cash Sweep	Margin
	Opening Balance - Net Cash Equivalents		\$4,631.65	\$1,083.33	\$3,548.32	\$0.00

Income and Distributions						
Date	Activity	Quantity	Description	Total	Cash	Margin
1/3/2023	Interest		CONNECTICUT ST SER A B/E TXBL CPN 1.998% DUE 07/01/24 DTD 06/11/20 FC 01/01/21 010123 110,000 CUSIP: 20772KJW0	1,098.90	1,098.90	



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>
1/3/2023	Interest		FLORIDA ST BRD ADMIN FIN CORP REV SER A B/E TXBL CPN 1.258% DUE 07/01/25 DTD 09/16/20 FC 01/01/21 010123 100,000 CUSIP: 341271AD6	629.00	629.00		
1/3/2023	Interest		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 010123 70,000 CUSIP: 485429MF8	1,429.05	1,429.05		
1/3/2023	Interest		KENTUCKY HSG CORP REV SER B B/E TXBL CPN 3.312% DUE 07/01/25 DTD 12/01/16 FC 07/01/17 010123 200,000 CUSIP: 49130TVJ2	3,312.00	3,312.00		
1/3/2023	Interest		MASSACHUSETTS EDL FING AUTH ED LN ISSUE L SR SER A REV B/E TXBL CPN 4.038% DUE 07/01/26 DTD 06/13/18 FC 01/01/19 010123 220,000 CUSIP: 57563RPM5	4,441.80	4,441.80		
1/3/2023	Interest		ROGERS MEM HOSP INC BOND CPN 2.383% DUE 07/01/24 DTD 08/28/19 FC 01/01/20 010123 100,000 CUSIP: 775200AE8	1,191.50	1,191.50		
1/3/2023	Interest		U S TREASURY NOTE CPN 3.000% DUE 06/30/24 DTD 06/30/22 FC 12/31/22 123122 100,000 CUSIP: 91282CEX5	1,500.00	1,500.00		



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>
1/17/2023	Interest		SIMON PPTY GRP LP NOTE CPN 3.300% DUE 01/15/26 DTD 01/13/16 FC 07/15/16 CALL 10/15/25 @ 100.000 011523 120,000 CUSIP: 828807CW5	1,980.00	1,980.00		
1/27/2023	Interest		MORGAN STANLEY SR NOTE CPN 3.875% DUE 01/27/26 DTD 01/27/16 FC 07/27/16 012723 100,000 CUSIP: 61746BDZ6	1,937.50	1,937.50		
1/30/2023	Interest		CITIGROUP GLBL MKTS HLDG MEDIUM TERM NOTE CPN 5.200% DUE 11/30/23 DTD 11/30/22 FC 12/30/22 013023 250,000 CUSIP: 17330YDC1	1,083.33	1,083.33		
1/31/2023	Interest		STIFEL FDIC INSURED BANK DEPOSIT PROGRAM 013123 23,237 CUSIP: 09999844	2.27	2.27		

Total Income and Distributions

\$18,605.35

\$18,605.35

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>
1/3/2023	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-1,083.33	1,083.33	
1/4/2023	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-13,602.25	13,602.25	
1/18/2023	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-1,980.00	1,980.00	
1/30/2023	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-1,937.50	1,937.50	
1/31/2023	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-2.27	2.27	



ACTIVITY DETAILS continued

CASH EQUIVALENTS continued

Cash Sweep Activity continued

<i>Date</i>	<i>Activity</i>	<i>Description</i>	<i>Total</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
1/31/2023	Purchase	STIFEL FDIC INSURED BANK DEPOSIT PROGRAM		-1,083.33	1,083.33	
Total Cash Sweep Activity			\$0.00	-\$19,688.68	\$19,688.68	

	<i>This period</i>	<i>Cash</i>	<i>Cash Sweep</i>	<i>Margin</i>
Closing Balance - Net Cash Equivalents	\$23,237.00	\$0.00	\$23,237.00	\$0.00



Stifel Insured Bank Deposit Program

Amount(s) listed below include accrued interest in the amount of \$2.27. The rate at month-end was 0.15%.

Description	Location	Previous Month Value	Current Month Value
Stifel Bank and Trust	St. Louis, MO	\$3,548.32	\$23,237.00
Closing Balance - Stifel Insured Bank Deposit Program			\$23,237.00

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.**

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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.

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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.

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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, One South Street, Baltimore, Maryland 21202.

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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.

STIFEL

Account Disclosures Continued

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.

Fully Paid Lending Participants – Without waiving any rights given to you, it is understood and agreed that the provisions of the Securities Investor Protection Act of 1970 may not protect the lender with respect to loaned securities hereunder and that, therefore, the collateral held for you may constitute the only source of satisfaction of Stifel’s obligations in the event Stifel fails to return the loaned securities.

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.

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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



octreasurer.com/publicfunds
 January 31, 2023

ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT
 Attn: Richard Howard, District Manager
 13001 Garden Grove Blvd.
 Garden Grove, CA 92843

Fund Number : [REDACTED]

JANUARY 2023 STATEMENT

INVESTMENT BALANCE IN OCIP

Transactions

<u>Transaction Date</u>	<u>Transaction Description</u>	<u>Authorized Signer</u>	<u>Amount</u>
01/02/2023	December 2022 Investment Admin Fee		\$ (81.94)
01/30/2023	October 2022 Interest Paid		\$ 2,740.09

Summary

Total Deposit:	\$ 2,740.09	Beginning Balance:	\$ 1,747,903.55
Total Withdrawal:	\$ (81.94)	Ending Balance:	\$ 1,750,561.70

California State Treasurer
Fiona Ma, CPA



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

February 13, 2023

[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: XXXXXXXXXX

January 2023 Statement

Effective Date	Transaction Date	Tran Type	Confirm Number	Web Confirm Number	Authorized Caller	Amount
1/9/2023	1/9/2023	RD	1720077	N/A	TAN NGUYEN	4,000,000.00
1/13/2023	1/12/2023	QRD	1720659	N/A	SYSTEM	70,753.96

Account Summary

Total Deposit:	4,070,753.96	Beginning Balance:	14,490,618.16
Total Withdrawal	0.00	Ending Balance	18,561,372.12



ORANGE COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

March 16, 2023

AGENDA REPORT

AGENDA ITEM G.4

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

Agenda Title:

Trustee Terms of Office to Expire on January 2, 2023 at 11:59 A.M.

Recommended Action:

Receive and file.

Executive Summary:

The following Trustees' terms of office will expire on January 2, 2023 at 11:59 A.M.

Bolded City/County has appointed a representative:

Trustee Representative	Governing Body	Date of Communication
Richard Hurt	Aliso Viejo	December 14, 2022, 2 Years
Joyce Ahn	Buena Park	January 10, 2023, 2 Years
Bill Turpit	Costa Mesa	November 15, 2022, 2 Years
Bonnie Peat	Cypress	January 9, 2023, 1 Year
Mike Frost	Dana Point	January 17, 2023, 2 Years
James Gomez	La Habra	December 19, 2022, 4 Years
Alex Rounaghi	Laguna Beach	December 13, 2022, 2 Years
Rischi Paul Sharma	Laguna Niguel	December 20, 2022, 2 Years
Shari Horne	Laguna Woods	December 21, 2022, 2 Years
Vladimir Anderson	Lake Forest	March 7 2023, 1 Year
Craig Green	Placentia	January 10, 2023, 2 Years
April Josephson	Rancho Santa Margarita	December 14, 2022, 2 Years
John Taylor	San Juan Capistrano	January 17, 2023, 2 Years
Sandra Massa-Lavitt	Seal Beach	March 13, 2023
Gary Taylor	Stanton	January 10, 2023, 2 Years
Amy Phan West	Westminster	January 25, 2023, 2 Years
Peggy Huang	Yorba Linda	December 20, 2022, 2 Years
Elizabeth Guillen-Merchant	County of Orange	January 24, 2023, 2 Years

Strategic Plan Compliance:

Complies with PRIORITY AREA 1: Collaboration and Engagement with Partner Agencies, Stakeholders, and the Public, GOAL 1.2: Improve public awareness and information sharing.

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

March 16, 2023

AGENDA REPORT

AGENDA ITEM: G.5

Prepared By: Tawnia Pett, Executive Assistant/Clerk of the Board
Submitted By: Lora Young, 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 3, 2023. (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:

FUNGUS GNATS AND MARCH FLIES

Laboratory Report March 16, 2023

Attachment No. 1

Fungus Gnat



March Fly



GENERAL INFORMATION

Fungus gnats and March flies occasionally cause considerable concern when they are found in or about the house, patio, or lawn in large numbers. The fungus gnats may resemble small mosquitoes but neither they nor March flies can "bite." Their status as a pest here is mainly only as a nuisance.

The larvae of the various species are mostly whitish, slender maggots with dark heads. Development from the egg stage to the adult gnat usually takes two to four weeks. The adults are often attracted to lights at night.

FUNGUS GNATS (*Mycetophilidae* & *Sciaridae*):

These small (1/8"-3/8") dark flies are found here throughout the year where they inhabit damp, decaying organic matter such as leaf mold, manure, and organic fertilizers and mulches where the larvae feed, especially on fungus growth. Occasionally they may be found breeding within planter boxes for house plants where the moisture favors them. Only in commercial mushroom beds are they usually a potential economic pest.

MARCH FLIES (*Bibionidae*):

These dark-colored flies (1/4") are usually most common in the spring and early summer. They, like fungus gnats, are primarily scavenger feeders as maggots or larvae in the soil or turf with moist, decaying organic matter from which adults are lazy fliers, often staying close to the ground. They may feed on the nectar of flowers.

CONTROL

Control is not usually warranted. Keeping doors closed and windows tightly screened will help. The flies may enter homes where lights attract them. Where killing thegnats or flies is desired inside buildings, the usual fly space sprays may be used.

This information is provided to help homeowners with their pest problems. Insecticides may be purchased at nurseries, hardware, farm supply, and pet stores. If additional help is needed, contact with a licensed pest control operator is suggested. No endorsement of trade names or products is intended, nor is criticism implied of similar products not mentioned.

PRECAUTIONS

1. Handle insecticides with care and follow instructions on the label.
2. Do not use around open flame or exposed foods, and always clean food preparation areas after the use of pesticides.
3. Store out of reach of children and pets, preferably in locked cabinets.
4. Never keep pesticides in anything other than the original container.
5. Never reuse the pesticide container to store any other materials.
6. Dispose of all empty containers by placing them in the trash can for removal to the local disposal area.



ORANGE COUNTY VECTOR CONTROL DISTRICT
13001 Garden Grove Boulevard, Garden Grove, CA 92843
(714) 971-2421 • (949) 654-2421

www.ocvectpr.org

Fungus Gnats

UC IPM, Revised 8/13



(Shutterstock)

Fungus gnats are small flies that infest soil, potting mix, other container media, and other sources of organic decomposition. Their larvae primarily feed on fungi and organic matter in soil, but also chew roots and can be a problem in greenhouses, nurseries, potted plants and interior plantscapes. Adult fungus gnats may emerge from houseplants indoors and become a nuisance.

IDENTIFICATION

Fungus gnats (*Orfelia* and *Bradysia* species), also called darkwinged fungus gnats (Sciaridae), are dark, delicate-looking flies similar in appearance to mosquitoes. Adult fungus gnats have slender legs with segmented antennae that are longer than their head. Their long antennae distinguish them from the more robust shore flies, which are also found in greenhouses, associated with algae and decomposing organic matter, but have short bristle-like antennae. Although a few species are up to 1/2 inch long, fungus gnat adults commonly are about 1/16 to 1/8 inch long. Wings are light gray to clear, and the common *Bradysia* species have a Y-shaped wing vein.

Because adult fungus gnats are attracted to light, you first might notice these pests flying near windows indoors. However, in comparison with more active species such as the common housefly (*Musca domestica*), fungus gnats are relatively weak fliers and usually don't move around much indoors. Fungus gnats often remain near potted plants and run across (or rest on) growing media, foliage, compost, and wet mulch piles.

Females lay tiny eggs in moist organic debris or potting soil. Larvae have a shiny black head and an elongated, whitish-to-clear, legless body. They eat organic mulch, leaf mold, grass clippings, compost, root hairs, and fungi. If conditions are especially moist and fungus gnats are abundant, larvae can leave slime trails on the surface of media that look like trails from small snails or slugs.

DAMAGE

Adult fungus gnats don't damage plants or bite people; their presence is primarily considered a nuisance. Larvae, however, when present in large numbers, can damage roots and stunt plant growth, particularly in seedlings and young plants. Significant root damage and even plant death have been observed in interior plantscapes and in houseplants when high populations were associated with moist, organically-rich soil. Thus, a houseplant that is wilting may not indicate a lack of water, but rather root damage by fungus gnat larvae or (more commonly) other causes of unhealthy roots. However, too much or too little water, root decay fungi, and improper soil conditions (e.g., poor drainage, or waterlogging) are much more common causes of wilted plants.

Serious fungus gnat damage is more common in greenhouses, nurseries, and sod farms. Although larvae also feed on plant roots outdoors, they don't usually cause serious damage.

LIFE CYCLE

Fungus gnats develop through four stages—egg, larva (with four larval stages or instars), pupa, and adult. The tiny eggs and oblong pupae occur in damp organic media where females lay eggs and larvae feed. At 75°F, eggs hatch in about 3 days, the larvae take approximately 10 days to develop into pupae, and about 4 days later the adults emerge. A generation of fungus gnats (from female to female) can be produced in about 17 days depending upon temperature. The warmer it is, the faster they will develop and the more generations will be produced in a year.

Fungus gnats have many overlapping generations each year. Outdoors, they are most common during winter and spring in interior areas of California, when water is more available and cooler temperatures prevail. They can occur during any time of the year in moist coastal regions and indoors.

MANAGEMENT

Most of the fungus gnat's life is spent as a larva and pupa in organic matter or soil, so the most effective control methods target these immature stages rather than attempting to directly control the mobile, short-lived adults. Physical and cultural management tactics—primarily the reductions of excess moisture and organic debris—are key to reducing fungus gnat problems. Commercially-available and naturally-occurring biological control agents can also control this pest. Insecticides are considered an important control option in some commercial plant production but generally aren't recommended for fungus gnat management in and around the home.

Monitoring

Visual inspection for adults usually is adequate for determining whether a problem exists. You will see adults resting on plants, soil, windows, or walls, or you might see them in flight. Besides looking for adults, check plant pots for excessively moist conditions and organic debris where larvae feed. Yellow sticky traps can be used to trap adults. Chunks of raw potato placed in pots with the cut sides down (not the peels) are sometimes used to monitor for larvae.

Water and Soil Management

Because fungus gnats thrive in moist conditions, especially where there is an abundance of decaying vegetation and fungi, avoid overwatering and provide good drainage. Allow the surface of container soil to dry between waterings. Clean up standing water, and eliminate any plumbing or irrigation system leaks. Moist and decomposing grass clippings, compost, organic fertilizers, and mulches are also favorite breeding spots. Avoid using incompletely-composted organic matter in potting media unless it is pasteurized first, because it will often be infested with fungus gnats. Improve the drainage of the potting mix (e.g., increase the proportion of perlite or sand in the mix). Minimize organic debris around buildings and crops. Avoid fertilizing with excessive amounts of manure, blood meal, or similar organic materials. Screen and caulk leaky windows and doors to help prevent pests from coming indoors.

If you have infested plants, don't move them to new areas where flies can emerge to infest other pots. In some cases you may wish to toss out severely infested plants.

Purchase and use only pasteurized container mix or potting mix. Commercial growers often treat potting soil with heat or steam before using it; this will kill flies and the algae and microorganisms they feed on. Home gardeners can solarize soil:

- Moisten it.
- Place it in a bag of transparent plastic or black plastic.
- Make the pile no deeper than about 8 inches.
- Place the bagged soil on a slightly elevated surface, such as a pallet in a sunny location, for about 4 to 6 weeks.

See the *Pest Note: Soil Solarization* for details. Store pasteurized potting soil off the ground and in closed containers to prevent it from becoming infested before use.

Trapping

In home situations where fungus gnat adults are a nuisance, it may be possible to reduce the problem by using sticky traps available at retail nursery and garden centers. Yellow sticky traps can be cut into smaller squares, attached to wooden skewers or sticks and placed in pots to trap adults. Also, raw potato chunks placed in the soil are very attractive to fungus gnat larvae. These may be used not only to check pots for larvae but also to trap them away from plant roots. After a few days in a pot, remove infested chunks, dispose of them, and replace with fresh ones.

Biological Control

Three commercially available biological control agents can be purchased to control fungus gnats in pots or container media (Table 1). These include *Steinernema* nematodes, *Hypoaspis* predatory mites, and the biological insecticide *Bacillus thuringiensis* subspecies *israelensis* (Bti). Several Bti products (Mosquito Bits, Gnatrol) are readily available in retail nurseries and garden centers, so these products may be the most convenient for home gardeners to use. Bti does not reproduce or persist indoors, so infestations in potting media might require repeated applications at about five-day intervals to provide control. Nematodes and *Hypoaspis* mites must be mail-ordered and are live and perishable products, requiring immediate application. Nematodes can provide relatively long-term control of fungus gnat larvae, and they can be self-reproducing after several inoculative applications to establish their populations. *Steinernema feltiae* is more effective against fungus gnats than other commercially available nematode species. Mix Bti or nematodes with water, and apply as a soil drench, or spray onto media using a hand-pump spray bottle or other spray equipment, following label directions. Several natural enemies help to manage fungus gnat populations in outdoor systems, such as landscapes and gardens, and indoors in greenhouses and conservatories, including the predatory hunter flies, *Coenosia* spp. These flies catch and consume adult fungus gnats in mid-air, and prey on fungus gnat larvae in soil while developing as larvae themselves. Conserve these and other natural enemies by avoiding broad-spectrum insecticide applications.

