

TEXAS MOSQUITO CONTROL ASSOCIATION NEWSLETTER

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Eddie Ramirez identifying mosquitoes collected in Victoria County. Details Inside!

Editor – William Sames

Contributors – James Garcia

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About the Cover: Eddie Ramirez, Vector Control Supervisor, Victoria County Public Health Department, organized a mosquito collection activity after heavy rains in November. Story on page 9.



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James Garcia

Message from the President James Garcia

Hello, and happy Winter! As the old saying goes, Texas weather has a mind of its own. Now whether that is partially true or not, we do know that our vast geographic regions cover about every climate to make this saying have valid meaning.

Now, I hope most everyone faired OK during the recent ice storm that has encompassed half of the State. It's never a delightful scene when ice makes everything treacherous for traveling, or for our animals and everyday functions. With that being said, at least the mosquitoes are not out, right? Well, maybe for most of us, though I'm not going to count or mention our Gulf Coast nuisance biters that forgot to hibernate this winter. I'm talking about different species that thrive in cold climates and especially

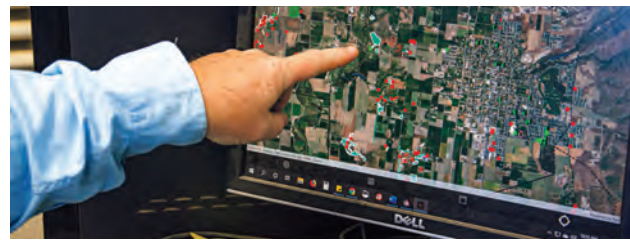
during this time of year when the snow begins to melt and runoff comes off the mountains into valleys, flatlands and creates a dire need for mosquito control efforts at 35 degrees! I've encountered this phenomenon out in the western states, specifically the Owens Valley Plateau (California) where countless numbers of nuisance species molt from snowmelt pools after their eggs survived the harsh winter temperatures. Nothing but quite amazing for not only the number of mosquitoes, but the fact that these pesky monsters survived such unforgiving conditions.

Another species that comes to mind for its cold weather fashion show is *Aedes pullatus*. *Aedes pullatus*, or sometimes called the black-clad mosquito or Alpine snowmelt mosquito is quite common in the far Northern hemisphere, and found in the higher elevations within Montana and Wyoming. Though not actually active during the winter, late spring and early summer months is when this species thrives when snow melts from mountains and overfills streams and flows into pasturelands.

Could you even imagine dealing with these with all the other nuisance and vector species we already have on the table? I always like to keep an open mind and think that it could always be worse, and to also prepare for the worst. Though even though this *Aedes* species with green and violet coloring on its legs is beautiful, I'd say we're fortunate to not have this one to meander with!

Wanted: TMCA Newsletter Editor

If you are interested in becoming the next Editor of the TMCA newsletter, please contact William Sames at mosquitodoctor@yahoo.com. William will continue to serve as Editor until replaced OR until December 31, 2023, whichever comes first. Since 2001, William Sames has served over 9 years as Editor or Assistant Editor of the TMCA Newsletter, and he is ready to give someone else the opportunity to release their creativity and take over the responsibilities of this publication.



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TMCA Administrative Notes

Publishing in the TMCA Newsletter. The TMCA newsletter is a medium for getting information to TMCA members. Newsletter content is based upon contributions from TMCA officers and members, and the newsletter subcommittee. If you have information of benefit to TMCA members, please submit that information to the TMCA Editor. Newsletters are published in January, May, August, and November. Photos and mosquito related humor are also welcomed. Consider submitting artwork or photos for a cover.

Advertise in the TMCA Newsletter. Advertising rates are \$50 for 8.5 x 11 inches page ad. Half page ads are \$30 (8.5 x 5.5) Submit copy ready artwork in MS Word or PDF to the TMCA Editor.

2023 American Mosquito Control Association Annual Meeting. The AMCA Annual Meeting is scheduled for 27 Feb-3 March 2023 in Reno, Nevada. Go to <https://www.mosquito.org/> for more information.

