

Dengue in the Golden State

Our Operations Guide for Multiple Local Cases

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MVCAC 93rd Annual Conference – Oakland, CA

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San Gabriel Valley Mosquito and Vector Control District



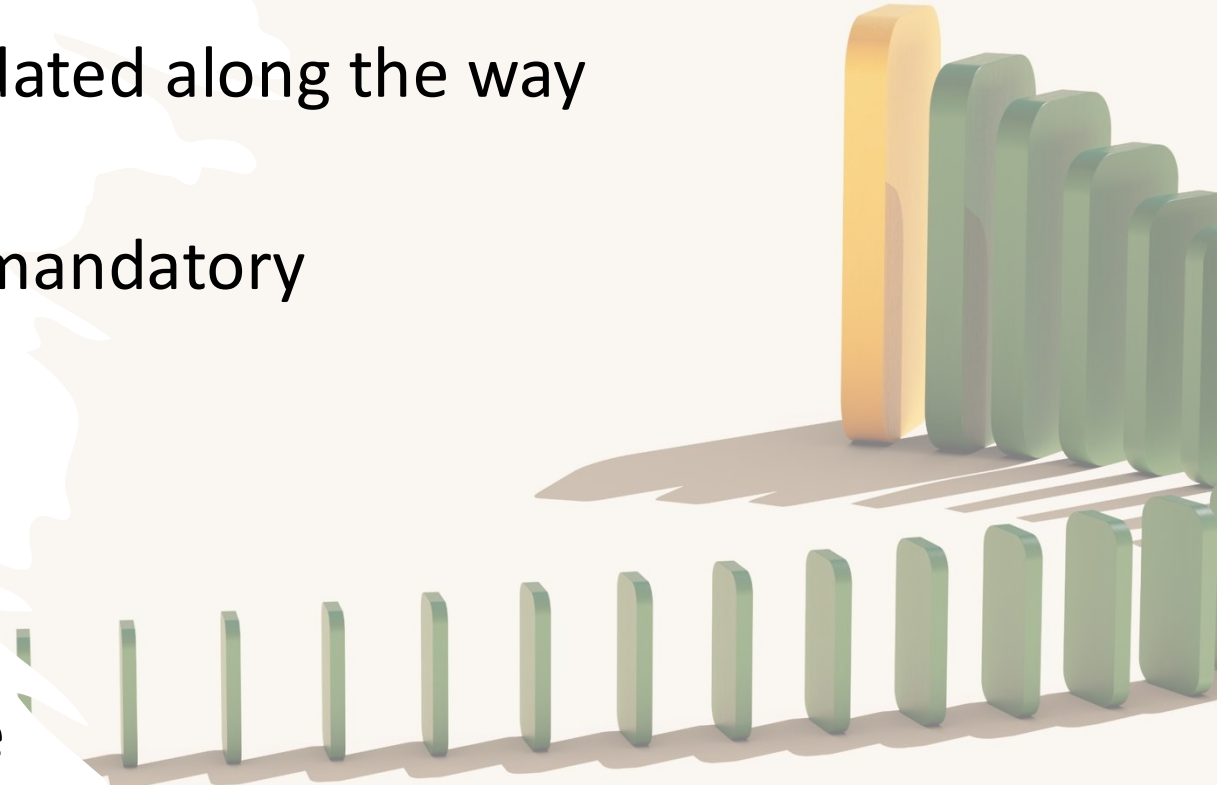
Problem Overview

Dengue cases in California are increasing:
27 travel-related and **11 local cases**, in 7 target areas identified

- **Strategies** Revising programs
- **Resources** Considering needs and limitations
- **Risk** Protecting the team
- **Sustainability** Adjusting for the District's future

Interdepartmental Communication

- Ensure invested participants are updated along the way
 - Initial notification/activation of mandatory response
 - Key decisions and updates
 - Incident debriefing for each case



Train, Encourage, and Trust

- Providing training, and encouraging feedback enhances their commitment
 - Empowering them to actively participate
- Trusting they will do their best to protect the public and relay the appropriate messaging



Enhanced Neighborhood Support

- Reverse 3-1-1 approach
 - **Local government bring services and information to the public**
 - 3 Inspection request visits
 - Initial attempt
 - Next day
 - Saturday
 - 1 Inspection request letter
 - 1 Area-wide warrant inspection