Table 1. Commercially Available Biological Pesticides and Natural Enemies for Controlling Fungus Gnat Larvae.

Biological	Comments
<i>Bacillus thuringiensis</i> subspecies <i>israelensis</i> (Bti) (Gnatrol)	A naturally occurring, spore-forming bacterium produced commercially by fermentation. Bti applied at labeled rates provides temporary control and is toxic only to fly larvae, such as mosquitoes, black flies, and fungus gnats. Repeat applications commonly are needed for long-term control. This Bt is a different subspecies from that applied to foliage to control caterpillars. Bt labeled for caterpillars is not effective against fly larvae.
<i>Hypoaspis</i> (= <i>Geolaelaps</i> or <i>Stratiolaelaps</i>) <i>miles</i>	A light-brownish predaceous mite adapted to feeding in the upper layers of moist soil. Preys on fungus gnat larvae and pupae, thrips pupae, springtails, and other tiny invertebrates. Commercial mites commonly are shipped in a shaker-type container used to apply them.

	<p>Recommended rates in commercial nurseries are about 1/2 to several dozen mites per container or square foot of media. Make applications before pests become abundant. <i>Hypoaspis</i> probably won't perform very well in individual houseplants and probably isn't a good choice for use in homes.</p>
<p><i>Steinernema feltiae</i></p>	<p>This nematode is effective when temperatures are between 60° to 90°F and conditions are moist. You can apply it as a soil drench and to media using conventional spray equipment. Nematodes reproduce and actively search for hosts, so under moist conditions they can provide season-long control after several initial applications to establish populations.</p>
<p>These materials are essentially nontoxic to people and are compatible for application in combination. Bt is available from many well-stocked nurseries and garden supply stores. Predaceous mites, Bti, and nematodes, are commercially available through mail order from special suppliers.</p>	

Chemical Control

Insecticides are rarely warranted to control these flies in and around homes. However, if you do apply an insecticide for fungus gnats, consider using Bti or *Steinernema feltiae* nematodes to control the larvae; see the section Biological Control for more information.

If Bti or nematodes aren't available and high populations are intolerable, pyrethrins or a pyrethroid insecticide may provide temporary, fast-acting control. Spray the surface of potting soil and plant parts where adults typically rest. Do not aurally fog indoors or attempt to spray adult gnats in flight. Be sure the product is labeled for your particular use (e.g., for "house plants") and read and follow the product's directions.

Pyrethrins have low toxicity to people and pets and are the active ingredients in the botanical pyrethrum, which is derived from flowers of certain chrysanthemums. Many products include a petroleum-derived synergist (piperonyl butoxide, or PBO) to increase pyrethrum effectiveness. Pyrethroids (e.g., bifenthrin, permethrin) are synthesized from petroleum to be chemically similar to pyrethrins; they often are more effective and persistent but are more toxic to beneficial insects. When using these products on houseplants or interiorscape containers, if possible move plants outdoors for treatment as a precaution, and wait about a day after applying the chemical before bringing them back inside.

For information on managing fungus gnats in commercial flower, nursery or greenhouse operations, see the *UC IPM Pest Management Guidelines: Floriculture and Ornamental Nurseries* and the book *Integrated Pest Management for Floriculture and Nurseries*.



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: Lucille Kring/ Trustee

Name of Conference/Event: MVCAC

Date: January 29-February 1, 2023

Location: Disneyland Hotel, Anaheim

The conference was very educational. The first day the day was dedicated to trustees.

There were discussions about how and why special districts were formed. In the early 1900's Mosquito and Vector districts were formed as protection for diseases carried by mosquitos. In 1908 there was a malaria outbreak. In 1915 Legislation was passed, AB 1590, forming Mosquito Abatement and Vector Control District Law.

Policies and procedures were passed to determine how boards functioned. Regulations stated what policies could and could not form investments. Districts had to ensure investment reserve policy were kept up to date.

Districts have three standing committees: Legislation, Public Relations and Regulatory. Honorary membership may be bestowed on someone who has done exceptional work for a district. Bob Cummings received this acknowledge at this conference.

The trustees were bused to Newport Beach Back Bay and Big Canyon. We were treated to a demonstration of a Drone spraying pesticide over acres of cattails in the canyon.

Laura Krueger, Vector Ecologist, gave us the ABC's of Mosquito and Vector Control. She went through the entire alphabet. Some examples, 4th stage of larvae, don't eat, control is complicated, disease control, hoarding, issues with the homeless, justification for control, urban runoff.

Steve Shepherd, Operations manager, spoke about his years at Disney and how complicated it was to control vectors with 160 food areas and 500 acres and how they managed it.

There was an interesting talk about screw worms. They hatch in 12-24 days and have 100-300 clusters of eggs. Larvae feed head down for 4- 12 days then drop. Females mate only once and produce 280 eggs in a lifetime and can cover 125 miles. They kill the host. Males mate whenever they can. They need warm bodied animals. These were irradiated in 1991 in US.

Bed Bugs can be controlled by vacuuming them up.

Amber Semrow presented on SIT, sterile insect technique. Goals to irradiate at adult stage. Need to study, express and expand program. Some liability of SIT and Wolbachia is releasing females. Next generation of SIT, overcoming every technique and economic barrier of alternate solutions.

Aermod and Agdisp were tested but not validated for mosquito control. Naled is better and has no negatives and no threat to public.

Bob Cummings spoke on design and use of economical traps. How to get mosquitos into trap? You have to counter airflow trap designs—air in and CO2 out.

From 1900-1904 there was an outbreak of Bubonic plague in San Francisco in Chinatown. They trapped the residents to stop the spread. There were quarantine and vaccination campaigns. In 1902 business community pushed for sanitary cleaning from Chinatown to the city region. Came to white and Italian neighborhoods in 1903 and 1904. Very few were Chinese. They started a bounty on collecting rats and basements were sealed up. Finally they rebuilt Chinatown and celebrated the success of the effort to become a plague-free city.

Date: 2-21-23

Signed: *Lucille Krina*

Print Name: Lucille Kring



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: Amy Phan West

Name of Conference/Event: Vector & Mosquito Conferance

Date: Jan. 30th

Location: Disney Hotel

- Dr. Anthony James. Malaria is reduce due to vector control
Mosquito will bite but will not transfer pathogens.
- Produce genes that ~~are~~ can control mosquito
- The advancement of Technology in Vector Control (Case 9 gene)
- Target the eggs of fly & bees
- Make eggs ~~will~~ not hatch

Date: Feb. 21, 2023

Signed: 

Print Name: Amy Phan West



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: _____

Name of Conference/Event: _____

Date: _____

Location: _____

On Monday, January 30, 2023 and Tuesday, January 31, 2023, I attended a variety of conference sessions at the 91st Annual MVCAC Conference as a representative of the OCMVCD Board of Trustees. Conference sessions attended included the OCMVCD Sterile Insect Technique joint project with Greater Los Angeles County Vector Control District; Ticks and Tick-borne diseases; 100 Years of the Plague in Humans, Animals, and Fleas in California; and Community Outreach. There was a great deal of valuable information provided.

On Tuesday night, I attended the MVCAC awards banquet, with the highlight being watching Bob Cummings being awarded a lifetime membership for his contributions both through his work at OCMVCD and his personal innovations.

I appreciated all of the hard work by OCMVCD in putting together special events and presentations as the host district, and was very happy to support their efforts as a member of the Board of Trustees.

Date: _____

Signed: April Josephson

Print Name: _____



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: Peggy Huang, Trustee


Name of Conference/Event: MVCAC

Date: 1/30-1/31/23

Location: Disneyland Hotel

This was an informative conference where OCMVCD showcased the work we've been doing in Orange County. There were a couple of presentations discussing the use of gene therapy to prevent the spread of mosquitoes-borne viruses and to cause females to lay eggs that produced only male mosquitoes. Our very own Amber Semrow presented on the use of SIT for mosquito control and Bob Cummings gave his last presentation on mosquito traps. I also found the history of responding to the plague in California particularly fascinating, especially that Chinese Americans were blamed for the plague in San Francisco. Furthermore, Greater Los Angeles shared their creativity in using tik tok to engage the public on mosquito awareness.

Date: Feb. 13, 2023

Signed: 

Print Name: Peggy Huang



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: Robert Ruesch – Trustee Mission Viejo

Name of Conference/Event: MVCAC Conference

Date: January 29-February 2, 2023

Location: Disneyland Hotel

I was able to learn more on the successes of SIT technology and gain a better understanding of the challenges that we will face before we may see regional results. I did sit in on many presentations about additional studies for gene therapy to stop breeding of mosquitoes. An interesting segment was the history of plagues in Los Angeles in the last century and all the data and treatment available

Date: 02/06/2023

Signed: 

Print Name: Robert Ruesch



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: Debbie Baker, Trustee

Name of Conference/Event: MVCAC, Trustees Session

Date: 1/29/23

Location: Disneyland Hotel

Attending the sessions for trustees were valuable to me. Rick's session on the history, Laura's session was very informative, and Steve's session sharing his experience at Disney was very fun (my family is a huge fan of Disney).

Loved the field trip to the Back Bay!
So informative ~ love what the district is doing.
OCMVCD has the best staff! I'm so glad I was able to attend. I learned a lot.

Date: 1/29/23

Signed: Debbie S. Baker

Print Name: Debbie S. Baker



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: Lora Young, District Manager

Name of Conference/Event: MVCAC Annual Conference

Date: January 29 – February 1, 2023

Location: Anaheim, California

The MVCAC Annual Conference was held locally this year in Anaheim. The event was a great opportunity to network with District staff from across the state and learn about new technology, equipment, and research being conducted. With the conference being held locally, a large number of staff were able to attend the conference either on one or both days.

During the conference, I was able to attend several sessions. One of the most informative sessions was the plenary presentation on the how Sterile Insect Technique (SIT) was used to control the Screw Worm population that was impacting the cattle industry. The main takeaways from the presentation were that the SIT project took over 40 years to become a widespread program and growing a program needs to be done systematically. The initial stages of the SIT program was very limited and regional, once the process was established the program managers had to then determine how to increase production and distribution but still have the same impacts in reducing the Screw Worm population. The presentation had many parallels to what many vector control districts will be experiencing as they begin SIT programs for *Aedes* mosquitoes. The presentation provided a realistic outlook that SIT programs take time, resources, and will require long term planning and funding. The presenter also stressed that SIT programs are ongoing and once you begin, they must be maintained in order to continue seeing reduction of vectors in the community.

The plenary was followed by a symposium on SIT programs in California. The presenters included staff from different districts as well as industry representatives that have developed different SIT technology. Most districts are currently developing their processes and procedures on SIT. SIT programs have been used in other states and countries, but with the California EPA and DPR pending approval of two of the three SIT types, the development of small- or large-scale programs is limited at this time. Amber Semrow presented on the partnership of OCMVCD and Greater Los Angeles County Vector Control District in developing a pilot program.

On Monday afternoon, I attended the Operations Symposium. The District had two staff presenting at this symposium on the research results of wide-area larval and adult mosquito control and In2Care traps. Both presentations provided a well-rounded look at the benefits and drawbacks of these two types of control techniques. Another notable presentation was provided by David Lopez from Greater Los Angeles County Vector Control District. The presentation focused on control coastal marsh mosquitoes and the reason the presentation was notable was that fact that the presenter attributed the basis of their program to OCMVCD staff member Miguel Arias and how Miguel provided assistance and guidance to our neighbor agency as they developed their coastal marsh control programs. This was bitter sweet for our District as Miguel passed away in 2020, but his impact to mosquito control agencies in California is still felt.

On Tuesday, I attended the Outreach Symposium which provided a variety of presentations on different programs from social media outreach, to paid media vs earned media. The presentations were data focused this year, with many districts focusing on what the impressions and return on investment was for outreach programs. Some presenters also focused on whether outreach and awareness campaigns produced any behavioral change in residents. Most agreed that additional research needed to be done to help determine if public health messaging produced behavioral changes during awareness campaigns. OCMVCD Communications staff had three presentations during the symposium. All the staff presenting at this symposium were engaging and provided some good analysis on how programs were developed, how the District increased engagement, and how other districts could implement some of OCMVCD's program elements within their own outreach programs.

Overall, the conference provided a great opportunity to meet with other districts and attend some presentations about new technology, operations, and programs.

Date: February 14, 2023

Signed: *Lora B. Young*

Print Name: Lora B. Young



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: Tawnia Pett, Executive Assistant/Clerk of the Board

Name of Conference/Event: MVCAC Annual Conference

Date: January 29-February 1, 2023

Location: Anaheim, CA

This year's MVCAC Annual Conference had an extensive presentation list that covered a variety of subjects. I attended symposiums on Operations and Applications, Vectors and Vertebrate Vectors, Inspections and Enforcement of Unmaintained Swimming Pools, and Community Outreach.

The Plenary Session had Dr. Anthony James as a keynote speaker. Dr. James, a professor at UCI, has been conducting groundbreaking research on the genetic modification of *Anopheles* mosquitoes since the 1990s. Dr. James is modifying mosquitoes to not be able to transmit malaria to people but having no other effect on the environment. Using genetic modification to just control the spread of malaria could help save millions of lives every year. It truly was an honor to hear such an icon in mosquito genetics present at our conference.

In the Operations and Applications symposium three district staff gave presentations on projects ongoing at the district. Vector Ecologists Tim Morgan and Laura Krueger both gave presentation that were well received by the attendees. Past Director of Scientific Technical Services Bob Cummings also gave a presentation in this symposium that was well received by the attendees. One of the best presentations in this symposium was by David Lopez from the Greater LA County Vector Control District. He presented on the district's salt marsh mosquito control program. The highlight of this program was his discussion about the collaboration between GLACVCD and our own district. David attributed Greater LA's successful program to the assistance from Miguel Arias from our district. Miguel was a leader at our district and passed away in 2020 so to hear David talk about Miguel and how much he contributed to Greater LA's program was a great memorial to Miguel and the impact his work and assistance had around the state. Collaborations like this are what make this industry so great. Making connections at meetings and networking with other agencies allows us the opportunity to make these relationships that builds better programs throughout the state and throughout the country.

The Vectors and Vertebrate Vectors symposium is always a highlight for me because so many members of the public call us about vertebrate vectors. While we do not control for vertebrate vectors, we do try to give the public information to help with their problems. This year, one of the presentations, entitled "Paw-sible Knowledge: Differentiating Common Vector Tracks" did a comparison of skunk, opossum, raccoon, and other animal tracks that are commonly found in people's back yards. While the paw prints do look similar to the untrained eye, it was very easy to see the difference after this presentation.

Overall the conference was a great success and a great opportunity to connect and network with some many other agencies from throughout the state and the country.

Date: February 16, 2023

Signed: *Tawnia Pett*

Dept Mgr Signature: *Lora Young*

Print Name: Tawnia Pett



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 Control of California (MVCAC) Annual Conference

Date: January 29 – February 1, 2023

Location: Disneyland Hotel in Anaheim, California

We had the great fortune to have the 91st Annual Mosquito and Vector Control Association of California Conference here in Orange County this year. This made us the host district and our agency's staff participated in many aspects of the conference. We presented several talks, multiple posters, facilitated workshops, and gave tours. These efforts allowed us to highlight several studies, projects, and programs and we received a tremendous amount of positive feedback.

This year's conference had an excellent plenary session that highlighted innovative approaches to insect suppression methods including genetic modification, autocidal strategies, and Sterile Insect Technique (SIT). In the New Innovations in Mosquito Control Symposium presentations explored these topics further. I gave a presentation entitled, Southern California SIT Joint Pilot Project: Partnering for the Future of Mosquito Control, which highlighted our partnership with the Greater Los Angeles County Vector Control District to study the efficacy of irradiated sterile male *Aedes aegypti* releases. Technology is advancing rapidly in this area and becoming more accessible to local programs. It is an exciting time to do this work.

Other standout symposia included 100 Years of Responding to Plague in Humans, Animals, and Fleas in California, Pesticides and Pesticide Use, and Vectors and Vertebrate Vectors. Attending this conference was invaluable for staff education, inter-district collaboration, and networking with industry and academic partners.

Date: 2/17/23

Signed: *Amber Semrow*

Print Name: Amber Semrow



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: Robert F. Cummings, Research Associate

Name of Conference/Event: MVCAC 91st Annual Conference, 2023

Date: January 29 – February 1, 2023

Location: Disneyland Hotel, Anaheim, CA

The Mosquito and Vector Control Association of California (MVCAC) held its 91st annual conference to address important issues facing mosquito and vector control agencies in the U.S. and the world. I attended presentations on insecticide resistance, adult mosquito control strategies, and the use of innovative non-pesticide measures, such as reproductive interference (genetic modifications through lethal genes or irradiation), to control mosquitoes. I was also able to network with staff from other agencies and universities to discuss their approaches to vector-borne disease issues. All topics covered are important to the District in developing better mosquito control strategies through next-generation technologies for invasive *Aedes aegypti* and preventing West Nile virus outbreaks.