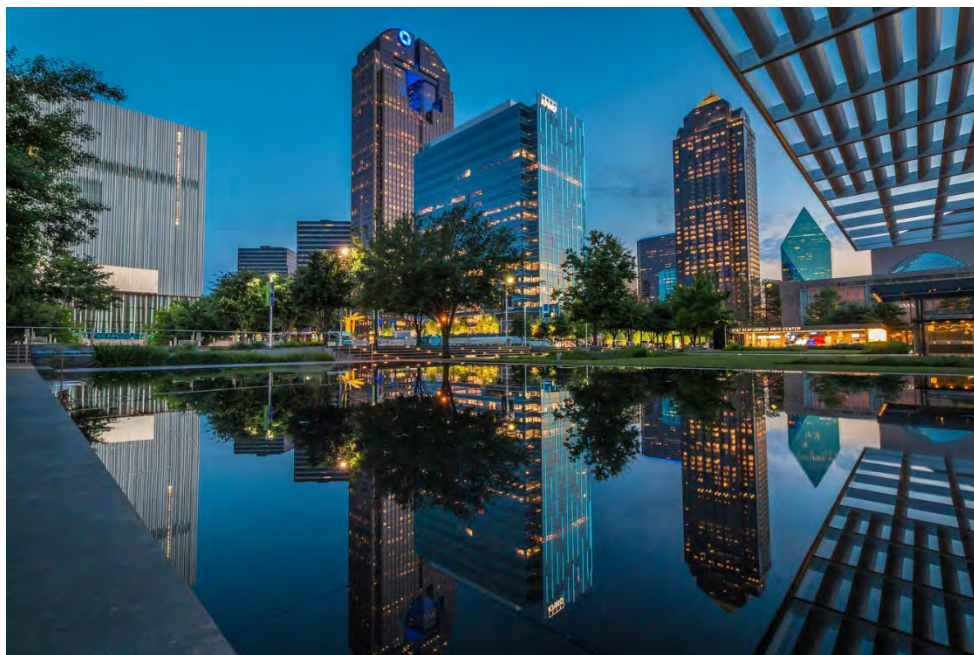
2023 TMCA Spring Workshop. The TMCA with Texas AgriLife will hold its Spring Workshop at the San Antonio Botanical Garden, 555 Funston Place, April 11-12, 2023. The meeting hotel is the Emily Morgan Hotel, 705 East Houston Street where a workshop social will be held on April 11th. See flyer in this issue for details!

Coordinating Info for the 2024 AMCA Annual Meeting in Dallas

The 2024 American Mosquito Control Association Annual Meeting will be in Dallas, Texas, March 4-8, 2024 at the Sheraton Dallas Hotel. It will be here before you know it!

The TMCA has host responsibilities associated with supporting this event. These responsibilities will be forthcoming in April or May as the AMCA contracts with the TMCA. There will be plenty of opportunities for your involvement. Meanwhile, mark your calendar for these dates and make plans to be there. Stay tuned for more information!

In early March, several TMCA members will attend the AMCA Annual Meeting in Reno. While there, they will be promoting the Dallas meeting, asking questions, and getting ideas on what and how we can things next year. I look forward to hearing their lessons learned next month. I'll be sure to post them in the May newsletter.



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Good Mosquito Stories from 111 Years Ago

Sometimes, it is just interesting and sometimes humorous to return to the old literature and read about life with mosquitoes back in those days. I found the following 2 stories in Howard et al. (1912) and decided to reprint it in the newsletter. The first is an example of mobilizing school children to combat yellow fever and malaria in San Antonio mixed with some subtle humor. The second is a story about mosquitoes and wind in Corpus Christi. So, sit back and enjoy the read.

From pages 426-427. "Under the general head of" Remedies" we have mentioned the efforts made by Professor Hodge, in Worcester, Massachusetts, to interest the school children of the city in the search for mosquito breeding-places. This must have been in 1901-2. But, the most serious and productive effort seems to have been made at San Antonio, Texas, a year or so later, at the initiative of Dr. J. S. Lankford, of that city.