Jason Farned, MPA

*Dengue in our Backyard:
Insights and Innovations from
2024*



Backpack Treatments

- Same day adulticide treatments after inspections
- Schedule appointments if there are time limitations
- Avoiding treatment overlaps with multiple teams
 - Send addresses for treatment to assigned coordinator
 - Coordinator assigns treatments to staff



Area-wide Treatments

- Back-to-back truck-mounted ULV treatments, with one larvicide treatment, Wide Area Larvicide Spraying (WALS)
 - **Mosquito abundance threshold**
 - Avoiding overtreatment from label limitations



DAY 1	DAY 2	DAY 3
ULV/WALS Treatment	ULV Treatment (ULV 1/WALS BACKUP DAY)	ULV 2/WALS Treatment Backup Day

Tristan Hallum, MPH
*Out for Blood:
Standardizing Local Dengue
Case Monitoring*



Overtime

- Friday – 4/10 regular day off
- Saturday
- Sunday (only if needed)
 - ENS inspections/treatments
 - Other mandatory response and/or existing program work



Scheduling

- Adjustments needed as each new case arrived
- Created a calendar
 - Overlap
 - Staffing, treatment weather, and label restrictions
- Knowing our staffing needs
 - Allocating for programs

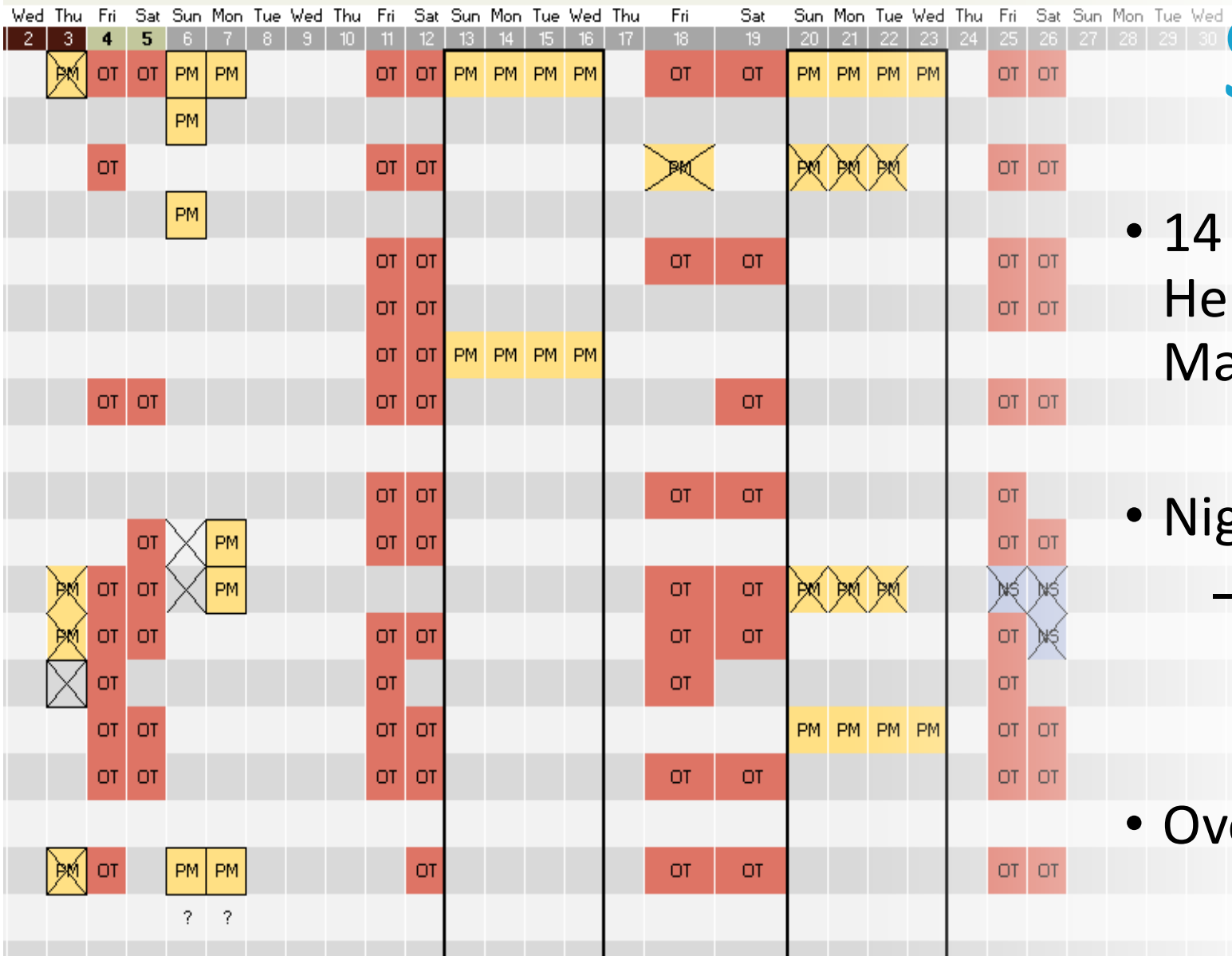
Scheduling

		[TRAVEL / HIGH RISK / LOCAL]	9/30	10/1	10/2	10/3	10/4	10/5	10/6	10/7	10/8	10/9	10/10	10/11	10/12	10/13
			Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
[CITY1/AREA 1]	High Risk			D/H BPT 4	ENS 1 BPT 8	ENS 2 BPT 3		ENS 3 BPT 3		TMT 1 4	TMT 2 Letters 4					
[CITY2/AREA 1]	High Risk										D/H BPT 5	ENS 1 BPT 5	ENS 2 BPT 3		ENS 3 BPT 3	
[CITY1/AREA 2]	Local											D/H BPT 8	ENS 1 BPT 7	ENS 2 BPT 6	ENS 3 BPT 6	
[CITY3/AREA 1]	Travel													D/H 1		

		10/14	10/15	10/16	10/17	10/18	10/19	10/20	10/21	10/22	10/23	10/24	10/25	10/26	10/27
		Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
[CITY2/AREA 1]	High Risk	TMT A Letters 4	TMT L Letters 4	TMT A 4	No further action-no public press release has taken place to notify the public										
[CITY1/AREA 2]	Local	TMT A Letters -	TMT L Letters -	TMT A -											
[CITY3/AREA 1]	Travel	ENS													
[CITY4/AREA 1]	Travel	2													
[CITY1/AREA 3]	PR [DATE]			D/H BPT 6	ENS 1 BPT 4	ENS 2 BPT 3	ENS 3 BPT 3		TMT L 4	TMT A 4	TMT A 4				