I made two presentations and was a co-moderator with Vector Ecologist Laura Krueger in the bubonic plague symposium. The bubonic plague presentations clearly demonstrated the changing disease ecology in California/Orange County since its introduction to the U.S. in 1900.

At the end of the conference, I was presented with the MVCAC's "Honorary Membership and Service with Distinction Award" for my nearly 40-years of participation in this organization. It is with my deepest appreciation that I thank the District for allowing me to contribute to the field of vector control and nominating me for this award. I especially want to thank current and past District managers Rick Howard and Gilbert Challet (1974 -1998), and Laboratory Directors Amber Semrow and Dr. James Webb (1981 – 2007), respectively. As I have often said, I was born with only two God-given talents: running fast and killing mosquitoes. Fortunately, I was able to contribute and have a great career with my second talent while working for the District.

Date: February 10, 2023

Signed: Robert F. Cummings

Dept Mgr Signature: Amber Semrow

Print Name: Robert F. Cummings



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: Kassandra Reyes, Administrative Specialist

Name of Conference/Event: Mosquito and Vector Control Association of CA 2023

Date: January 29 – February 1, 2023

Location: Disneyland Hotel

This was the second time I had the opportunity to attend the whole MVCAC conference. I selected sessions on the impacts of SIT, insecticide resistance, operations and technology, and statewide efforts against aedes. It was great to see other techniques that districts are using across the country. I was able to attend several symposiums including those of my fellow colleagues, but I'm excited to read over a few slideshows for the talks I couldn't sit through. I also had the opportunity to network with staff from other agencies and learn about their different techniques combating vector borne diseases.


The talk that stood out to me the most this year was Dr. Marc A. Beherec's talk on The Archaeology of Macy Street and the 1924-1925 Los Angeles Plague Outbreak. He presented on how the plague outbreak began with one home in 1924 and how it spread throughout LA county. He also went on to explain the inter-agency response. A county hospital was built, rodent extermination was put into place, home improvements were completed to keep rats out and quarantines were set.

I walked through the poster session and met one of our interns, Caleb Empig, who collaborated with our district and analyzed the correlation of WNV positive dead birds to human cases. One of our technicians, Scott Chambers, presented a poster on a caterpillar outbreak at a local elementary school that was causing skin irritation. He provided samples of the caterpillar, chrysalis, and adult moth which I believe really engaged the audience. Santa Clara County Vector Control District presented a poster where they implemented our grid-based adult mosquito trapping system which was great to see.

The highlight of the conference was having the opportunity to witness Bob Cummings receive his award at the banquet. Overall, I felt that this year's conference was a great one. I hope we have several opportunities to allow the whole staff to attend this conference in the future.

Date: 2/15/2023

Dept Mgr Signature: 

Signed: 

Print Name: Kassandra Reyes



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: Laura Krueger, Vector Ecologist

Name of Conference/Event: MVCAC Annual Meeting

Date: January 29, 2023-February 1, 2023

Location: Disneyland Hotel, Anaheim, CA

The MVCAC Annual Meeting was a busy time for OCMVCD employees. I had the opportunity to participate in the Trustee Session Training and Field Trip on Sunday, January 28 and presented the "ABCs of Mosquito Control" to the group. It was nice to interact and learn from Trustees serving on MVCAC's throughout California. A highlight of the conference for me was organizing and participating in the symposium "Over 100 Years of Responding to Plague in California". The symposium featured a diverse group of presenters summarizing the history of plague disease response including two history professors, a professional archaeologist, and ecologists from northern and southern California. The Operations Symposia are always of particular interest and this year I presented data from a 2021 assessment conducted by OCMVCD to determine the efficacy of In2Care mosquito traps for area-wide control of *Aedes aegypti*. One of the benefits of attending the conference is collaborating with staff from OCMVCD to share unique situations that arise in daily vector control operations. Inspector Scott Chambers and I worked together to produce a poster detailing lepidopterism at a local Orange County school (Poster: Outbreak of caterpillar-associated rash due to Western Tussock Moth (*Orgyia vestuta*) at an Orange County Elementary School). Dr. Rangel and I produced a poster detailing the detection of *R. felis* in *Aedes aegypti* and *Culiseta incidens* mosquitoes in Orange County from 2020-2022. OCMVCD was proud of the data analysis conducted by Orange County High School of the Arts junior Caleb Empig who presented the poster, "Does the diversity of WNV positive dead bird species detected during outbreak and non-outbreak years impact the transmission of WNV to humans?". The MVCAC Conference provided an excellent opportunity to learn about mosquito control and I look forward to utilizing the knowledge I gained to benefit Orange County residents.

Date: February 17, 2023

Dept Mgr Signature:

Signed:

Print Name:

Laura Krueger



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: James Guymon, Laboratory Fisheries Assistant

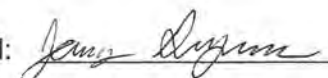
Name of Conference/Event: Mosquito and Vector Control Association of California

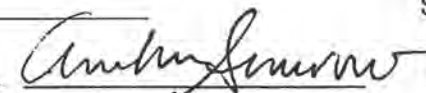
Date: January 29th, 2023- February 1st, 2023

Location: Disneyland Hotel

This was my first time attending the Mosquito and Vector Control Association of California conference and I must say it was an amazing and educational experience. To see all the vector control districts come together to give speeches and exchange ideas was very enlightening. The different challenges and the solutions that the other districts deal with makes each vector control district unique. One of my favorite presentations was about the Screw Worm Fly. The whole history about this insect and how it was eradicated was truly fascinating. Another talk I liked was about Mosquitofish presented by the SAC/YOLO Mosquito and Vector Control District. This speech particularly pertained to my role here at Orange County Mosquito and Vector Control District. I watched, listened, and took notes on how they operate their fish program. It was very informative. Their presentation emphasized the importance of dissolved oxygen for fish reproduction. Bringing this information to our fish facility and putting it into practice will increase our fish supply to better support the needs for mosquito control in Orange County. In conclusion, I thoroughly enjoyed the experience! Seeing all the districts come together for the same cause to serve and protect public health. I look forward to attending future conferences to better educate myself as well as others in the future.

Date: 02/14/2023

Signed: 

Dept Mgr. Signature:  Print Name: James Guymon



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: Tyler Mehrbrodt, Assistant Vector Ecologist

Name of Conference/Event: Mosquito and Vector Control Association of California 2023

Date: January 30 - February 1, 2023

Location: Anaheim, California

This was my second conference representing the Orange County Mosquito and Vector Control District. The conference was a fantastic opportunity to meet new people and to further professional contact with others I met last year. I was also able to glean information on new and exciting mosquito abatement technologies, while also being able to hear the historical context and underpinnings of our field.

Dr. Anthony James from the University of California, Irvine talked about a gene-drive technology that could help end malaria transmission in many places around the world. This technology uses the Cas9 Drive system to force genes into the mosquitoes that will confer resistance to the malaria plasmodium. Nearly 100% of the offspring will express this gene, instead of the 50% that would be expected if Mendelian processes were to occur. Resistance works in two stages to kill the plasmodium. Phase 2 trials may be underway soon with the promising results occurring in Sao Tome and Principe in Africa. The talk was quite dense for an 8:30 am start time on Day 1! I hope to hear more about this technology in the coming future.

The next highlight for me was the tick and tick-borne disease section. Sarah Wheeler did a great job moderating the session. I had questions, that were answered, about how districts were standardizing their approaches to tick collection and site allocation. These talks helped identify key characteristics that were used consistently throughout the State. Most agencies that spoke would only test the *Ixodes* species for disease and they used a distance-based approach, rather than using time when collecting ticks. I loved the idea of adding interactive maps for the public to view. This was done in Marin and Sonoma County. I hope to speak to some of the presenters in more detail to help improve our tick collection and data management processes.

The plague symposium, led by our very own Laura Kreuger, was structured in a holistic manner. The talks focused on the past and present impacts of plague. I hope that more symposiums and sessions can talk on the historical sides of disease. I really enjoyed the talks from the Dr. Nayan Shah and Dr. William Deverell from USC. They brought the disease in the early 1900s to life using stories and pictures. These details helped inform how and why plague was able to spread through the communities at the turn of the 20th century. Another interesting talk out of this symposium was about the prairie dogs of the Great Plains. The spread of plague through community driven animals, such as prairie dogs, was especially affected by grasshopper mouse density. The higher the grasshopper mouse density, the farther the spread.

The conference was a great opportunity to learn about the newest technology with SIT, vector biology and ecology, and for the opportunity to network with so many individuals. I was thrilled to watch Bob Cummings receive his Honorary Lifetime Achievement award at the Banquet. Bob has helped me and so many others professionally and personally over the years. He deserved to be recognized in that way by the MVCAC. I will continue to learn and implement the new ideas and information discussed at this conference. I am grateful that I was able to attend this year.

Date: 2/10/2022

Signed: 

Dept Mgr Signature: 

Print Name: Tyler Mehrbrodt



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: Daisy Flores Rangel, Microbiologist

Name of Conference/Event: MVCAC

Date: January 30th- February 1st, 2023

Location: Disneyland Hotel, Anaheim, California

I had the opportunity to present the following talk, "Dog Heartworm (*Dirofilaria immitis*) in Mosquitoes of Orange County California" during the Vectors and Vertebrate Vectors session on Tuesday, January 31st, 2023. It was a great experience to be able to educate the conference attendees of the presence of dog heartworm in our mosquitoes, namely, *Aedes aegypti*, *Aedes notoscriptus*, and *Culiseta incidens* that we collected in our county between 2020-2022. Attending the MVCAC conference is always a positive experience as it is a time to network with staff from other Districts as well learn on the latest innovations and scientific discoveries that are happening throughout not just California but other parts of the country. Some very important topics that I learned about were the use of pesticides and the problem of resistance that develops with time making pesticides less effective as well as the molecular mechanisms behind the reasons of resistance. I learned a lot about sterile insect techniques that other agencies are working to develop and implement. There was a symposium on plague which was put together by our very own Laura Krueger since the 100th anniversary of responding to plague in humans, animals, and fleas will be celebrated here in Los Angeles/Orange Counties next year. Other topics of interest were in tick biology, vertebrate vector behaviors, and even how to improve outreach and communication with the public. Aside from being able to keep up with the current trends and topics of interest in the vector world, our District hosted a hands-on insect photography session where conference attendees learned about taking pictures of insects for education and outreach purposes as well as to obtain high quality photos for publications. I was also a participant of the photography workshop and the lessons I learned were invaluable as I will use these techniques for my work going forward. Overall, attending MVCAC was a great benefit to me, and I was grateful I was able to attend this year.

Date: 02/06/2023

Signed: 

Dept Mgr Signature:  **Print Name:** Daisy Flores Rangel



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: Colt Bellman, Laboratory Assistant

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

Date: January 30-31, 2023

Location: Disneyland Hotel, Anaheim, California

Over the course of two days at MVCAC annual conference 2023, I was able to attend seminars that expanded my knowledge in both sterile insect technique (SIT) technologies and disease surveillance. MVCAC had also given me the opportunity to connect with members of other districts and set the foundation for future collaboration. I plan to use this knowledge and connections to help improve the SIT program at the Orange County Mosquito and Vector Control District.

The conference was split into two sessions, with most of the science-based seminars happening in one room over the course of two days. I attended the science and surveillance focused symposiums that pertained more to my interests and field of work. The first day was primarily SIT focused. Since my position primarily helps OCMVCD's SIT program, the SIT talks were my priority. Over the course of the session, I learned a lot about various SIT technologies applied in California, as well as the status of other SIT programs in other parts of the country. The presentations provided me knowledge and opened possible connections that may benefit our program in the future.

The rest of the talks I attended were catered to surveillance of both invertebrate and vertebrate vectors. Many other districts shared their data on mosquito abundance, tick surveillance, and rodent trapping. Aside from helping the SIT program, I also frequently assist other aspects of the lab here at OCMVCD, including mosquito trapping and tick flagging. These talks gave helpful insight on the different methods that vector control districts across California use to collect data. The discussions gave me a deeper understanding of the different vectors that occur here in California.

For the SIT program, I have taken over the responsibility of operating the districts 3D printer to assist in the programs need for fabrication. With some previous knowledge and contacts from my old lab position at the Northwest Mosquito and Vector Control District, I have learned how to

operate and use 3D printing programs. At the conference, I met a lab employee from another district who I will collaborate on future 3D printing with. This could benefit both districts and has the potential to grow into a larger collaboration effort with the increased demand for 3D printing capabilities in vector control.

Overall MVCAC was a great learning experience, and I am excited to be more engaged with the California vector control community in the future.

Date: 2/11/2023

Signed: 

Dept Mgr Signature: 

Print Name: Colt Bellman



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: Eric Paquette – Assistant Biologist

Name of Conference/Event: MVCAC 202

Date: January 30 – February 1, 2023

Location: Anaheim, CA

The 2023 91st Annual MVCAC Conference in Anaheim, CA was my second conference that I was fortunate enough to attend. This year's theme was "Innovation Control Technologies of the Future", and I believe this was well represented throughout the numerous talks I was able to attend both days of the conference.

Following the morning Plenary Session on Monday, January 30th I attended both the New Innovations in Mosquito Control and Tick and Tick-borne Diseases session in the South Ballroom. New Innovations in Mosquito Control focused on the various sterile insect techniques (SIT) currently being explored such as Wolbachia based SIT, Precision-guided SIT (pgSIT), and Irradiation based SIT. Being my second time attending talks about SIT projects, I was better able to grasp and understand the topics presented. After hearing all the presentations and the challenges the presenters face developing these new techniques, I believe that OCMVCD made the correct choice in pursuing irradiation-based SIT. Releasing irradiated insects has been proven successful in eradication of the screwworm fly from the United States, and this technique does not face the same regulatory hurdles with the Environmental Protection Agency (EPA) and CA Department of Pesticide Regulation (CDPR) that some of the other presenters are facing in pursuing pgSIT in California. The Medfly Preventative Release Program is another irradiation-based SIT project that has been shown to be an effective tool in combating Mediterranean Fruit Fly in Southern infestations in Southern California.

The Ticks and Tick-borne Disease session was a very informative session and I felt inspired by the presentations to increase OCMVCD tick surveillance throughout the County. Listening to how the presenters collected ticks in the field with their respective vector control districts led to ideas on how to improve OCMVCD tick collection protocols. Many agencies are using a distance based collection technique during their collection that I think would work well, and collaborative talks with the OCMVCD Laboratory staff should determine our future goals and direction of the program.

On Tuesday, January 31st I attended the Pesticides and Pesticide Use, Vectors and Vertebrate Vectors, and 100 years of Responding to Plague in Humans and Fleas in CA sessions in the South Ballroom. The Pesticides and Pesticide Use session was very informative, although some of the talks involving genetics were more advanced. Two presentations that I enjoyed during this session were "A milligram of sugar alcohol helps the toxicant go down" which explored the use of attractive toxic sugar baits and how they are able to increase the effectiveness of pesticides that utilize Boric Acid and Bti, and "Evaluation of a novel long-term treatment stations in sensitive species tidal zones" that explored the use of slow release briquets with treatment stations that were developed to last the entire bird breeding season when work within sensitive coastal salt marsh habitats is limited. These talks presented two options that OCMVCD could explore in the future to increase the effectiveness of pesticide applications, as well as continuing advance IPM in an environmentally responsible manner.

I also really enjoy learning about the history of vector control and thought that the "100 Years of Responding to Plague in Humans, Animals and Fleas in CA" session was very informative. I really like the way that the talks were organized to first cover the early history of Plague in the United States, the past 40 years of environmental surveillance, and the recent history of plague in areas such as South Lake Tahoe. Although there may be low detections of plague throughout Orange County, I think that the district can increase plague surveillance throughout the county with our small mammal program to confirm the low prevalence of this disease. If control efforts are required, reaching out to CA Department of Public Health – Vector Borne Disease Section could provide valuable information in controlling sylvatic rodent flea populations as they have had success in doing so within the South Lake Tahoe region.

Overall I thought that this Conference continues to be very informative and valuable in generating new ideas that staff can explore and implement at OCMVCD.

Date: 2/2/2023 Signed: Eric Paquette
Dept Mgr Signature: [Signature] Print Name: Eric Paquette



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: Kiet Nguyen, Vector Ecologist

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

Date: January 31th to February 1st, 2023

Location: Disneyland Hotel, Anaheim, Orange County California



The 91st annual Mosquito and Vector Control Association conference was held at the Disneyland Hotel this year. The well attended conference saw more than 600 people during its 3 day event. Since OCMVCD was the host agency, we were able to contribute 10 presentations from nine presenters! Our contributions ranged from Dr. Daisy Rangel's presentation of Dog Heartworm Detection in Orange County to Heather Hyland's talk on collaboration with our city constituents for campaign messaging. The highlight of the event was watching our former director of the Lab receive a lifetime achievement award for his dedication to the field of mosquito control.

One of the standout talks was from Jessica Dieckmann (San Diego Vector Control). Her talk, "Evaluation of a novel long-term treatment station in sensitive species tidal zone", was well received and expressed a critical need to control mosquito breeding sources in sensitive habitats where technicians have a very limited window for treatment. Her talk focused on the need to treat for Black Salt Marsh Mosquitoes in the San Dieguito lagoon. The site is closed due to endangered species but due to tidal influence, was breeding heavily. Jessica and her team devised a "treatment station" basket which delivers long lasting larvicide via Natular XRT briquets. The low-cost stations, when deployed in sensitive habitats allows extended control without the need of technicians disturbing habitat on a biweekly basis. The baskets were strong enough to last throughout the season and the Natular XRT briquet's strong lasting efficacy, allowed them to be left out for 150 days. Her study showed significant improvements in control with limited impact to sensitive habitat.