In November, 1903, there were a few cases of yellow fever in San Antonio which caused several deaths, and a consequent interruption of commerce that cost hundreds of thousands of dollars. In the effort to allay the panic, the existence of yellow fever was denied, not only by persons having business interests in the city, but by many medical men as well. Very many adults not only denied the existence of the fever in the city, but denied the relation between the mosquitoes and the fever. Perhaps the majority of the adults seemed too old to learn; and to the enlightened physicians it appeared impossible to begin education at the wrong end of life.

The Chairman of the Sanitary Committee of the School Board (Doctor Lankford) grasped the happy idea that if the children were properly educated, sanitary matters in the future would be much better attended to. He suggested to the Board that it would be valuable to educate all of the school children of the city in prophylaxis and make sanitarians out of them all. The School Board heartily approved of the proposition, and the campaign was at once begun to educate the children on the subject of insects as disease carriers. The best recent literature on the subject was procured and furnished to the teachers, and a circular letter was sent to them outlining a proposed course and offering a cash prize for the best model lesson on the subject. Teachers became deeply interested. A crude aquarium, with mosquito eggs and larvae was kept in every school room, where the pupils could watch them develop; and large magnifying glasses were furnished in order that they might study to better advantage. The children were encouraged to make drawings on the black-board of mosquitoes in all stages of development; lessons were given and compositions were written on the subject. Competitive examinations were held, and groups of boys and girls were sent out with the teachers on searching expeditions to find the breeding-places. Rivalry sprung up between the ten thousand public school children of the city in the matter of finding and reporting to the health office the greatest number of breeding-places found and breeding-places destroyed. Record was kept on the blackboards in the schools for information as to the progress of the competition, and great enthusiasm was stirred up. In addition to these measures, a course of stereopticon lectures was arranged, grouping the pupils in audiences of about one thousand, from the high school down, and, in Doctor Lankford's words,

"It was an inspiring sight to watch these audiences of a thousand children, thoughtful, still as death, and staring with wide-open eyes at the wonders revealed by a microscope. It seemed to me that in bringing this great question of preventive medicine before public school children we had hit upon a power for good that could scarcely be overestimated."

The result of this work, it is pleasing to say, was a decided diminution of mosquitoes in San Antonio. There was some opposition among the people, but on the whole the movement was very popular. One result of this work was that, while previously there had been from fifty to sixty deaths a year from malaria, this mortality was reduced seventy-five per cent the first year after this work was begun, and in the second year it was entirely eliminated from the mortality records of San Antonio.

In organizing community work against mosquitoes, the school children hereafter must be counted upon as a most important factor. Almost every child is a born naturalist, and interest in such things comes to them more readily than anything else outside of the necessities of life. They are quick-witted, wonderfully quick sighted, and as finders-out of breeding-places they usually cannot be approached except by adults of special training. One of the first steps that a community should take is, therefore, to arouse the interest of the children in the public schools.

From Page 133. "Schwarz at Corpus Christi, Texas, in the late 90's wrote that at that place, "when the wind blows from any other direction than south, 'hundreds of thousands of millions ' of mosquitoes blow in upon the town. Great herds of horses run before the mosquitoes in order to get to the water, hut with a change of wind the mosquitoes disappear.'"

Reference

Howard LO, Dyar HG, Knab F. 1912. The mosquitoes of North and Central America and the West Indies Volume 1: a general consideration of mosquitoes, their habits, and their relations to the human species. Carnegie Inst Wash 1:426-427.

Collecting Mosquitoes in Victoria County – TMCA Networking

Eddie Ramirez, Vector Control Coordinator, Victoria County Public Health Department, was at the 2022 TMCA Annual Meeting in Galveston where he met Bill Sames, Editor TMCA Newsletter, and they discussed collecting mosquitoes in Victoria County, but only after a heavy rain. With the state being in what seems like a perpetual drought, this would be almost laughable if it was not so serious.