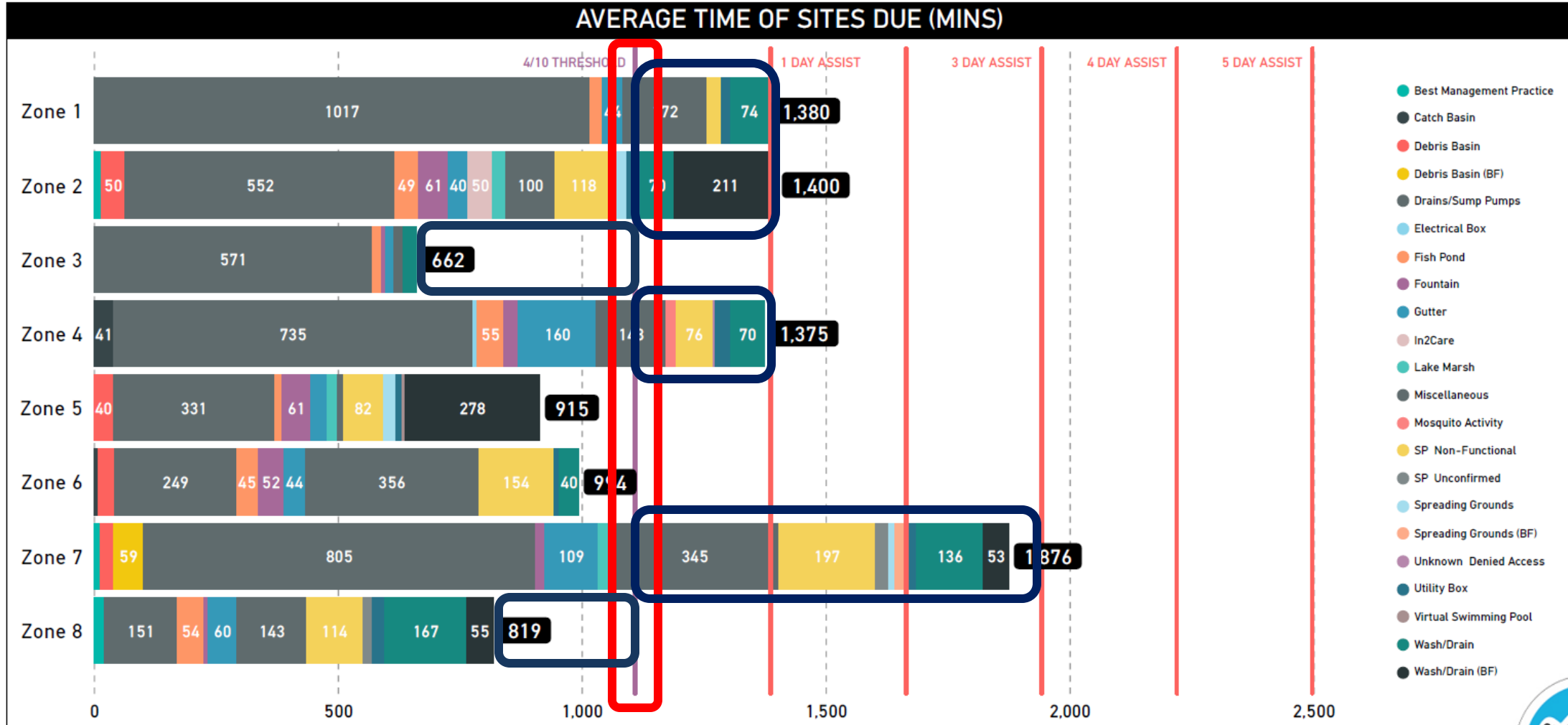


Staff/Time



- 14 Full-time Specialists, 10 Extra-Help Technicians (4/10s started March '24)
- Night shift
 - Area-wide Treatments
 - Underground Treatments
- Overtime (31 Days, 179 shifts)

Future Forecast Metric



Software

- Data management – Mapvision
 - Tracking response progress like access results, letter/warrant properties, and treatments
- Hourly forecast – Weather.com
 - Subscription extends hourly forecast from 48 to 192 hours
- **Business intelligence – Power BI**
 - Direct connection to data for reports

- Using excel worksheets for treatment calculations



Jung Ma

*Creating Reports in
Microsoft Power BI using
the VectorSurv Gateway*



Mosquito Products

- Amounts to cover standard area (250 AC)
- We had 3-4 area-wide treatments ready
- Mid-season reorders to restock

- 20 Gal Aqua Duet
- 775 Lbs Vectobac WDG
 - 17 Area-wide (Truck)
 - 391 Backpack