Mary Danforth from the California Department of Public Health, Vector-Borne Disease Section, gave a great talk titled "Evaluating the effectiveness of Adulticiding to Reduce West Nile Virus Transmission in California, 2009 – 2018". Her talk focused on modeling the efficacy of large area truck-mounted adult mosquito control operations in areas that meet a high risk level. Her findings suggest that there is a correlation between area treated and incidence rate. She

suggests that for every 10% additional area treated, the human incidence rate can drop by 54% in the following 3 weeks.

Finally, the capstone of the conference was the Photography Workshop we hosted at the district. The workshop was an introduction to the basics of photography and keys to capturing images of insects. I gave a talk on the fundamentals of lighting and exposure values while the keynote speaker, Megan Asche, gave a talk on macro photography. The workshop saw at least 30 people in attendance. We created nine separate workstations, comprising of different photo capture methods like: "Digital Camera Macro Photography", "Microscopy Photo-scope", "Image Stacking Macro Dissecting Scope", and "Handheld Mobile Device Capturing". The workshop was so well received that we were invited to do another workshop next year.

Date: 2/7/23 Signed: 
Dept Mgr Signature:  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: Sokanary Sun, Vector Ecologist

Name of Conference/Event: MVCAC 2023

Date: January 29 - February 1, 2023

Location: Disneyland Hotel, Anaheim, California

This has been my 6th consecutive year attending the Mosquito and Vector Control Association of California (MVCAC) annual conference. As always, this conference is full of valuable information for mosquito and vector control districts and other partner agencies to share and implement.

Some highlights from the plenary session (Day 1) included talks from Dr. Anthony James and Dr. Bill Donahue. Dr. James summarized his work using gene drive technology to create *Anopheles* mosquitoes (mosquitoes that transmit Malaria) that prevent the spread of Malaria in regions of Africa. Dr. Donahue gave a summary of the history of sterile insect technique (SIT) and its success with the primary screwworm fly in the US.

In the afternoon, I sat in the "New Innovations in Mosquito Control" symposium because the topics are very pertinent to SIT, which is useful for possible implementation for our District's SIT program. Amber Semrow, our Director of Scientific Services (lab director), presented on our SIT status and timeline. I also sat in the "Ticks and Tick-borne Diseases" symposium where multiple districts gave updates on their tick-borne surveillance programs.

In the morning of Day 2, I sat in the "Pesticides and Pesticides Use" symposium where districts discussed pesticide resistance levels in various mosquito species in their specific geographic locations, the specific pathways or cause of resistance at the molecular level, and the need to find alternative control methods to avoid more pesticide resistance. In the "Vector and Vertebrate Vectors" symposium, our Microbiologist, Dr. Daisy Flores Rangel, presented on dog heartworm detections in some mosquito species collected in Orange County, California.


In the afternoon of Day 2, I sat through the plague symposium, moderated by Laura Krueger, one of our Vector Ecologists, and Robert Cummings, our former Director of Scientific Services. Many presenters gave through histories of past plague outbreaks in regions of California and

many agencies gave updates on their plague surveillance, including our very own Robert Cummings.

Lastly, but not least, I attended the 2023 MVCAC awards banquet. I have attended many MVCAC banquets in the past, but this year held a special place in many of our hearts because Robert Cummings received the Honorary Lifetime Membership Award for all his achievements and contributions over the years in the field of vector control. We are so proud of our former lab director!

Date: 2/1/2023

Dept Mgr Signature: 

Signed: 

Print Name: Sokanary Sun



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: Michael V. Saba (Biologist)

Name of Conference/Event: MVCAC 91st Annual Conference

Date: January 29 – February 1, 2023

Location: Disneyland Hotel, Anaheim, CA

I attended The Mosquito and Vector Control Association of California's 91st Annual Conference on January 30-31, 2023, in Anaheim, CA. I enjoyed a panoply of presentations and information during the plenary session and several concurrent sessions, including Operations and Applications, Inspection and Enforcement of Unmaintained Swimming Pools, Vectors and Vertebrate Vectors, 100 Years of Responding to Plague in Humans, Animals, and Fleas in California, and New Techniques and Innovations in Operations. The conference also provided me the opportunity to engage in many worthwhile discussions with several statewide colleagues, fellow MVCAC IVM Committee members, and members of my Mosquitofish and Biocontrol Subcommittee. On the last day of the Conference, my co-worker, Laboratory Fishery Assistant James Guymon, and I also hosted a tour of our District's Mosquitofish Program. The tour provided attendees: (1) an in-depth glimpse into our well-established, advanced Mosquitofish Program; (2) information and resources to enhance either their existing and/or new fish programs; and (3) a chance for our Subcommittee membership to discuss ideas about future workshops, symposia, and resources of benefit to all statewide mosquitofish programs. In conclusion, I appreciated this excellent opportunity to learn about current and future foci/resources in our public health protection discipline, collaborate with colleagues and members of my MVCAC Subcommittee, and enhance my professional growth.

Date: February 2, 2023

Signed: Michael V Saba

Dept Mgr Signature: 

Print Name: Michael V. Saba



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: Tim Morgan, Vector Ecologist

Name of Conference/Event: MVCAC

Date: January 29- February 1, 2023

Location: Disneyland Hotel, Anaheim, CA

The 91st annual Mosquito and Vector Control Association of California at Disneyland Hotel was well attended by OCMVCD staff and offered an excellent variety of presentations to add knowledge and value to field, lab, and communications staff to keep our District advancing in many areas. I gave a presentation on the efficacy and efficiency of a combination of adulticide and larvicide area-wide truck mounted applications in the control of invasive *Aedes aegypti* and *Culex quinquefasciatus* in urban Orange County. I believe it was well received and have a request to share the presentation with the District Manager of Alameda Mosquito Abatement District.

I focused my attention on Operations and Applications and Pesticides and Pesticides Use symposia to increase my knowledge in these areas to be able to better support our Operations department regarding mosquito control. Highlights included talks on CDC bottle bioassays with *Aedes aegypti*, West Nile Virus (WNV) responses, and sterile insect techniques (SIT).

Work was done examining KDR genotypes and the relationship with knock down of mosquitoes in bottle bioassays. It was predicted and observed, and I have been very interested in this for some time, that mosquitoes with two copies of a gene (homozygotes) that convey resistance to pyrethroids are much more resistant than those mosquitoes that have only one copy of the resistance gene (heterozygote). To reduce high levels of resistance to pyrethroids in a mosquito population that is dominated by resistant homozygotes, the pyrethroids of concern must no longer be used for a period and the control product needs to be changed to a different mode of action chemical. Unfortunately, there are not many alternatives for switching over to and resistance is likely to continue and increase. This is why alternative control/suppression methods are needed, such as SIT.

Overall, throughout California, *Ae. aegypti* have high levels of resistance to pyrethroids. One study evaluated the exposure to commonly used pyrethroids, normally used to kill adults, on larvae in the lab and found that exposure in the immature stage conveys resistance to the same chemicals in the adult stage. This indicates that storm water runoff may contribute to resistance if adulticide products make it into the underground systems.

Finally, another highlight was a talk by Mary Danforth with CDPH on WNV transmission risk in California and the impacts of adulticiding on the risk to humans. What they found, by evaluating WNV infection rates of mosquitoes in multiple counties across California over many years is that if truck-based or arial adulticiding was conducted over ten percent of a zip code area that it would reduce the number of cases by 50%. These findings corroborate our District's finding that area-wide adulticide treatments are effective at lowering mosquito infection rates and therefore reducing risk to the public. Although this study was conducted at the zip code level impacts may be greater at even a finer spatial scale and should be evaluated further to a resolution of one or half square mile.

Date: 2/6/2023

Signed: 

Dept Mgr Signature: 

Print Name: Tim Morgan



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: Steve Shepherd, Director of Operations

Name of Conference/Event: MVCAC Annual Conference 2023

Date: Jan 29 to Feb 1, 2023

Location: Disneyland Hotel, Anaheim CA


This conference was a vastly different experience than previous events I had attended. As the host district, our team was responsible for providing an educational day for trustees from various districts across the state. The event was well-attended, and it was a delight to host, give a presentation, and provide a tour showcasing some of the work we perform, our district's equipment, and to introduce some of our staff. Our team did an outstanding job with their presentations and tour, and I heard nothing but positive feedback.

The following two days were packed with conferences and meetings with vendors and other districts. There were several talks about successful SIT projects and the recent developments in utilizing SIT techniques for controlling mosquitoes. As the conference was close to our home office, we were able to send nearly all of our staff, who were highly impressed with the SIT capabilities and excited about its potential to tackle the invasive *Aedes* mosquitoes in our county.

Several of my colleagues from other districts and I participated in a two-hour symposium at the conference to share our processes for managing unmaintained swimming pools within our districts. We shared best practices, updates on aerial photography technology integrated with artificial intelligence, and our strategies for working with residents in our counties to communicate efficiently. We gained valuable insights that we can apply to our own processes going forward.

I would like to extend my gratitude to all of our board members who support the continuing education of our staff. I believe that the time and funds invested have added value to the work our district does, and we will continue to strive for improvement. As I progress in my career in vector control, I appreciate every opportunity to network and learn from my peers in the industry.

Date: 02/09/2023

Signed: 

Print Name: Steve Shepherd



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 Bausa, Inspector II

Name of Conference/Event: MVCAC Annual Conference

Date: January 30-31, 2023

Location: Disneyland Hotel, Anaheim

I want to start off by thanking the District for allowing me to attend the 91st Annual MVCAC Conference held at the Disneyland Hotel in Anaheim. Attending this conference allowed me to further my knowledge and gain new techniques from other agencies. It was very beneficial to hear how other agencies are handling the growing Aedes issue and what steps they are taking to help educate their communities. I also got great value from speaking to some of the pesticide vendors regarding some of the newer products we are now using.

The first day of the conference I attended session B, Operations and Applications. I had the pleasure of hearing two of our own staff members present on truck mounted mosquito control as well as In2Care traps. I was very surprised and touched by the presentation given by David Lopez from the Greater Los Angeles Vector Control District. He did a touching tribute to our own Miguel Arias and thanked him for all his knowledge and help. David gave a very informative presentation about an issue they had with Aedes taeniorhynchus coming from a marsh area and effecting residents in the homes surrounding the marsh. This is something our District has dealt with as well, so it was interesting to see how they handled it.

The second day of the conference I attended session A. The first morning session was Pesticides and Pesticide Use. A lot of the presenters talked about pesticide resistance which is of great importance and something we have dealt with recently with some of our own pesticides. There was also an interesting presentation from San Diego Vector Control regarding how they tested different pesticides and methods of treating in their marsh/tidal areas. The second morning session switched it up and was on Vectors and Vertebrate Vectors. A lot of the talks focused on Aedes, but we also got to hear some great presentations on rats, cockroaches, and black flies. I especially found the presentation on differentiating common vector tracks very helpful, as I still have trouble sometimes identifying different tracks. There was a lot of little funny tips on how to remember the small differences between the different tracks. The afternoon session was 100 years of Responding to Plague in Humans, Animals and Fleas in California.

This symposium was very interesting to me. I loved hearing about past plague outbreaks and the history of how it was handled and responded to back then.

I am looking forward to using some of my new knowledge out in the field. Attending conferences to gain knowledge and to keep up on new techniques from other agencies is so important in our mission to educate and protect the residents of Orange County from vectors and vector borne diseases.

Date: 2/3/2023

Dept Mgr Signature: 

Signed: 

Print Name: Dana Bausa



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: Roland Bausa

Name of Conference/Event: MVCAC

Date: 01-30-2023

Location: Disneyland Hotel

As a OCMVCD Inspector, not only did I enjoy the MVCA conference, but I also believe the conference provided me with valuable information that is beneficial for my career. With that being said, one of my favorite subjects that was covered in the conference was called "Ticks and Tick-borne Diseases." I found these presentations to be very useful because they are relevant, since many people come to me with questions about ticks when I'm working out in the field. The second subject that I enjoyed was "100 years of Responding to Plague in Humans." What I truly enjoyed about this presentation was the Historical aspect of it; I was particularly interested in how California handled plague outbreaks 100 years ago. I also enjoyed meeting with staff from other vector control districts and learning how they handle mosquitoes and other vectors. Overall, I am very grateful that OCMVCD gave me the opportunity to attend the 2023 MVCAC, and I hope I can attend future conferences.

Date: 2-2-23

Dept Mgr Signature: _____



Signed: _____

Print Name: Matt Beshine



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: Luis Brito and Inspector II

Name of Conference/Event: MVCAC

Date: 01/30/22- 01/31/22

Location: ANAHEIM

The 91st Annual MVCAC Conference theme was “Innovative Control Technologies of the Future.” There were so many good speakers and topics. They focused a lot on invasive Aedes mosquitoes and emerging vector-borne diseases. I gained so much more knowledge in person as compared to virtual. You get the opportunity to meet a lot of new people and interact with different vector control district employees. I learned how some of the other Vector Control Districts utilize their GIS maps and how we can improve ours. I liked the setup of the booths at the convention and how they gave you a better idea on how to properly use the equipment. There was a drone booth from Precision Vision where they talked about some of the new features on the drone, like flying with only a controller with no need for a computer or a tablet anymore. They mentioned flight patterns, new safety features, and the type of pesticides that can be used.

Some of the Monday presentations discussed how some districts are using the SIT (Sterile Insect Techniques) program and how successful it has been for them. I thought it was interesting for the simple fact that our district OCMVCD will soon be testing it out on the field. On Tuesday some of the talks were about how some of the Vector Control District were monitoring insecticide resistance for mosquitos. It’s always good to know when it’s a good time to rotate pesticides and just completely start with a new one. My day concluded with the use of social media, like Instagram, Tik-Tok and Facebook, and how important it is to get your point across to the young and older generations.

With this being my 3rd in person conference, I really enjoyed and appreciated how much this conference has taught me, and all the new innovations that have been going on in the Mosquito world. It is also beneficial in-person so that way you can ask questions and get an answer upfront. Overall great speakers, and a great experience.

Date: 02/02/23

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

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: Danny Bui, Inspector II

Name of Conference/Event: 91st Annual MVCAC

Date: 1/30/23-1/31/23

Location: Disneyland Hotel, Anaheim, CA

I really enjoyed this year's MVCAC event. Seeing how other vector control districts operate across the state is such an eye opener. There were many interesting and educational talks that I found really valuable. It's always amazing to learn about the new and ever evolving ways to control mosquitoes, especially with the SIT program. My favorite talk had to be about using SIT to eradicate the screw worm fly. I had no idea that the use of SIT dated all the way back to 1930 and that it was successful in eliminating such a nasty insect.

The talk by Daisy Rangel regarding testing for dog heartworm was really interesting. It's amazing how she was able to find a way to test for the disease. It was really neat to see some success in getting PG&E open up and give access to some of their utility vaults. Last, the communications and outreach talks were very informative and enjoyable to hear about. I like the creative ways vector control districts use to get the public's attention and interest in mosquito control efforts. Fritz Petropolous had such fun and engaging ideas to teach her 4th grade students about shared mosquito control responsibility.

Date: 2/7/23

Signed: _____

Dept Mgr Signature: _____

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: Scott Chambers, Vector Control Inspector II

Name of Conference/Event: 2023 MVCAC

Date: January 30th – January 31st

Location: Disneyland Hotel, 1150 W. Magic Way, Anaheim, CA 92802 United States

On Monday the 30th in the morning plenary session there was a talk on sterile insect technique used to combat the screwworm fly. I was happy to hear that the SIT program was successful in eliminating this fly from decimating the U.S. cattle industry. It gives me hope that it can be successful with the “ankle biter” mosquitoes that we currently deal with. Another talk that interested me was from Madera county mosquito and vector control District that was dealing with the PG & E utility vaults that hold water and breed mosquitoes. Using pond filter media they were able to prevent mosquitoes from entering or exiting the utility vaults which seems like a very practical solution we should attempt to employ here in Orange County.

On Tuesday the 31st I learned that our district here in Orange County is one of the only districts that use a blanket warrant to inspect swimming pools. I find this very useful because being able to inspect a pool where it is difficult to get in touch with a homeowner about their non-op swimming pool can be a time sensitive matter. Hundreds if not thousands of mosquitoes can breed in a backyard swimming pool every night if left unchecked. Another talk I found interesting was the sorting system and automated mosquito identification tool that is being used up in Sac-Yolo vector control district. Though it is not perfect they are getting results in the 90 percentile and I’m sure it will get better in the future. A lot of time and resources are utilized in our own laboratory to do this very thing, and if we had a tool like this would benefit us greatly. Very interesting was a couple of the talks on bubonic plague in Los Angeles and San Francisco. In the past, certain social groups had been quarantined to their neighborhoods and blamed for the disease. I found that interesting because in doing so many inspections for the invasive ankle biter mosquitoes I do hear people ask questions basically on who to blame for this nuisance. While finding the root causes is very important, I make sure to let residence know that it doesn't necessarily matter at this moment who is to blame but rather how can we work together to suppress the spread.