However, early November brought heavy rains to Victoria County and Eddie contacted Bill about mosquito collections. The collections occurred on November 9-10 and involved both larval and CDC light trap collections. It was a good opportunity to get started as Victoria County wanted to prepare for their mosquito surveillance program in 2023.

Eddie had arranged for collection sites in their area of jurisdiction and while out and about they found several more sites along roadways. They collected 9 species, see below for list, over the 2-day period and made plans for a return visit in the spring...of course, when it rains again.

Aedes aegypti

Anopheles pseudopunctipennis

Culex coronator

Culex nigripalpus

Culex quinquefasciatus

Culex restuans


Culex tarsalis

Psorophora columbiae

Psorophora cyaneescens



Left: Eddie Ramirez identifying *Culex coronator*; Right: Bill Sames described larval characters to staff members who came to view the specimens. Photos: Victoria County Public Health



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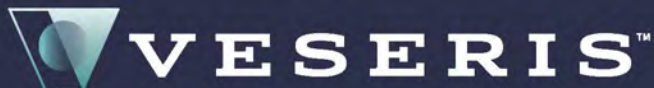
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2023 VECTOR MANAGEMENT CEU PROGRAM



Locations:

Victoria - February 22nd

Weslaco - March 10th

Rosenberg - March 22nd

*Grapevine - March 29th

*Registration will be through the Municipal Mosquito. Registration Fees may vary.

Tyler - April 5th

*San Antonio - April 12th

*Registration will be through the Texas Mosquito Control Association. Registration Fees may vary.

Abilene - April 21st

El Paso - April 26th

Houston - May 4th

Lubbock - May 9th

Iowa Park - May 10th

INFORMATION:

This program is designed to educate personnel in cities and municipalities that are in the field of vector abatement or are working on setting up a vector management program.

The recertification program will educate on mosquitoes, ticks, flies, fleas & bugs, control tactics, trap usage, surveillance, virus testing, and mosquito control.

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- 5 Animal Control CE's
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Two Free Mosquito Guides Available from the AMCA

AMCA supplemental training manual

Mosquito Management During a Public Health Emergency

The supplemental resource includes information regarding mosquito control in response to a water-related natural disaster or during increased risk of mosquito-transmitted disease.



The cover of the manual features a collage of images: a satellite view of a coastal area, a person in a field, a close-up of a mosquito, and a group of people. The AMCA logo is at the bottom, with the date 'September 2022'.

@AMCAmosquito

In 2022, the American Mosquito Control Association (AMCA) published a supplemental report on “Mosquito Management During a Public Health Emergency”. The supplemental includes information regarding mosquito control in response to a water-related natural disaster or during increased risk of mosquito-transmitted disease.

The document consists of two parts:

The first part describes a high-level overview of information required to effectively respond to a mosquito-driven public health emergency.


The second part describes in detail the steps an organization can take to create a customized emergency response plan for their area.

Recently updated from 2017 version by the AMCA expert advisory panel as part of the CDC sole-source contract for Establishment of Training and Certification Programs for Mosquito Surveillance and Control.

Pictures and information from AMCA website.

Documents may be accessed at: [Training and Certification - American Mosquito Control Association](#)

BEST PRACTICES FOR INTEGRATED MOSQUITO MANAGEMENT



AMCA
THE AMERICAN MOSQUITO CONTROL ASSOCIATION

November 2021

Early Access: *Journal of the American Mosquito Control Association*

Hot Off the Press! Well, not really, but it is cool that the *Journal of the American Mosquito Control Association* now provides early access to journal articles in advance of their official print publication. The site provides a copy of the article (minus final page numbers) of articles that have been accepted by the journal and which have completed the copy editor process. Readers can see what is coming out rather than waiting until it is printed, which may take another 2-3 months. Readers can then cite these articles in their manuscripts and be current on new research. Similarly, authors can review their paper and contact the copy editor for corrections prior to it being printed.