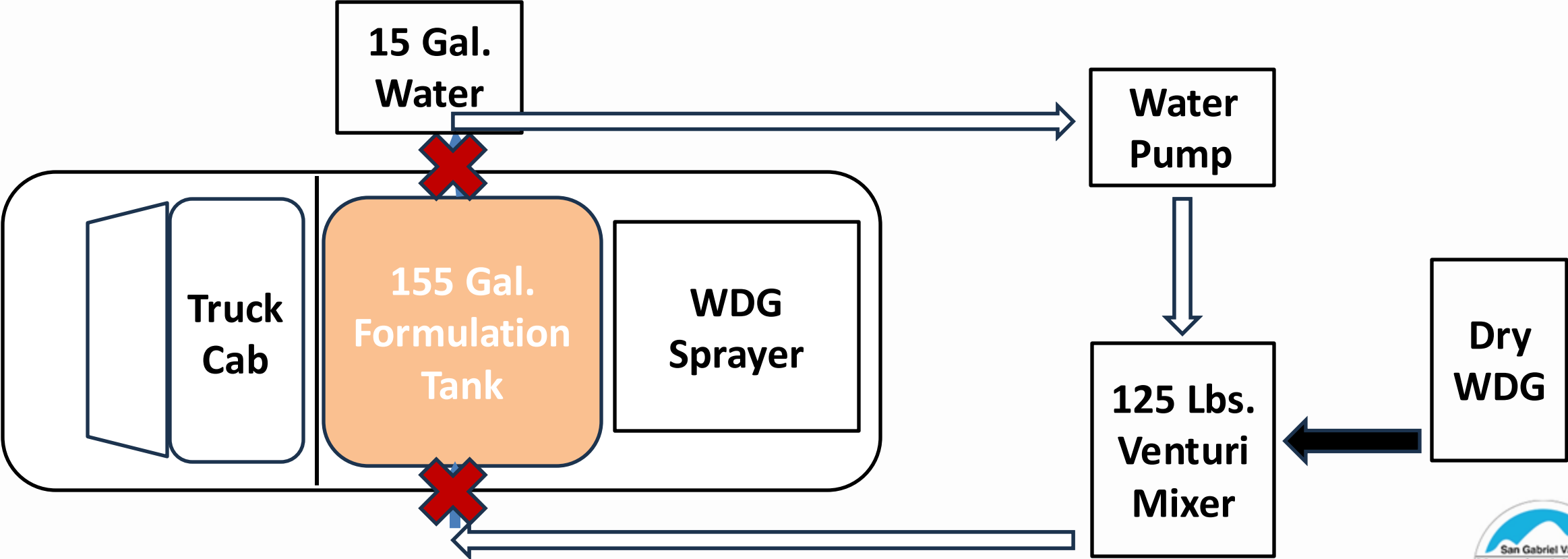
4,722 AC
Treated

Equipment

- Truck-mounted
 - (1) Dyna-fog LV-8(Larvicide): 155 Gal. tank, & agitation pump
 - (1) Venturi mixer
 - (2) Clarke Promist (Adulticide)
- Backpack/handheld
 - (4) Dyna-fog Twister XL3
- Spare equipment or replacement parts

Equipment Cont.

LV-8 & Venturi mixer: Quick disconnects to avoid a separate mixing tank



Employee Burnout

- **AVOIDING BURNOUT!!**
 - Fostering a collaborative team environment
 - Everyone is in this together
 - Accomplishments are the results of the team
 - **Supportive work environment to empower everyone**
 - Request feedback
 - We do this because we care about the public



Marco Gaytan
*Empowering
Improvement: Building
Growth through
Supportive Field
Evaluations*



Employee Burnout Cont.

- 100+ temps
- Non-stop
- Rest day
- Sick time



Door Knocks

- Increased resident exposure
 - Multiple Attempts
- Be ready for residents
 - Everyone has a bad day
 - Verbal threats



..PLEASE??

Lessons & Improvements



Lessons & Improvements

- Find a bigger knocker
 - Used a letter and warrant to gain access/response
 - Reduced the total access attempts
 - Brought law enforcement for inspection warrants



Lessons & Improvements Cont.

- Slowing the same day response
 - Allow team to focus on existing tasks or known routines
 - Recall updates the next morning
 - Full plan avoids interruptions or pending queues



Lessons & Improvements Cont.