This being my first MVCAC conference, I would just like to say that I find it incredibly useful to attend in person vs. webinar because it does give us the opportunity to meet and talk with individuals from different districts and organizations in the same field. I was also involved in speaking with people about the western tussock moth which Laura Krueger how to put together. I only ended up speaking with about a dozen people about this poster, however anybody we can help educate about any vector is most beneficial.

Date: February 1, 2023

Signed: 

Dept Mgr Signature: 

Print Name: Scott Chambers



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: _____ Anthony De Lira Inspector II

Name of Conference/Event: _____ MVCAC CONFERENCE DAY 1 & DAY 2

Date: _____ January 30th – January 31st

Location: _____ The Disneyland Hotel

The 91st annual MVCAC conference was a beneficial and encouraging event it allows us to expand our knowledge and learn from other mosquito and vector control districts with what they have found to be successful or innovative. Our efforts and goals help protect the public from mosquito and vector borne illnesses, and from conferences such as these, we can only benefit from what our shared goals and responsibilities are.


During the first conference on day one the most interesting presentation for me was the genetic approach to controlling mosquitoes and mosquito borne pathogens. In his presentation, Dr. James from UC Irvine talked about the creation of an immunotoxin that is inserted into the target mosquito species to suppress malaria transmission. Sacramento-Yolo MCVD discussed the operational efforts in rice field control against the *Culex tarsalis* and *Culex pipiens* mosquito species which are regularly found. They rely heavily on mosquito fish to help biologically control the mosquito population in these sources. Sac-Yolo produces 3,600 pounds of mosquito fish annually, and 75% of this production are placed in the rice field sources. This program is only successful because of their outreach and frequent communication with the local farming community.

During the second day of the conference much more information and study outcomes were presented. The discovery of a new Black Fly Species in San Joaquin County MVCD was interesting to me because it is the finding of something new. The steps of identifying this new fly were interesting to me because of all the information needed in comparing it to known fly species. One of the most important takeaways for me was the presentation on identifying common vertebrate tracks and learning about the key characteristics of the paw print to differentiate between raccoons, opossums, and skunks. I was able to apply this information the very next field workday while inspecting flood channels in Los Alamitos I identified that raccoons were present the channel I was inspecting. This information helped me to know what could be near and be prepared for possible animal encounters out in the field.

MVCAC conferences bring together all of us that are dedicated to protecting the public from vectors and vector-borne illnesses. From field operators, lab personnel, supervisors, to district

managers, we all benefit on the sharing of innovative ideas, from providing insightful information, sharing feedback on new technologies, and teaching each other what is successful or unsuccessful can only help us perfect our craft.

Date: 02/02/2023

Signed: 

Dept Mgr Signature: 

Print Name: Anthony De Lira



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: Frank Diaz Inspector II

Name of Conference/Event: MVCAC

Date: 1/29/2023 – 2/1/2023

Location: Disneyland Hotel

The 91st annual MVCAC conference was very informative. The title of the conference was innovative control technologies of the future. I attended session A on Monday and session B on Tuesday.

One of the seminars discussed Wolbachia and how it affects aedes aegypti. I learned that it makes male mosquitoes sterile so when they breed with the female they cannot reproduce. They did have issues with the males dying off. The problem was that they were dusting the mosquitoes with too much pyriproxyfen. They ended up finding the right amount to cross contaminate other mosquitoes. I really enjoyed the presentation from Alameda County. They talked about how their Aedes Dorsalis are resistant to the chemical Methoprene. They did a study to see if adding a higher dosage of Methoprene would work. They found that 0.05 ppb was the most effective rate. It killed a third of the larvae. They still monitor for resistance, but for now it gets the job done. I also learned that Santa Clara County emulated our district here in Orange County for our trapping scheme. They started to use the EVS and Gravid traps because they did not interfere with one another because they use different lures. They did have issues with dry ice being limited due to a national shortage. They found great success with these traps. Their numbers soared from 20,000 to 30,000. I really enjoyed Sacramento – Yolo MVCD presentation because they talked about how they use video calls to be more effective and how they use text messages to reach their community.

I really enjoyed my time at the conference. I feel like the video calls to residents is something we can implement. I got a chance to talk to other people in different districts and see what their issues are. I liked the seminar about raccoons, opossums, and skunks to differentiate their footprints. It was very informative. I feel like being able to see these seminars in person gives you more insight to what these districts are going through.

Date: 2/2/2023

Signed: 

Dept Mgr Signature: 

Print Name: Frank Diaz



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: Nathan Dingman Inspector II

Name of Conference/Event: MVCAC

Date: January 30th and 31st 2023

Location: Disneyland Hotel

The most interesting presentations were about bubonic plague in the early 1900's in San Francisco and Los Angeles. At the time, health officials believed that certain ethnic groups were to blame for the outbreaks and were forced to be quarantined. Other topics included sterile insect techniques, tick and tick-borne diseases and pesticide resistances. I thought it was interesting that San Diego County pretreats their saltwater marshes ahead of birdnesting season, having most success with Natular products. Houston, TX had a Wolbachia trial with population suppression of 90 percent for *Aedes aegypti* and 75 percent for *Aedes albopictus*. This is exciting news as our own pilot joint SIT program is in the works. Another SIT program had success combating the screwworm fly, which without success could have annihilated the cattle industry. Overall, I see the benefit in attending live conferences. It gives us the opportunity to get ideas from other individuals in our industry and a chance to view posters and exhibits.

Date: 2/2/23
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Nathan Dingman



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 Drake IVM Compliance Officer

Name of Conference/Event: MVCAC

Date: January 30-31, 2023

Location: Disneyland Hotel – Anaheim, CA

Methoprene resistance in marshes in Alameda County. Alameda County Mosquito Abatement district did a field study to test resistance to methoprene on Aedes dorsalis. Their study found that the higher label rate for field applications 1 – 5 ppb were recommended. Lower concentrations led to higher hatch offs of adults. Recommended to use 5 ppb in marshes and have very little to no adult emergence.

San Joaquin County Mosquito and Vector Control District did a study to evaluate the effectiveness of using a cordless heat gun on Aedes aegypti eggs. The process of using bleach or other cleaners and scrubbing the surface to remove eggs is time consuming and not very effective. They found that a 3 - 5 second treatment 1 inches from the eggs with the heat gun resulted in complete destruction of the eggs. Could be useful here at the district when doing Aedes inspections where there are travel related or locally transmitted diseases are present.

Delta Mosquito and Vector Control District did a study to test the effectiveness of using truck mounted WALs application for controlling Aedes aegypti in hot spots by using Vectobac WDG. 8 sites were selected in high abundance neighborhoods, 4 treated and 4 control sites. 7 applications were made at .5 lbs per acre using the A1 mist sprayer. One treatment per week for the first four application then next 3 at two week intervals. The average trap count at the control sites was 23.4 mosquitoes per trap and the average at the treatment sites was 13.8 after the treatments. The WALs application reduced the amount of aegypti. Our district has been using the A1 with Vectobac WDG in neighborhoods to control Aedes. The treatments should be able to lower the numbers of Aedes in areas where a travel related, or locally transmitted diseases are present.

UC Riverside did a study on the effectiveness of treating bromeliads with Bti. Their study found that Bti placed in the phytotelmata, water holding cavities, of the bromeliads persisted longer than in artificial holding containers. 8mg/L of Bti resulted in a 16 week control in bromeliads and only 6 weeks in plastic containers. They used Vectobac WDG for the treatments. Vectobac WDG can be applied by helicopter, truck mounted, or hand sprinkled into

the bromeliads. In places where there are many complaints of biting Aedes or disease locations I believe this would be effective in controlling Aedes in bromeliads.

Date: February 2, 2023

Dept Mgr Signature: 

Signed: 

Print Name: JOHN DRAKE



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 Drews, Field Supervisor

Name of Conference/Event: 91st Annual M.V.C.A.C.

Date: 1/31/2023, and 2/2/2023

Location: Disneyland Hotel

I would like to start by saying thank you to our managers, and board of directors for allowing me to attend this year's M.V.C.A.C. This event is always a special time for me. This event allows us to collaborate with fellow workers, and friends from other districts. To share our past years successes' as well as our challenges.

The most interesting talk for me this year was given by Doctor Bill Donahue. He shared some history on Sterile insect technique that I never new about. Around the early 1920s farmers had complaints of cattle die offs. At that time, researchers confused the primary screwworm, which requires living flesh to breed, with other species of blowflies, which consume the carcasses of dead animals and the decayed flesh of living ones. By the mid-1930s the screwworm problem had spread through much of the southeast and was threatening whole herds of cattle. By 1954, due to the persistent efforts of Edward Knippling, and other scientists the first release of radiated screwworms were released in Florida. The rest as they say is history. By the late 70s and early 80s the screwworm was basically eradicated from our country. Thanks to Sterile insect technique. ENJOY YOUR STEAK.

You can read this entire, amazing story at the website below.

nal.usda.gov

Date: 2/2/2023

Dept Mgr Signature: 

Signed: John Drews

Print Name: JOHN 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: Michael DuBose

Name of Conference/Event: MVCAC 91st Annual Conference

Date: January 29-31, 2023

Location: Disneyland Hotel in Anaheim, California

The Mosquito and Vector Control Association of California (MVCAC) hosted its ninety-first annual conference. The MVCAC President, J. Wakoli Wekesa, PhD, directed the conference, provided opening remarks, and welcomed attendees to the conference. On Sunday, January 29, Trustees from multiple mosquito and vector control agencies participated in a tour of Big Canyon at the Upper Newport Bay in Newport Beach, California. OCMVCD staff hosted the visit and organized a four-station educational event to inform the Trustees about Integrated Vector Management (IVM) strategies at Big Canyon. These educational stations included: (1) a display of OCMVCD vehicles deployed for mosquito treatments; (2) the unmanned aircraft system utilized for mosquito treatments at the pond; (3) cooperative activities with the California Department of Fish and Wildlife to siphon water from the pond for mosquito reduction; and (4) the history of mosquito control at Big Canyon. On Monday, January 30, the MVCAC was composed of a plenary session on genetics, sterile insect techniques, bed bugs, mosquito modeling, and dengue fever. Vector control sessions included new innovations, ticks, and operational activities. On Tuesday, January 31, presentation topics included pesticides, vectors and disease, plague, swimming pools, innovations, and community outreach. The MVCAC conference included a variety of sponsors, exhibitors, and posters. There were eight sponsors and nine additional exhibitors that advertised their products and services. Twenty-three posters were on display and thirteen posters were involved in the William Walter Poster competition. Vector-related poster topics included artificial intelligence, communication strategies, flea-borne typhus, house mice, mosquito traps, stinging caterpillars, tick-borne pathogens, unmanned aircraft systems, and West Nile virus. The organizational value in attending the conference was the opportunity to collaborate and strategize with mosquito and vector control agencies around the MVCAC conference theme: Innovative Control Technologies of the Future.

Date: 2/2/2023

Signed: 

Dept Mgr Signature: 

Print Name: Michael DuBose



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: Matt Eseltine, Tech III, Operations

Name of Conference/Event: MVCAC 2023 Conference

Date: 01/30/2023-01/31/2023

Location: Disneyland Hotel

The 91st Annual MVCAC Conference provided a great opportunity to learn collaborate and grow as Vector Control personnel. These conferences are a way to connect and network with other vector control districts and vendors. In particular, I was able to re-connect and talk door to door strategies with Martin Serrano from GLACVCD. I also spoke with several other GLACVCD staff about techniques they use in the field.

I learned about the history of plague in California, how Wolbachia can be used to combat adult mosquitos by rendering females infertile, how a fungus can be used to combat bed bugs, efforts being made to use genetically modified mosquitos to combat malaria in Africa, the use of truck mounted ULVs' to control mosquitos in large areas that are inaccessible to field staff by foot, David Lopez of GLACVCD gave a talk about discovering a massive outbreak of taeniorhynchus in a local salt marsh and how he was able to coordinate with local stakeholders to eliminate the breeding, Laura Krueger gave a talk about a study done with other OCMVCD staff to evaluate the efficacy of In2Care trap at Buena Park Community Center.

These conferences are a valuable education tool for staff, I wish they were available to all of us each year as opposed to only ones which are held locally.

Date: 2/1/23

Signed: 

Dept Mgr Signature: 

Print Name: Matt Eseltine



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: Eddie Garcia Vector Control Inspector II

Name of Conference/Event: MVCAC 91st Annual Conference

Date: 1/30/23 – 1/31/23

Location: Anaheim CA

This years annual conference was very informative as in previous years. I would like to thank the District for giving me the opportunity to attend this two day event. MVCAC annual conference gives me a chance to continue my education an earn credits towards my licensing. Attending the conferences allows me the opportunity to learn of new products pending for the control of vectors, since most vendors attend this event and educate us on new and current products. Being able to view and share ideas with other District in attendance is a huge benefit to myself and my District. Witnessing firsthand how other Districts deal with vector problems and their solutions has made me a better inspector for certain. I appreciated all the presentations, my favorite was with David Lopez from Greater Los Angeles County Vector Control discussing salt marsh mosquitos breeding sources and treatment. David talked about how Greater Los Angeles County Vector Control District and Orange County Mosquito and Vector Control District came together to solve a multicounty mosquito issue therefor reliving residents of mosquito bites and possible diseases.

Attending the annual conference reminds me on how important my job is in protecting public health and the residents of Orange County. Every year if I don't learn about a new pesticide product or Integrated Pest Management (IPM) it just instils the knowledge I already possess. I hope this give some insight on how important continuing education is.

Date: 2/17/23

Dept Mgr Signature: _____

Signed: _____

Print Name: EDDIE GARCIA



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: Francisco Garcia - Vector Control Inspector II

Name of Conference/Event: MVCAC 91st Annual Conference 2023

Date: January 30-31, 2023.

Location: Disneyland Hotel – Anaheim, CA.

The 91st Annual Conference and Exhibitor Showcase of the Mosquito & Vector Control Association of California (MVCAC). Presented at the Disneyland hotel, California. This year's theme was "Innovation Control Technologies of the Future," highlighting future needs of our organization. I believe this was well represented throughout diverse topics, I was fortunate and able to attend both days of the conference.

On Monday, January 30th Following the morning Plenary Session and Reeves, I attended the Operations and Applications session in the North Ballroom. Operations and Applications focused on the various challenges, strategies and analysis currently being explored such as control efforts and teamwork to tackle tidal mosquitoes and larvicide applications with unmanned aircraft systems (UAS). Being UAS and wide-area truck applications a new technology for mosquito control, I was better able to grasp and understand the topics presented. After hearing all the presentations and the challenges the presenters face developing these new techniques, I believe that OCMVCD is making the correct choice in utilizing these new methods for vector control.

On Tuesday, January 31st I attended the Pesticides and Pesticide Use, Vectors and Vertebrate Vectors, and 100 years of Responding to Plague in Humans and Fleas in CA sessions in the South Ballroom. The Pesticides and Pesticide Use session was very informative, although some of the talks involving genetics were more advanced. The presentations that I enjoyed during this session was the Evaluation of a novel long-term treatment stations in sensitive species tidal zones, that explored the use of slow release briquets with treatment stations that were developed to last the entire bird breeding season when working within sensitive coastal salt marsh habitats. This presentation is a good option that the OCMVCD could explore in the future to increase the effectiveness of pesticide applications, as well as continuing advance IPM in an environmentally responsible manner.

I also really enjoy the symposium on the early history of plague and plague outbreaks in California, 100 years of responding to plague in humans, animals and fleas, and the recent history of plague in areas such as South Lake Tahoe. Although there may be low detections of plague throughout Orange County,

Overall I thought that this Conference continues to be very informative and valuable in generating new ideas that staff can explore and implement at OCMVCD.

Date: 2-2-23

Dept Mgr Signature: 

Signed: 

Print Name: Frankie Garcia



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: Willebaldo Garcia

Name of Conference/Event: MVCAC

Date: January 30th and 31th 2023

Location: Disneyland Hotel Anaheim

The most interesting for this conference presents a fantastic and diverse topics, Innovative control technologies of the future and highlighting future needs, Innovation is the key to solving some of the pressing challenges of our time to mitigate the impact of invasive Aedes mosquitoes and emerging vector borne Disease.

Using Irradiated mosquitoes for mosquito control (SIT) Classical sterile technique uses radiation to sterilize insect pest

This technique has been used since the 1950 to control insect pest, including fruit fly and screwworm fly.

In the united state sit has been used to control Aedes Aegypti mosquito.

Male mosquitoes are bred and sterilized using the same radiation found in X-Rays , male are then regularly released to mate with wild female the resulting eggs will no hatch .

SIT will no reduce numbers of all types of mosquitos only the type that has been irradiated and released in to the wild.

Irradiated mosquitoes are no genetically modified, males are irradiated using Ionizing radiation to make them sterile.

Aedes Aegypti mosquitoes carry natural bacteria called Wolbachia, they reduce the mosquitoes ability to transmit viruses like Dengue, Zika, chikungunya and yellow fever.

Male mosquitoes with Wolbachia are released regularly into areas by mosquito control professionals.

The presentation about Bubonic plague in early 1900 in Los Angeles and San Francisco

How insecticide resistance is measured , Monitoring for resistance in the vector populations essential and is useful in determining the potential cause for control failures.

Date: 2-07-2023

Dept Mgr Signature:

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

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: Michael Gomez Vector Control Inspector II

Name of Conference/Event: MVCAC Conference

Date: 1/30/23 – 1/31/23

Location: The Disneyland Hotel

MVCAC is a forum where members of the mosquito and vector control community can come together and present new findings in laboratory and work studies, refresh and continue their education, and network with others in our field. The conference mainly consisted of several symposiums where fellow colleagues shared information and experiment results from studies such as showing the effects of mixing sugar alcohols with other products, how to identify specific vertebrate tracks in the field and how using social media platforms help reach our target audience.

There were a quite few presentations that stood out to me throughout the conference. For one presentation, my partner and I were able to use the knowledge we learned immediately the following day. Bridget Mooney, from Alameda County VCSD, presented "Paw-sible knowledge: Differentiating common vector tracks." She went in depth on the common vertebrate tracks we see in the wild. Her focus was on skunks, raccoons, and opossums. In the field the following Wednesday, my partner and I were performing an inspection of a flood channel in Los Alamitos. This is where we came across hundreds of impressions in the mud which look like paws. Due to the information and images Bridget Mooney provided us, we were able to identify the impressions as raccoon tracks. We concluded our inspection there to prevent disturbing any resting raccoon in the tunnel ahead. Another interesting presentation, "A milligram of sugar alcohol helps the toxicant go down" by Greg White, from the Salt Lake City Mosquito Abatement District, was on the effects of mortality by adding Erythritol (sugar alcohols) to Boric acid, BTI, and Spinosad. The SLCMAD found successful studies of the sugar being toxic to Fruit Flies and some mosquitoes in Mali and Israel. These studies brought the question, will adding the sugar bait to existing toxic active ingredients influence mosquitos' mortality rate. Their findings were successful. They found that Erythritol did have an additive effect when paired with 0.2% boric acid and BTI. All mosquitoes were found dead between 48-72 hours after being treated with the mixtures. Greg and his team did find pairing Erythritol with Spinosad was, what they referred to as, "overkill." Immediately after 24 hours, all mosquitoes were dead even when treated with

Spinosad alone or the Erythritol Spinosad mixture. They concluded that pairing the sugar additive can have a successful treatment every time when combined with BTI and Boric acid and it is affordable and easy to implement.

Overall, the conference assisted me in learning new information and reaffirming the knowledge I have.

Date: 2/2/23

Signed: 

Dept Mgr Signature: 

Print Name: Michael Gomez



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

Date: 1/30/23-1/31/23

Location: Disneyland Hotel

On Monday I attended session B north ball room. It started with rice field mosquito control and ended with Madera County PG&E substructure. Tim, Laura, and Bob really represented the district well with their great presentations. My favorite presentation was control efforts in marsh areas of the Salton Sea in the Coachella Valley. It reminded me of the old days when we use to spray Bolsa Chica.

On Tuesday I attended session A south ball room. It started with what leads to pyrethroid resistance and ended with Bubonic Plague Disease. Daisy and Bob did an amazing job representing the district with their presentation. My favorite presentation was evaluating the effectiveness of adulticiding to reduce West Nile Virus transmission risk in California, 2009-2018. This was a rough time for California as it got hit hard with West Nile Virus. I'm glad I was part of the efforts in controlling West Nile Virus.

I enjoyed attending the conference in person instead of watching webinars. It's nice to see all the people from different districts and old coworkers that have moved on to work at different districts. It's nice to see your coworkers in regular clothes rather than the work uniform. I like the 15 minute presentations as they get to the point and you don't have to get stuck with the same boring speaker. Sometimes my back and bottom would start hurting from sitting too long but I think I can handle it every two years.

Date: 2/2/23

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

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: Beatriz Gonzalez Tech II

Name of Conference/Event: MVCAC 2023

Date: 2/1/2023

Location: Disneyland Hotel

I attended the MVCAC on January 30th and 31st. On Monday the 30th Esmeralda Mendoza a speaker from Placer County was one of the speakers that stood out to me the most, Mrs. Mendoza presentation was about the abundance of mosquitoes near rice fields. The experiment she conducted in Placer County was to see if the temperature in the water was a factor for the mosquito abundance in the rice fields, the vector she focused on was the Culex Tarsalis vector of West Nile virus which is found in rice fields and other large sources of water. She conducted this experiment for three weeks setting CO2 traps to measure the number of mosquitoes near the rice fields. She also took into consideration the type of rice field the traps were set in such as organic and nonorganic fields and their acreage. The conclusion of her experiment was that the temperature and humidity were the main factors of the abundance of mosquitos in the rice fields.

Tuesday the 31st Daisy Flores from our district gave a presentation of Dirofilaria better known as Dog Heartworm. This parasitic disease is mainly found in dogs, cats and wild carnivores. I learned that Orange County residence aren't required to report Dog Heartworm if their pets are infected.

Date: 2/1/23

Dept Mgr Signature: [Signature]

Signed: [Signature]
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: Todd Harries Vector Control Inspector II

Name of Conference/Event: 2023 MVCAC Conference

Date: 1-31-23

Location: Anaheim, C.A.

The Symposium that I found to be informative was the Inspection and Enforcement of Unmaintained swimming pools. It was very interesting to learn how the different mosquito districts in California handle the enforcement/abatement and warrant process. Nearmap aerial imagery seems to be the district's new way of conducting aerial satellite surveillance. During the community outreach symposium's, I gathered that every district has different ways to reach out to the community and cities through mailer's, news media, social media, and billboards. The lighting in the bottle talk was interesting due to once the media get it out on live news it can truly pay off.

Thanks to the Orange County Mosquito and Vector Control board of trustees, management, and the MVCAC for allowing myself to attend the 2023 conference. I truly enjoyed attending and seeing familiar colleagues.

Date: 2-3-23

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

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: Cory Hearst – inspector II

Name of Conference/Event: 2023 MVCAC

Date: Jan.30th and 31st 2023

Location: Disneyland hotel Anaheim ca.

Monday the 30th I attended session B which focused on Operations and applications. I enjoyed this session, because I found it interesting how all of the different districts distribute and allocate workload in this new aedes filled environment. I also enjoyed the talk about the in2care traps and why they don't really work. That was valuable information, because I frequently encounter those traps in residents backyards and wanted more info on them, to share with residents. I also found the comparison between the two types of bait used for gravid traps very interesting. Learning about how other districts are dealing with the electric companies vaults was also a good talk. When they were talking about SAT, being used to control screwworms in cattle populations, that was an interesting talk. When they were referring to target species developing resistance to certain pesticides? That was pretty valuable information.

Tuesday the 31st I started out attending session B. This session started with a talk and then a Q and a panel about inspections and enforcement of unmaintained swimming pools. I found this to be very interesting, because it was neat to see how different districts approach the issue of non-operational swimming pools. This was then followed by several talks about CalSurv and other applications and software used in VECTOR CONTROL. The one about the automated mosquito identification and sorting system in Sacramento – Yolo was really cool. The second half of the event, I was in session A, which had a lot of talks on plague.

The talk where they were talking about "racial containment", from 1900 to 1909 entire neighborhoods of immigrants were put on quarantine, to try and help curb the spread of plague. And the similarities of how the public responded to efforts back then, compared to how they respond now? Were very interesting. Everything that I learned about plague during this session, was very useful, seeing as I encounter a lot of rodent activity in my daily operations.

Date: 1-1-2023

Signed: [Signature]

Dept Mgr Signature: [Signature]

Print Name: Cory Hearst



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 _____
Name of Conference/Event: _____ 91st Annual MVCAC Conference _____
Date: _____ January 30th – January 31st, 2023 _____
Location: _____ Disneyland Hotel, Anaheim, CA _____

The MVCAC Conference is an opportunity for OCMVCD staff to not only network with colleagues in person after a long Covid hiatus, but also a chance to earn much needed CEU's (Continuing Education Units) that must be collected to fulfill State Licensing requirements. The fact that OCMVCD is the closest represented District to the Conference location allows us to act as a host and often moderator for other District personnel and staff. OCMVCD had an opportunity to invite other interested parties to visit our facilities in Garden Grove and discuss what we do from an operational and research standpoint and that was of great value.

As far as the Conference itself, the discussions, speakers, presentations, and exhibits are always informative and worthwhile to attend. The session points that were the most memorable for Monday were speakers on genetic approaches to mosquito control, as well as the sterile insect technique success story on the screwworm fly which essentially saved the cattle industry. Other interesting discussions on topics such as Wolbachia, malaria control in Africa, and Aedes taeniorhynchus control efforts in the coastal salt marshes of Greater Los Angeles County were also enjoyable. Tuesday brought a healthy dose of Plague with historical failures and successes and an update on the disease in the Lake Tahoe basin. It was a well put together Conference and I am grateful I was able to attend.

Date: 2/7/23
Dept Mgr Signature: [Signature]

Signed: [Signature]
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: Carlos Martinez Vector Control Inspector III

Name of Conference/Event: MVCAC 91ST Annual Conference

Date: January 30-31, 2023

Location: Disneyland Hotel

On Monday, the conference began by welcoming remarks from the current MVCAC current President J. Wakoli Wekesa, PhD. He gave an overview of the conference and some history of the association. There were several interesting topics discussed on Monday, such as challenges and strategies of controlling mosquitoes in rice fields given by Sarah Wheeler of the Sacramento-Yolo MVCD. Also, WNV resource allocation in the age of Aedes: An operations perspective given by Sky Mihaylo of the Alameda County MAD. However, the most compelling presentation that resonated with me was given by Dave Lopez of the Greater Los Angeles County MVCD. He spoke about the controlling *Aedes taeniorhyncus* in salt marshes, specifically the Cerritos Wetlands. We actually share the border of L.A. County and Orange County and treat part of the Cerritos Wetlands also. It was interesting to know how he first became aware of the breeding problem in the wetlands and how it was Miguel Arias, the former Special Services Supervisor from our District that helped and trained in controlling strategies. Tuesday's outstanding presentation was given by our very own Daisy Rangel PhD. She spoke about dog heartworm in mosquitoes of Orange County. She described how dog heartworm is not a reportable disease in Orange County but it is on L. A. It is interesting to know that dog heartworm is a real threat to Orange County residents because we have a robust population of Invasive *Aedes* mosquitoes which are the main vectors of dog heartworm. I am glad to know that our District is in the forefront of being able to detect that disease rapidly in our County.

Date: 2/2/23

Dept Mgr Signature: _____

Signed: _____

Print Name: Carlos Martinez



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 – SHOP SUPERVISOR

Name of Conference/Event: MVCAC 2023

Date: JAN 30 & 31, 2023

Location: DISNEYLAND HOTEL – ANAHIEM CALIFORNIA

This event is always a good way to interact with other Districts to compare notes on new & different techniques and equipment that they are using. Hands on experience with new equipment is always more accurate in the field than how it “works on paper”. As I oversee the District’s fleet and specialized equipment, it gives me a type of “Heads up” on any issues new equipment might have while in use, as compared to how it works on paper. In my experience, I have been able to see Underground trucks from Greater Los Angeles, and start building our own fleet of Underground treatment trucks which have been copied later on by San Gabriel Vector control. Conferences like this are an excellent way to trade information, as well as keeping up with my Continuing Education credits as well.

Date: 02/021/2023

Dept Mgr Signature:

Signed:

Print Name:

DAVID MILLER



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: Kara Miller

Name of Conference/Event: MVCAC 91st Annual Conference

Date: January 29th – February 1st, 2023

Location: Disneyland Hotel - Anaheim, CA

I attended the 91st MVCAC Annual Conference that was held in locally which gave us the opportunity to calibrate with other districts and vendors. The conference had speakers from other vector control agencies that provided updates on research, findings, experiments, and how other districts are working with similar challenges that we face here at OCMVCD. These updates allow us to see what works and how to incorporate good ideas into our own activities.

Bill Donahue, PHD, President of Sierra Research Laboratories gave a presentation on "The history of the primary Screw Worm Fly and the cattle industry". Edward Kipling and Raymond Bushland led the research in the 1930's that brought this parasite under control and was declared eradicated in the United States by 1966. They raised male flies and irradiated them to make them sterile and then released them into the environment. When the females mated with the sterile male, she would then not produce any offspring. It was estimated that American Farmers saved over a billion dollars per year from potential screwworm damage. Today through a joint effort between the USDA and Panama Agriculture Department more than two billion flies are produced and released as a barrier to prevent infestation.

Tara Thiemann, from University of the Pacific gave a presentation on "What leads to pyrethroid resistance in *Culex tarsalis*". *Culex tarsalis* are showing signs of resistance to pyrethroids in many counties in the state. Bottle bioassays using technical active ingredients alone indicate reduced mortality. However, reviewing data from field cages trails of finished formulations and bottle bioassays using technical and PBO, show more morality.

Attending the MVCAC conference is also beneficial because it provides Continuing Education Units in order to maintain our Vector Control Certification.

Date: 2-13-2023

Dept Mgr Signature: _____

Signed: _____

Print Name: Kara Miller



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: Tony Moreno VC Inspector III

Name of Conference/Event: 2023 MVCAC Annual Conference

Date: 01/30/23 – 01/31/23

Location: Anaheim, CA

Attending live events continues to provide so much more value than webinars. The interaction and discussion that can take place following a presentation helps in adding to the knowledge and understanding of the material and topics that were covered. The format being used now, 15-minute-long presentations, helps tremendously in the ability to maintain focus on the given presentation. The shorter format also adds variety to a given topic as the material can be presented from different angles and perspectives. The added benefit of being able to jump from presentation to presentation is also beneficial in giving the attendee the ability to choose topics that will be more interesting and increasing the ability to absorb and learn. A persistent issue that I find is that a good number of these presentations can be overly technical and oversaturated with data. This can make things tedious and uninteresting.

I enjoyed the focus of operations activities during the second half of the first day. Being able to compare and contrast what we do here at OCMVCD with other districts and how they go about their business is extremely fascinating. The presentation that stood out for me was given by an employee from GLAVCD. His appreciation for Miguel Arias was unexpected and infinitely appreciated.

The morning session of day 2 offered up a lot of information on pesticide resistance. While I found a lot of what was presented to be interesting, it was an avalanche of data and technical speak. There must be a way to present this information in a more palatable way. The information is important and needs to be understood and digested by more than just others in the scientific realm of mosquito control. After the first break, there was some great information on aedes mosquitoes and the various actions being taken to try and reduce the abundance. It's an uphill battle for sure. Post lunch break presented some extremely interesting information on plaque history in California and the effects it had on various populations. I ended day 2 watching

presentations that offered up information from the communication side of vector control. The battle to inform the public of the shared responsibility seems to be just as much an uphill battle as the one going on against invasive aedes.

Overall, it was a great experience. The ability to interact with people from other districts in a face-to-face manner is invaluable. I will always prefer to attend in-person seminars to watching online webinars. The ability to thoroughly absorb the knowledge being presented is significantly greater while attending in-person.

Date: 2/2/23

Dept Mgr Signature: 

Signed: 

Print Name: Antonio Moreno



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 Vector Inspector II

Name of Conference/Event: MVCAC 91st Annual Conference

Date: January 30-January 31, 2023

Location: Anaheim, CA

I attended the annual Mosquito and Vector Control Association of California's meeting in Anaheim, CA recently. As always, the time there was valuable in enhancing my knowledge of vectors while also equipping me with valuable tools and tips I can use in my day-to-day work in the field serving the public.

The plenary sessions included information about advances in genetically modified mosquitoes used to fight malaria along with a history of sterile insect programs used to fight the primary screw worm, an agricultural pest.

The symposiums covered everything from public agencies responses to flea transmitted plague in San Francisco and Los Angeles in the early 1900's to drone technology programs used today to the future of autocidal approaches to suppressing Aedes species in California.

Although all the lectures, symposiums, and project demonstrations were valuable- the most important and most helpful aspect of the conference, for me, was the chance to talk and share with other vector control focused professionals throughout the state and beyond. The experiences and novel solutions that were discussed and debated by veteran inspectors with years of field experience and new vector specialists with fresh eyes sparked ideas for me to try to enhance the field work I do to provide the citizens of Orange County with the highest level of protection from vectors and vector-borne diseases.

Date: 2/2/23

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: Pubudu Mudannayakage - Vector Control Inspector II


Name of Conference/Event: MVCAC 91st Annual Conference

Date: January 30 - 31, 2023

Location: Disneyland Hotel

Among the various topics discussed during the conference I learned a lot about Inspection and Enforcement of Unmaintained Swimming Pools. Greater Los Angeles County Vector Control District presented the warrant and abatement procedure. Sacramento-Yolo Mosquito and Vector Control District also presented their pool enforcement program. Both programs have some similarities and differences than our OCMVCD program. Alameda County Mosquito Abatement District explained how they shifted pool workload from field to office staff. Basically they use software to identify the owner's information of the pool and then use artificial intelligence to filter green pools. After that they visually verify green pools they use an automated notice printing programmer to send letters to the pool owners. Residents can text or email their pool condition to the district. That way they can cut down field visit time. OCMVCD operation director presented Nearmap use for identifying green pools and other potential sources. Furthermore he explained useful tools to use Nearmap more efficiently. The OCMVCD IT manager discussed the technical side and negotiation with the Nearmap team to make it more affordable and user friendly to all mosquito and vector control districts.