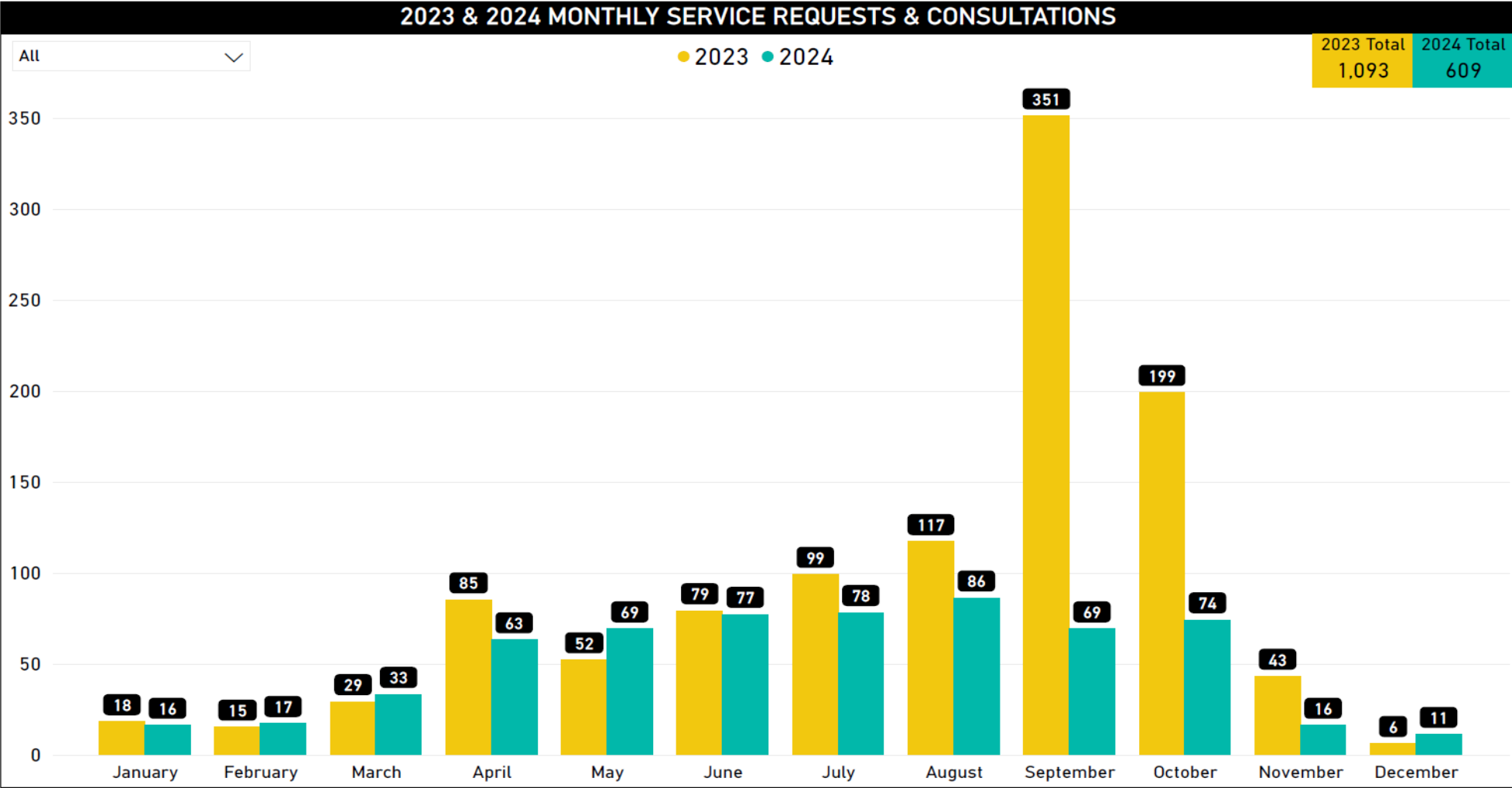
- Considering standard night shift
 - Pairing with underground storm drain treatments
 - Avoiding double shifts

DAY 1	DAY 2	DAY 3	DAY 4
ULV 1 Treatment	ULV 2 Treatment (ULV 1 BACKUP DAY)	WALS Treatment (ULV 2 Backup Day)	ULV/WALS Treatment Backup Day

Lessons & Improvements Cont.

- Overtime is a temporary solution
 - Predictive measurements to start shifts ASAP
 - Approving time for the month, not each week

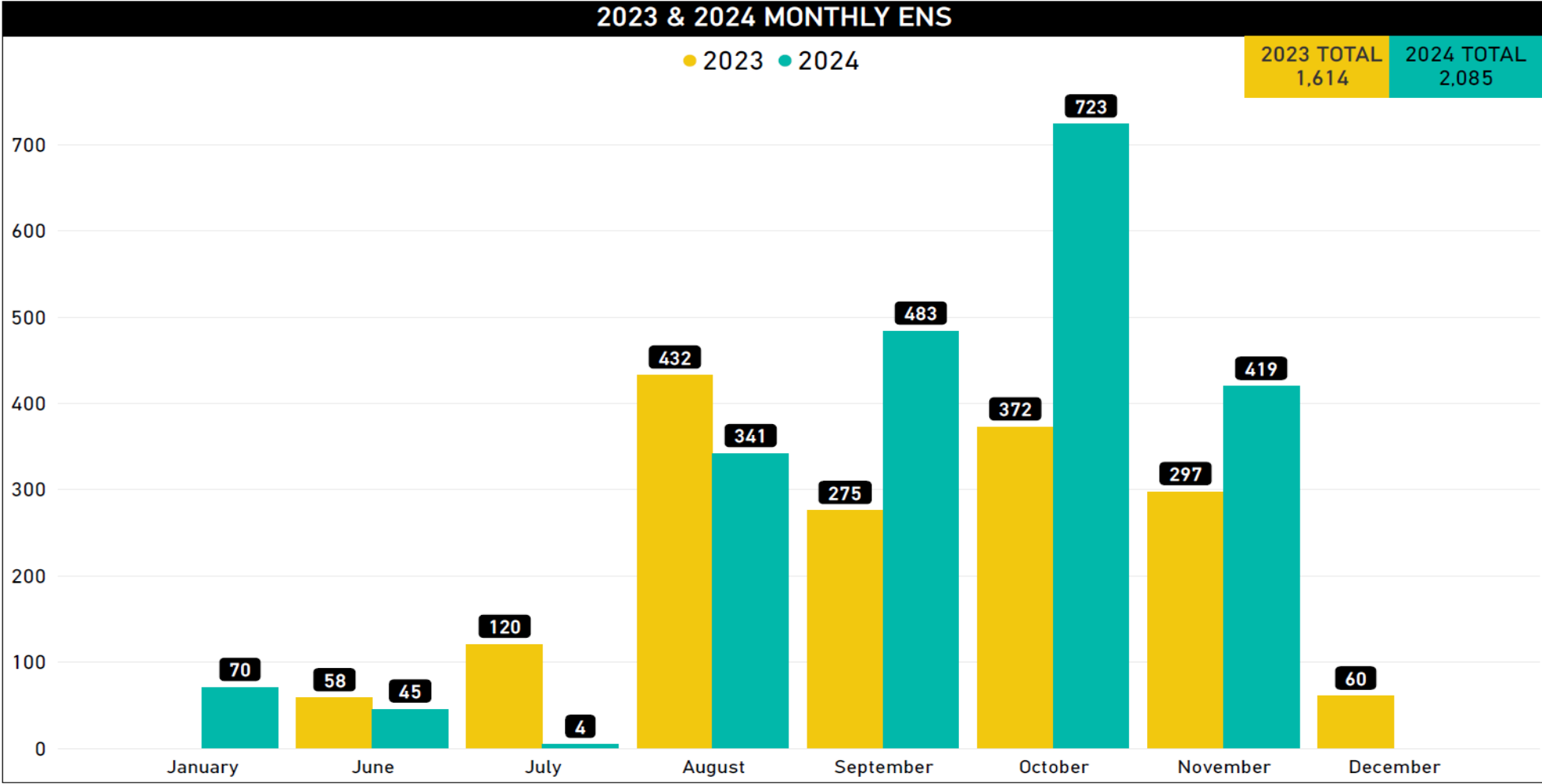
Measurements



Lower Service Requests and WNV activity/response for the year (2024)



Measurements Cont.



Increase in response hours for Dengue cases



Budget Considerations

2024 Operations Dengue Response Costs

Property Details	Target area #1	Target area #2	Target area #3	Target area #4	Target area #5	Target area #6	Target area #7	Total
Date Started	September 7	October 1	October 8	October 9	October 16	October 28	November 12	-

Door to door Response

Total Cost	\$18,556.14	\$5,856.23	\$5,544.29	\$9,781.21	\$6,317.71	\$7,996.98	\$6,437.85	\$60,490.41
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Truck Mounted Treatments

Labor	\$5,615.10	\$1,981.80	\$3,963.60	\$2,642.40	\$1,981.80	\$0.00	\$0.00	\$16,184.70
Pesticide	\$12,958.05	\$3,971.10	\$10,242.28	\$6,557.50	\$5,828.78	\$0.00	\$0.00	\$39,557.71
Gas	\$21.06	\$5.79	\$13.68	\$26.85	\$33.15	\$0.00	\$0.00	\$100.53
Total Cost	\$18,594.21	\$5,958.69	\$14,219.56	\$9,226.75	\$7,843.73	\$0.00	\$0.00	\$55,842.94

Total	\$37,150.35	\$15,739.90	\$20,537.27	\$17,223.73	\$13,388.02	\$5,856.23	\$6,437.85	\$116,333.35
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Concluding

- Problem:
 - Increased dengue cases (27 travel-related, **11 local**, 7 target areas)
- Strategies:
 - Communication, Scheduling, Overtime & Response Efforts
- Resource Management:
 - Staff, Equipment, Software Product
- Burnout Prevention
- Sustainability





KUDOS





THANK YOU

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Vector Control District

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