Date: 02/02/2023

Signed: 

Dept Mgr Signature: 

Print Name: Pubudu Mudannayakage



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 Vector Technician II

Name of Conference/Event: MVCAC

Date: 01/30/2023 – 01/31/2023

Location: Disney Land Hotel

The MVCAC conference that we attended this past week was very informative. The speakers were very clear and had great talks on particular subjects. I found that the screw worm fly was a major concern to our cattle industry and how they went about doing research and finding an effective way to control them. I also found the talk about the mosquito abundance near rice fields informative and how they went about their research and how to most effectively start treating and spraying. I also found the talks on ticks to be interesting even though I really hate ticks. Doing the tick research and outreach within the local community is very important to tracking and controlling the ticks and their associated diseases in the surveillance areas of the community. Another talk given by multiple agencies that I was surprised about, was all the different ways each Vector control handles their abatement, enforcement and warrants. I don't think just any one program is perfect but I like our system we have set up here in Orange County it works well for us with so many pools out of operation. I am glad I was able to go for the live continuing education of my licenses that the state issues to the employees. I was fortunate enough to attend multiple symposiums throughout the 2 days, thanks to the support of our Orange County Mosquito and Vector Control Board of trustees.

Date: 2/10/2023
Dept Mgr Signature: [Signature]

Signed: [Signature]
Print Name: Bill Mudge



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 Newton

Name of Conference/Event: 2023 MVCAC Conference

Date: 1/30/2023 & 1/31/2023

Location: Anaheim CA

I would like to thank The Trustee Board and Vector Management for allowing us to attend the 2023 MVCAC Conference. It was nice to see many familiar faces from other Districts and learn what has been going on around the state.

I was very impressed with Dr. James' talk. (U.C.I.) Although I didn't understand much of it, I appreciate what he and his team are doing in the field of genetic research. Districts around the state are increasingly turning to technology to record data, process results, and analyze data to better serve the communities that we are entrusted to protect. UAV's (Drones) are the up and coming treatment and surveillance tools that will help us safely and quickly treat some areas that are difficult to get to otherwise. As a G.I.S. Coordinator, I was excited to see what other Districts are doing in this field. Mapping known mosquito breeding sources is an important part of being able to share data with other staff or the public.

Date: 2/1/2023

Signed: John Newton

Dept Mgr Signature: 

Print Name: John Newton



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: Julie Romo / Vector Inspector II

Name of Conference/Event: MVCAC 91st Annual Conference

Date: January 30-31, 2023

Location: Disneyland Hotel Conference

I attended the operational side of the symposium on Monday, January 30th which entailed surveillance on mosquitoes, rice field challenges, truck mounted spraying, In2Care traps, air tractor and drone larvicide applications and utility vaults challenges.

On Tuesday, January 31st the symposiums I attended were related to unmaintained swimming pools, Norway Rats, detecting rodent paw tracks, black fly's, mosquito fish and aedes mosquito detection and surveillance.

The value of attending the conference is instrumental to my career so that I may keep up with the ever changing technology to control vectors and protect the residence of Orange County. Understanding the history of the vectors that I am controlling will help me educate the residence that may ask me questions. Learning new techniques from other vector control districts adds more to my tool belt and possibly what to remove from it. Challenges that other districts have that my district may not have yet keeps me informed on what to look for and the knowledge to control the vector if we are impacted.

This years conference gave me a clear understanding of paw tracks (that was very useful) and the challenges of utility vaults. Unmaintained swimming pools form was interesting to see how different all the districts were and how we handle the use of notices and warrants.

This years conference was the best conference I have been to yet.

Date: 2/3/23

Signed: Julie A. Romo

Dept Mgr Signature: [Signature]

Print Name: Julie Romo



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: Cynthia Ross- Seasonal Coordinator

Name of Conference/Event: MVCAC Annual Conference

Date: Jan 30-31, 2023

Location: Anaheim, Ca

I learned about some additional professional credentials that are available from the speaker from the Entomological Society of America. There was the Public Health Entomology Certificate; the Board Certified Entomology Certificate (BCE); the Associate Certified Entomology Certificate (ACE) and the Certified Integrated Pest Management Technician Certificate (CIT). These can be obtained by passing tests and taking prescribed courses and in addition to our License (Gold Card) can convey a certain level of expertise.

Anthony James spoke about his work in anti-parasitic genes placed in mosquitoes with the goal to eliminate malaria parasites. They found that there was efficient dispersal of the gene in the mosquito populations and a reduction of human cases was seen.

Steven Dobson spoke about Autocidal approaches for suppressing populations of *Aedes aegypti* and *albopictus* in California. *Wolbachia pipientis* is an intracellular bacterium that is passed down maternal lines to the offspring. When that offspring mates with a male that does not have the bacterium there is a cytoplasmic incompatibility resulting in infertile eggs being laid and the adults dying.

Bill Donahue spoke about the history of Screw Worm Fly control in the early 20th century. Screw Worm Flies are obligate parasites, their larvae feed on living tissue for 4-12 days then pupate on the ground. They can feed on many hosts and are found warm and humid climates. They were found in the Southern United States and caused millions of dollars in damage to the beef industry. The female only needs to mate once and can lay 100-300 eggs in her lifespan. They raised male flies and irradiated them to make them sterile and then released them into the environment. The first trial on Sanibel Island failed due to insufficient numbers of released males but subsequent releases starting in the 50's until the 80's resulted in the complete elimination of the Screw Worm Fly from North America in 1991.

The Reeves New Investigator Award nominees gave three talks about their studies. The first was Mark Dery speaking about Bed Bug aldehydes and efficacy of fungal biopesticides. Bed bugs produce aldehydes to inhibit fungal growth. Aldehydes function as defense and aggregation pheromones. The aldehydes are produced by the living insects as well as the shed cuticles. They limit fungus growth and lower the efficacy of the fungal biopesticides. The formulation of the pesticides plays a role in improving efficacy as oil based works better than water based but the most effective action was to clean area treated by vacuuming before treating.

The next speaker was Esmerelda Mendoza speaking about Modeling Mosquito Abundance near rice fields in Placer County. She looked at temperature and humidity data at time of collection and a 1,2, and 3 day lag times. She also compared Conventional vs. Organic fields and trap site location. Temperature showed to have only a weak association with abundance but trap location had a strong association with abundance. Traps placed within 4 miles of rice fields showed an improve accurate abundance data.

The last speaker was Kasem Umer Salim speaking about Dengue Fever in Guatemala. He was comparing the socioeconomic and environmental factors as they related to the number of Dengue Fever cases from 2017-2018. He found that risk was increased with the temperature as higher elevations had less cases and lower average temperatures. Risk was increased in areas with low populations due to lack of water pipe infrastructure. Good access to school and internet showed a reduction in risk. Areas of high Mayan populations also showed lower risk.

The afternoon session I attended was the Innovations in Mosquito Control. The first speaker was Stephan Dobson talking about Wolbachia field trials in Texas. Texas is similar to California as each state have both aegypti and albopictus. Wolbachia reduces albopictus population by 75% and aegypti by 90%. Release of Wolbachia mosquitoes may inadvertently cause an increase in albopictus populations as the aegypti populations decrease.

Andrea Joyce spoke about the relationship between temperature and Wolbachia infections. Wolbachia is sensitive to higher temperatures and may have a reduced concentration. A higher concentration is necessary to reduce disease transmission.

I then moved over to the Operations and Applications session. The first talk I heard here was Sky Mihaylo speaking about measuring and distributing workload in Alameda County. She determined that workloads should be re-evaluated every 10 years. It was also important to talk with the field personnel to get a clear picture of what there activities were in the field and where they thought changes needed to made to make their jobs more effective.

Mark Daniels spoke about WNV resource allocation. He found that by shifting focus on swimming pools to early in the season it freed up resources needed in late season to deal with Aedes issues and WNV disease cases.

Maritza Olmos spoke about Stopping the spread- Prevention of a local outbreak of Dengue, Zika and Chikungunya in LA County. They employ D2D teams to investigate 150 meter radius of an infected persons location. They use color coded maps for each team. They separated inspections by single or multiple family units since they each need a different approach. They have found that teams of male and female worked better than all male teams at getting in to inspect yards. Also they found that having speakers of different languages available was very helpful. Training for inspectors involved key talking points. Contact was made by one group and followed by logistics team to preform any treatments. If needed an appointment was made

for another date. Sometimes Zoom meetings are employed to contact residents that can not be at their residence during business hours.

Tuesday started out in the Inspection and Enforcement of Unmaintained Swimming Pools Symposium. Mark Daniels IN To Abate or Not: That is the Question. He cited the Safety Codes 2060, 2061, 2062, 2065, and 2065 as the primary ones that give vector control the authority to abate a mosquito nuisance. Civil Code 2929.3 allows actions on vacant properties. His agency delivers a minimum of 3 notices before the abatement process begins.

Robert Ferdan spoke about shift the workload from the field to the office by using automated notices printed out and mailed to residents with known pools. This can allow them to submit proof that their pool is no longer a nuisance through pictures sent in SMS or email. Many sites can be closed for the season and may not need a field visit at all. Before mailers are sent they are cross checked with their database and any that have been visited less than 90 days prior are eliminated. Up to date parcel Data from the County Assessors Office is critical to this process.

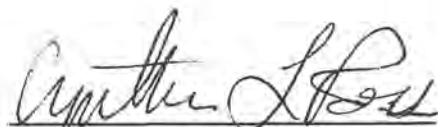
Other subjects brought up in the discussion was the use of near Map in finding unmaintained pools, the use of AI in identification of pools that need an inspection and limitations of the aerial flyover photos. All agreed that timing was essential both in finding the pools and notifying residents and scheduling inspections. Correct timing can avoid visiting pools that are only seasonally green in the winter. A new term describes a pool that has been turned into a pond and is well maintained but still green, they refer to it as a pool/pond.

I went to the New Techniques and Innovations in Operations session after the morning break. I learned about Cal Serv as a statewide source of free data that includes mosquito abundance, WNV positives and even weather data to use in research. There was also a talk on Google My Maps a free software that can be used to map data points and gain a visual perspective of your data. It could also be used to create driving routes and indicate when there is an overlap. There was some information about Web GIS from ESRI and new technology about droplet analysis.

I moved on to the 100 years of responding to Plague in Humans, Animals and Fleas in California. Here I learned about the 1924-25 Plague Outbreak on Macy St in Los Angeles and how things were so different back then. An example of this is when the health department printed the names and addresses of all patients in the newspaper, we could not do that nowadays. Since these early days most outbreaks have been cryptic epizootics confined primarily to the high elevation areas in California. Shadow Chipmunks are a common reservoir host in South Lake Tahoe.

Date: 2-2-23

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: Lesly Saba Vector Control Inspector II
Name of Conference/Event: 2023 MVCAC
Date: January 30 and 31, 2023
Location: Disneyland Hotel, Anaheim CA

Overall, I enjoyed the conference, but a few of the talks really stood out. Specifically, the presentation by Dr. Bill Donahue on a historic success story of sterile insect technique. The fact that SIT was first used with the Screw Worm back in the late 50's early 60's was amazing to me. It was also nice to see the information presented by Laura Krueger about the In2Care study conducted at Buena Park City Hall. During the summer, it is very easy to get overloaded by our own work in our zones, so it was great to see what Nate and the other staff were doing to test the efficacy of those traps. Trinidad Reyes from Madera County also gave an interesting talk about the utility vaults with PG&E. I'm curious to know how many similar vaults exist in Orange County and I'm hopeful that our district can work on a similar project in the future with local utility vendors.

I also really enjoyed the information presented by Bridget Mooney from Alameda County on telling apart certain animal tracks. Her talk was short and succinct, and I am now able to differentiate paw prints from raccoons, opossums, and skunks when conducting service requests from the public.

Date: 02/02/23
Dept Mgr Signature: [Signature]
Signed: [Signature]
Print Name: LESLY SABA



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 Inspector II

Name of Conference/Event: 91st MVCAC

Date: 1/30-1/31

Location: Disneyland Hotel Convention Center


MVCAC is always a great way to catch up with new technology in the vector control industry. It also helps us connect with other pest management industry leaders to share what we do as well as learn new ways of controlling mosquitoes.

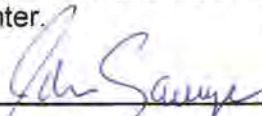
Monday started out a little slow, with introductions and such but then had speaker (Bill Donahue) who had a talk about SIT, with a bunch of numbers talking about zygotes and heterozygotes. It was confusing but interesting. His "ugly baby Davey" comment was hilarious and I think that perked up the audience to pay a little more attention.

After the morning sessions, we broke off into two different conference rooms. I went to Session B. From that session, the talk that I enjoyed most was by David Lopez from GLAVCD. The passion in his speech about *aedes taeniorhynchus* was amazing. Reminds me of me and my love for my job. His tribute to Miguel was the cherry on top.

The next talk I thoroughly enjoyed was by Scott Schon of Placer MVCD. I've watched a few of his Small Unmanned Aerial System (SUAS, Drones) talks before but he really seemed to dial it in now. They have everything they need to treat 100s of acres in a day. Big enough truck to carry the drone, generator on board to charge batteries, and a two man crew to man the missions. Something maybe we should emulate in the future.

Tuesday had 3 talks that were memorable speakers, Greg White and his presentation on erythirol use mixed borax and bti for adult control. Something very safe to use. The next presentation was by Bridget Mooney and how to identify tracks between raccoons and opossums. My favorite one though, was by Stephanie Kurniawan and her presentation on Turkestan roaches, considering I breed dubia. Very good info on how this species native to asia as taking a foothold on southern California. All in all, great two days of vector education and technology. Im always happy to go to these as well as be a presenter.

Date: 2/6/2023
Dept Mgr Signature: 

Signed: 
Print Name: John Savage



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: Philip Shin Inspector 2

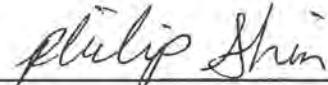
Name of Conference/Event: MVCAC

Date: January 29 – February 1, 2023

Location: Disneyland Hotel Anaheim, CA

After attending the conference of Mosquito and Vector Control Association of California I walked away with an immense appreciation of what we do as an organization at Vector Control. I started the conference by attending Session A with symposia mostly pertaining to the science and research behind Vector Control. 'New innovations' included talks on the different sterile insect techniques including Wolbachia, radiation, and Oxitec's self-limiting gene technology. Great potential with SIT programs were advertised in these talks, which gave us a bright future in controlling invasive aedes mosquitoes. It was exceedingly informative to see the different departments come together at this conference to present their work. This conference has shown me the technological advances made by the labs through SIT, social media coverage and advertising tools used by communications, and the different surveillance methods used by operations. I was impressed by Madera County Mosquito and Vector Control District's talk on PG&E utility vaults. Hearing about the whole collaboration process between PG&E and MCMVCD was a highlight presentation for me. Proving cooperation is possible between David and Goliath. In the end, I am grateful that everyone from our district was able to attend the conference to increase the knowledge in our line of work.

Date: 2/2/23
Dept Mgr Signature: 

Signed: 
Print Name: Philip Shin



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: Jerry Sims, Operations Supervisor

Name of Conference/Event: MVCAC 2023

Date: January 30-31, 2023

Location: Anaheim, CA

A variety of SIT (Sterile Insect Technique) technologies were presented in the New Innovations In Mosquito Control presentations, Hosted by Mustafa Debboun of Delta MVCD and Angela Caranci of Northwest MVCD.

The *Wolbachia* method involves infecting colonies of reared male *Ae. aegypti* mosquitoes with a naturally-occurring bacterium and then releasing them into a target area. When infected male *Ae. aegypti* mosquitoes mate with wild female mosquitoes that do not have *Wolbachia*, the eggs will not hatch. The *Wolbachia* bacterium also has virus-blocking properties.


The Oxitec method involves genetically modifying male *Ae. aegypti* mosquitoes. The GM mosquitoes are released into a target area and pass on a lethal gene when they mate with female mosquitoes in the environment, thereby reducing the population. Since the Oxitec mosquitoes are a true genetically modified product, significant outreach and education must occur to stem public concerns.


The classic SIT techniques uses radiation to sterilize insect pests. This technique has been used since the 1950s to control insect pests, including fruit flies and the screwworm fly. Male mosquitoes are reared and sterilized using the same radiation found in X-rays. Males are then regularly released to mate with wild females. The resulting eggs will not hatch. OCMVCD is currently collaborating with GLAMVCD to produce the sterilized male mosquitoes and conduct trials in the field.

As the Operations Supervisor here at OCMVCD, I appreciated the Inspection and Enforcement of Unmaintained Swimming Pools symposium, moderated by Eric Haas-Stapleton of Alameda County MAD and Marty Scholl of Sac-Yolo MVCD. Gaining access to properties which feature neglected water features, such as green swimming pools or multitudes of water-retaining containers is a challenge across the vector control industry. Balancing public health concerns with the 4th Amendment right to privacy

enjoyed by US citizens must be considered when approaching the property of an unresponsive or uncooperative resident. Panelist from other VC districts described the various entry warrant processes they currently utilize as well as aerial surveillance and other legal vantage point issues. Abatement procedures were discussed with all agreeing such measures may be lengthy and onerous. During the discussion it became clear that OCMVCD has an effective and relatively robust warrant process, involving both a general area warrant as well as a force entry option (subject to approval by an OC Court judge). Such tools are invaluable to mitigating significant vector sources in residential areas.

I particularly enjoyed the 100 Years of Responding to Plague in Humans, Animals and Fleas symposium, moderated by Laura Kreuger of OCMVCD and Bob Cummings of OCMVCD. An overview of bubonic plague outbreaks in San Francisco and Los Angeles in the early 20th century were presented by historians Nayan Shah of USC and William Deverell of USC. Archaeologist Marc Beherec discussed his findings doing excavation work at the sites of the Los Angeles outbreak, where about 2 dozen residents died. The response of public officials at the time, particularly in Los Angeles were surprisingly effective, involving quarantine of certain neighborhoods while arranging services and support for affected residents. Evidence of numerous home remedies and self-care attempts were discovered during the archaeological excavations. Local media and public records of the time also displayed the demagoguery and racial animus of some public officials. The discussions were fascinating, drawing parallels to the recent Covid-19 pandemic of today.

Date: 2-7-23
Dept Mgr Signature: 

Signed: 
Print Name: JERRY SIMS



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: Dustin Gobel Vector Control Inspector 1

Name of Conference/Event: MVCAC

Date: January 31, 2022

Location: Disneyland Hotel


This week I had the privileged of attending my first MVCAC conference. Being allowed to attend this annual conference gave me a unique opportunity to listen to many experts give presentations on a variety of topics in this field. Attending this event played an essential role in my development as a Vector Control Inspector. Some of the key takeaways from this conference include networking, continued education, and knowledge on advancing research.


Attending MVCAC gave me the chance to meet and network with others in my field. Not only did I get to know colleagues from other Districts but got a chance to meet some of the leading experts. Expanding my network provides me with additional resources and colleagues I can reach out to in my future career for career advice, industry questions, and even mentorship.

Having the opportunity to listen to such a variety of topics has helped me to realize how important continuing education is. As a newer employee and in such a fast-growing career, I am reminded of how much I still have to learn. Attending these sessions has motivated me to continue learning every day while on the job and in Continued Education courses. I also learned more about my future development and the possibility of obtaining a Public Health Entomology Certification later in my career. I am also reminded to constantly evaluate myself and the procedures to make sure we are doing the best for our community and not causing any negative environmental impacts.

I especially enjoyed learning about all of the SIT information. Knowing that it is an important part of the Orange County District's future, I feel better prepared to answer any questions I may receive from members of the community. I have a good foundation of knowledge as our District moves forward with the program. I am also reminded of the importance of collaboration among our Districts. We may all be individuals in the field, but communication and collaboration are essential amongst the Districts and within the community in order to succeed.

I am so grateful that the Vector Control community holds such important conferences and that we were all given the opportunity to attend. It is such a good experience for staff at all levels and I look forward to additional future events.

Date: 3/22/23
Dept Mgr Signature: 

Signed: 
Print Name: Dustin Gobel



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 decimate 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: 02/02/23 - 02/03/23

Location: Disneyland Hotel Ball room

The 91st Annual MVCAC conference was very enlightening, it provided a wide range of fascinating subjects, ranging from Malaria abolition in Africa to the screw fly eradication, the paw prints identification and the how to increase outreach and classroom engagement.

The Malaria session spoke about the method that was used for eliminating this disease which consisted of a genetic approach by engineering mosquito geonomics to be incapable of harboring this potentially deadly disease. This was particularly exciting because it is something that can perhaps one day be done with our local species that spread West Nile Virus. The other interesting session was the one concerning sterile insect procedure that was implemented to exterminate the screw worm because it was effectively accomplished before this pest significantly devastated the cattle industry. This too was quite exhilarating for the reason that the sterilization of the invasive species is in the early stages and the screw worm success story can be referenced to possibly aid in the process to accomplish the same results.

The presentation titled "Paw-Sible Knowledge" provided by Bridget Mooney encompassed how to differentiate paw prints, from opossums, racoons and skunks. It was stimulating since not only was it well presented but it was informative for the reason that occasionally when out in the field, I am asked by residents to identify paw prints. Finally, the presentations that entailed improved outreach and classroom engagement gave recommendations to better develop interactions through interactive activities. This session I found inspiring because it gave me ideas on how to be captivating kids and adults attention while educating them of vector and vector borne diseases which I can use when doing outreach events or interacting with residents during inspections. Overall, being able to attend the conference gave me great satisfaction to learn the innovative control that has been accomplished in the past years to present and the new technologies that will take us to the future.

Date: 2/21/23

Dept Mgr Signature:

Signed:

Print Name:

Cesar Sanchez



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: Eddie Sanchez, Customer Service Representative

Name of Conference/Event: 2023 MVCAC Conference

Date: January 30th, 2023

Location: Disneyland Hotel

Attending this year's MVCAC Conference was extremely informative and taught me about the different technologies and methods being used across the state by other Vector Control Agencies. My biggest takeaway from attending the conference was learning more about the different elements to vector control. I am now able to answer questions in greater detail and with more confidence. Whether it is giving people more insight on Sterile Insect Techniques or on how to protect themselves from mosquito bites. I have more tools to use to educate the community within my position at the District.

Out of all the informative sessions, the *Operations Applications in Mosquito Control* stood out as my favorite group of seminars. It equipped me with invaluable knowledge on treating larger bodies of water effectively, tracking West Nile Virus through surveillance and measurement, and implementing measures to prevent the spread of local outbreaks.

In addition, I gained insights into the significance of education outreach and why it is vital to educate the public about mosquito breeding grounds. One of the speakers highlighted issues they found while conducting surveys stating that there are still many individuals who remain unaware of potential breeding sources. Armed with the newfound information, I can incorporate certain elements from the sessions into my role to help educate residents on breeding sources.

Overall, attending this conference provided me with a refreshed perspective on the fight against mosquitoes. I am looking forward to next year's conference to see what new techniques are being applied and what take aways I can gain from it.

Date: 02/14/2023

Signed: Eddie Sanchez

Dept Mgr Signature: Lora B. Young

Print Name: Eddie Sanchez



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: Andrea Reeves, Customer Service Representative II

Name of Conference/Event: 2023 MVCAC Conference

Date: 01/31/22

Location: Disneyland Hotel

This was my first attendance at the MVCAC Conference which was held at the Disneyland Hotel this year. The conference was very informative, and I really enjoyed getting to meet vector professionals from different agencies. The conference is an opportunity for agencies to share new innovations and discuss the control efforts that are having a successful impact in our communities.

I attended sessions regarding pesticides and pesticide use which evaluated insecticide application methods, product rotation, and examined pesticide resistance. This knowledge is extremely valuable to our operations and determining the best procedures and tools for long term control. These sessions explored current techniques and modifications that have been effective and investigated methods that may need to be developed in the future. Knowing this information helps me understand the operations of the District and is beneficial when speaking to the public.

As a member of the communications team at the district, I participated in sessions that aligned with my role. Among these, the ones that I focused on the most were the community outreach presentations. One of the presentations that stood out was “**Building EXTRA-ordinary campaigns: Best practices to enhance fight the bite messaging.**” The presenter Luz Maria Robles described their District’s programs and how they played a critical role in establishing connections with and educating the public with innovative and effective strategies. The sessions emphasized successful efforts that have achieved Communication Department’s goals and enhanced the learning resources available in education programs.

Overall, attending the MVCAC Conference was an amazing experience where I was able to learn and interact with people who are passionate about Vector Control and Public Health.

Date: 02/15/23

Signed: Andrea Reeves

Dept Mgr Signature: Lora B. Young

Print Name: Andrea Reeves



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: Heather Hyland, Public Information Officer

Name of Conference/Event: 2023 MVCAC Conference

Date: 1/29-2/1, 2023

Location: Disneyland Hotel

The MVCAC Conference at the Disneyland Hotel was a great way to connect with other California agencies. The conference itself has so many resources and valuable information that can be integrated into projects at OCMVCD. Observing what other agencies are implementing into their operations can bring new ideas and collaborative efforts in the future of vector-related issues.

I also had the pleasure to participate in the Trustee training and tour. The presentations were very informative and engaging and the tour in Newport Beach's Back Bay area was a great way to visually show the trustees the hard work and dedication that goes into Wide Area Control projects.

I attended sessions in correlation to my position at the District. I was updated and educated in new approaches to technology, research, and data throughout the state.

The sessions included these topics: New Innovations in Mosquito Control, Operations and Applications, Vectors and Vertebrate Vectors, Pesticides and Pesticide Use and Community Outreach.

The most interesting and informative session I attended was the "***Aedes taeniorhynchus* control efforts in the coastal salt marshes.**" David Lopez was the author and presenter. Learning more about the control efforts and complaints from residents surrounded by marshes and wetlands gave me new ideas in terms of notifications to residents when we conduct wide area control.

David Lopez partnered with OCMVCD staff to help mitigate the issue with these aggressive aedes mosquitoes. Seeing the collaborative efforts of two large agencies working together was wonderful to see and a great reminder that our sister agencies can accomplish so much more together.

I presented at the Community Outreach session with a talk titled "All aboard the campaign train: Getting cities en route to effective mosquito control". We received positive feedback with the research, data and information given.

OCMVCD hosted an insect photography workshop as the host agency. Many Districts attended and we had rave reviews. The committees want to bring it back. I learned so much and intend to bring the knowledge I learned from the workshop into cataloging our own specimens at the District with updated visuals.

To witness the different departments coming together to share ideas and connect is such a great way for agencies to help one another.

Overall, I felt the meetings and sessions were very successful and had me walking out of the conference confident about a new year in the Vector Control and Public Health world.

Date: 2/4/2023

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

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: Brian Brannon, Communication Specialist

Name of Conference/Event: 2023 MVCAC Conference

Date: 1/29-2/1, 2023

Location: Disneyland Hotel

My first MVCAC Conference, held at the Disneyland Hotel from January 29th to February 1st, was an illuminating and professionally fulfilling experience. The event provided substantial opportunities to connect with vector control professionals from throughout the state and learn about innovative and region-specific approaches to mosquito and vector control. Meeting new people and spending time with colleagues from OCMVCD also reinforced my belief in our mission and the vital work we do to prevent the spread of disease.

The sessions I attended helped increase my knowledge and understanding of field work, lab work, public outreach, and communications. Specifically, the presentations I most enjoyed included “Genetic Approaches to Controlling Mosquitoes and Mosquito-borne Pathogens,” “Rice Field Mosquito Control: Challenges and Strategies,” and “Inspection and Enforcement of Unmaintained Swimming Pools.”

The presentation that I took the most out of was “A Sterile Insect Technique Success Story: The History of the Primary School Worm Fly and the Cattle Industry.” Learning about the sheer scope of this program, which dates back to the early part of the 1900s, and how it succeeded in eradicating Screw Worm Flies throughout the U.S., Mexico, and Central America, demonstrated the power of integrated vector management – including education and outreach – to make a dramatic impact on the lives of people, livestock, and wildlife. Even more, it showed the potential of SIT to solve mosquito problems within our own District, and the part that communications will play in educating and informing residents and government officials.

I also had the honor to present on behalf of our District during the Community Outreach sessions with a presentation titled “Beyond the Booth: Increasing Engagement through Interactive Activities,” which seemed to be well received.

The ability to meet and network with colleagues throughout the state, while learning more

about new initiatives and proven techniques, had immense personal and professional benefits for me as I continue to grow as a Communication Specialist at Orange County Mosquito and Vector Control District. I very much look forward to attending my next conference.

Date: 2/9/2023

Signed: Brian Brannon

Dept Mgr. Signature: Lora B. Young

Print Name: Brian Brannon



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: Luan Ngo - IT Manager

Name of Conference/Event: MVCAC Annual Conference

Date: 1/30/2023 – 1/31/2023

Location: Disneyland Hotel

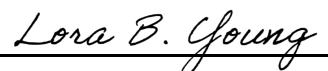
On Monday Jan 30th and 31st, I attended the MVCAC Annual Conference that was held at the Disneyland Hotel. I attended several talks covering interesting topics from DNA gene splicing for mosquito to resist diseases to help prevent disease transmission to methods to measure the success of an outreach campaign. I also served as a panelist on a two hour discussion on unmaintained swimming pools where I shared my experience on my negotiation with a prominent up and coming vendor, Nearmap, and the successful journey I took with 7 other Districts to reach our current contract agreement that will benefit big and small vector control districts across California. The goal was to ensure a pricing structure that would be financially affordable and thus we adopted a tiered cost structure that would be dependent on a District's annual budget. The contract would ensure small districts will be afforded the same services as large districts but at 1/3 the price. With 8 agencies collectively bargaining with Nearmap, we were able to increase our bargaining leverage and achieved our goal.

While at the conference, I was also able to meet with different technology vendors. VMAC was a vendor that I had an extensive conversation with because they provided a product that might be beneficial to our District. Depending if the price is affordable and the product meets our expectation, I might reach out to them for a proof of concept on their truck mounted treatment tracking system.

Overall, the annual MVCAC conference was a great learning experience. I was able to meet different vendors and colleague from nearby vector agencies. It was a great educational opportunity to learn about what technologies other agencies are using and how we address similar issues in our own creative ways.

Date: 2/2/2023

Signed: 

Dept Mgr Signature: 

Print Name: Luan Ngo



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: Jennifer Santijaroennon (Data Application Specialist)

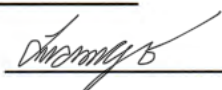
Name of Conference/Event: MVCAC 2023

Date: January 31, 2023

Location: Disneyland Hotel, Anaheim

This MVCAC conference was educational and informative. The Inspection and Enforcement of Unmaintained Swimming Pools session showed other district's procedures of handling green pools. I learned there are similarities in the processes with mailing out the pool letters and the mapping technology used to effectively determine troubled pools. The technology used was a collaborative effort between other districts. It is great to see other mosquito and vector control districts sharing information and resources. What distinct our pool inspection process from the others is that our inspectors make an effort to get to know the homeowners and build a relationship with them. In the Vectors and Vertebrate Vectors session, it was interesting to see the researches done and learning about new vectors. One presentation was about identifying the animal from a possum, raccoon, and skunk by their different characteristics of paw prints. These vectors are common, and it is useful in recognizing them when one is out in the field or at home. Another session held, was about the history of plague and how it still exists today in different parts of California. Humans usually get plague after getting bitten by a rodent flea or infected animal but is treatable with antibiotics promptly. Another session held at the same time was about community outreach. Three of our communications staff had a presentation on different topics that I thought were very engaging. This gave an insight on the work that they do, as well as other districts campaigns in reaching their communities. I think conferences like this one, is a great way to share the processes, technology, research, and strategies. We can take the relevant resources and try applying it to our own district.

Date: 2/09/2023

Dept Mgr Signature: 

Signed: 

Print Name: Jennifer Santijaroennon



Orange County Mosquito and Vector Control District

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Conference and Meeting Report

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Staff Name and Title: _____ Jodie D. Stoddard, Information Technology Coordinator

Name of Conference/Event: _____ MVCAC 91st Annual Conference

Date: _____ Tuesday, January 31, 2023

Location: _____ Disneyland Hotel, Anaheim, California

I would like to point out that the short informational talks was a brilliant idea. You get good information that can be remembered and used at work and in the field. It keeps you awake and paying attention as each person brought new and relevant information which was easy to absorb. I also enjoyed being able to see so many presenters and their differences in their presentations.

The Inspection and Enforcement of Unmaintained swimming pools had a great panel and they covered how each entity is handling their residents as well as the technology they are using. Residents can be easy or difficult to deal with and each situation can result in any sort of outcome and as a technician, it helps to have the trust and respect of the residents in your area. Each panelist had their own take on the questions being asked and all had interesting answers. The mapping programs we are all using have come a long way and the collaborative efforts are proving to be beneficial. It has been a learning experience for our agency to be participating in this collaboration.

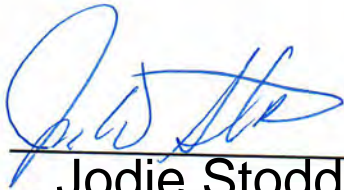
Vectors and Vertebrate Vectors speakers were very engaging and kept our attention. From the rat movements and Turkistan cockroaches in Alameda county to differentiating paw tracks and the ever persistent *Aedes aegypti*. The information was light but educational. I will never forget the difference in the paw tracks of a skunk, raccoon, or opossum again. I have the knowledge to know the difference and what potential threats or rodents we are dealing with. It's always exciting when you hear about new species being found. Joaquin County MVCD has found and have clearly identified the different characteristics in this possible new Black Fly species.

Contra Costa has finally found *Aedes aegypti* in their county and are just starting to realize what we have all been going through. It's lucky for them that there are several other Districts who have had several years of experience that they can share with them so they can build their *Aedes* program more quickly than some of the front runners. Salt Lake City MAD discussed their third year with *Aedes* in Moab Utah and what they are doing to keep their numbers down. Our very own Daisy Rangel went over our positive mosquito testing for dog heartworm in Orange County which provides more support for the need to remove standing water to keep your families, pets, and neighbors safe.

100 Years of Responding to Plague in Humans, Animals, and Fleas in California was extremely interesting and educational. The number of experts who gave talks on this was exceptional. They literally covered it in order of timeline and the photos and old ways of control were not only shocking but educational. What we have learned over almost a century is eye opening. The old practices including the over-use of chemicals and resistance, lack of protection, and burning homes and land is terrifying. We have come a long way since the early 1900s. The surveillance programs involve lots of rodents and flea counting and testing. Without these various programs, knowledge, and dedication to public health, we would certainly revert back to the dark ages.

Date: 2/14/23

Dept Mgr Signature: 

Signed: 
Print Name: Jodie Stoddard

“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."