JAMCA Early Access is now LIVE! The Journal of the American Mosquito Control Association (JAMCA) is now publishing articles on a rolling basis! Enjoy early access to the latest JAMCA articles. Early Access is here >> <http://ow.ly/E8z950K7HMV> #AMCA #JAMCA



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**JAMCA Early Access
is now LIVE!**

The Economic Cost of Mosquito Resistance

Originally published in the
August 2022 edition of Public Health Landscape
www.publichealthlandscape.com

To account for the full economic impact of mosquito resistance, one must layer in the amount being spent on insect management and how much of that investment is lost to resistance, but also the economic impact of losses to the overarching objectives of a given program.

To calculate the impact, you must first calculate what is at risk.

According to the World Health Organization (WHO), vector borne diseases account for 17% of all infectious disease and more than 700,000 deaths annually. In this context; we research, analyze, and report on outbreak events and may consider the impact of resistance through that lens.

To do so, we must also account for variability between local and regional infrastructures, strategic and operational approaches to vector control, available technologies, the social and political climate of the areas affected, as well as surveillance activities and the quality of data coming from reporting systems, if any.

Extend this view to cross all geographies and vector borne diseases, and the complexity of calculations quickly becomes mind numbing. However, there is a simpler way to think about resistance that is even more pressing.

What is the cost of resistance when faced with a future (or imminent) epidemiological event?

What is the incremental cost of having to rely on tools that are somewhat, but not entirely ineffective?

Costs that manifest not only as dollars but also quality of life. Since the overarching objective of vector control is reducing the incidence of vector-borne disease, then any impacts of insecticide resistance on disease burden must be considered.



TMCA SPRING WORKSHOP

April 12, 2023

San Antonio, TX

Register for meeting at www.TexasMosquito.org

Workshop to be held at

San Antonio

Botanical Garden

555 Funston Pl, San Antonio, TX 78209

CEU class free for TMCA Members

\$100 fee for non-members



Rooms available at

The Emily Morgan Hotel

705 E Houston St

San Antonio, TX 78205

Group Rate: \$124 + tax per room/night



Social at The Emily Morgan Hotel

April 11th 5:00-7:00pm

Please make room reservations DIRECTLY with hotel by calling

210-225-5100 by Friday, March 17, 2023

and reference group name:

TEXAS MOSQUITO CONTROL ASSOCIATION

History of the San Antonio Botanical Garden

(Information from San Antonio Botanical Garden | (sabot.org))

HISTORY. The San Antonio Botanical Garden was first imagined nearly eight decades ago by civic influencers Mrs. R. R. Witt and Mrs. Joseph Murphy. Forty years of planning and partnerships finally blossomed on May 3, 1980, with the official opening of the Botanical Garden.

Since that day, the formal gardens and collections of native Texas plants have evolved to make the Botanical Garden one of the most noteworthy botanical centers in the state, educating and inspiring guests from around the world.

IDEA & DEVELOPMENT. Mrs. R. R. Witt and Mrs. Joseph Murphy conceived the idea of a Botanical Garden in San Antonio in the 1940s. Together with their friends and associates, they organized the San Antonio Garden Center. Their first major effort was the development and presentation of a master plan for a public botanical garden in the late 1960s. The recommended future Botanical Garden site was a decades-old gift to the City from George W. Brackenridge, given in 1899. The property was originally home to the Brackenridge Waterworks in 1877, when water was pumped uphill through Mahncke Park from the San Antonio River to create a 5,000,000 gallon reservoir (which today is the Botanical Garden's hilltop amphitheater).

FUNDING. Funding for groundwork began in 1970, when voters approved \$265,000 in bonds for the Botanical Garden. This money, along with a grant awarded five years later by the Ewing Halsell Foundation, other contributions from organizations and individuals, and a significant grant from the Economic Development Administration helped pay for the project. Groundbreaking ceremonies were held on July 21, 1976.

CHARTERED. The official opening of the San Antonio Botanical Garden was May 3, 1980. That same year, the San Antonio Botanical Garden Society, Inc. was chartered. This 501(c)(3) nonprofit organization was specifically established to support the Botanical Garden in its role of inspiring people to connect with the world of plants and understand the importance of plants in our lives.

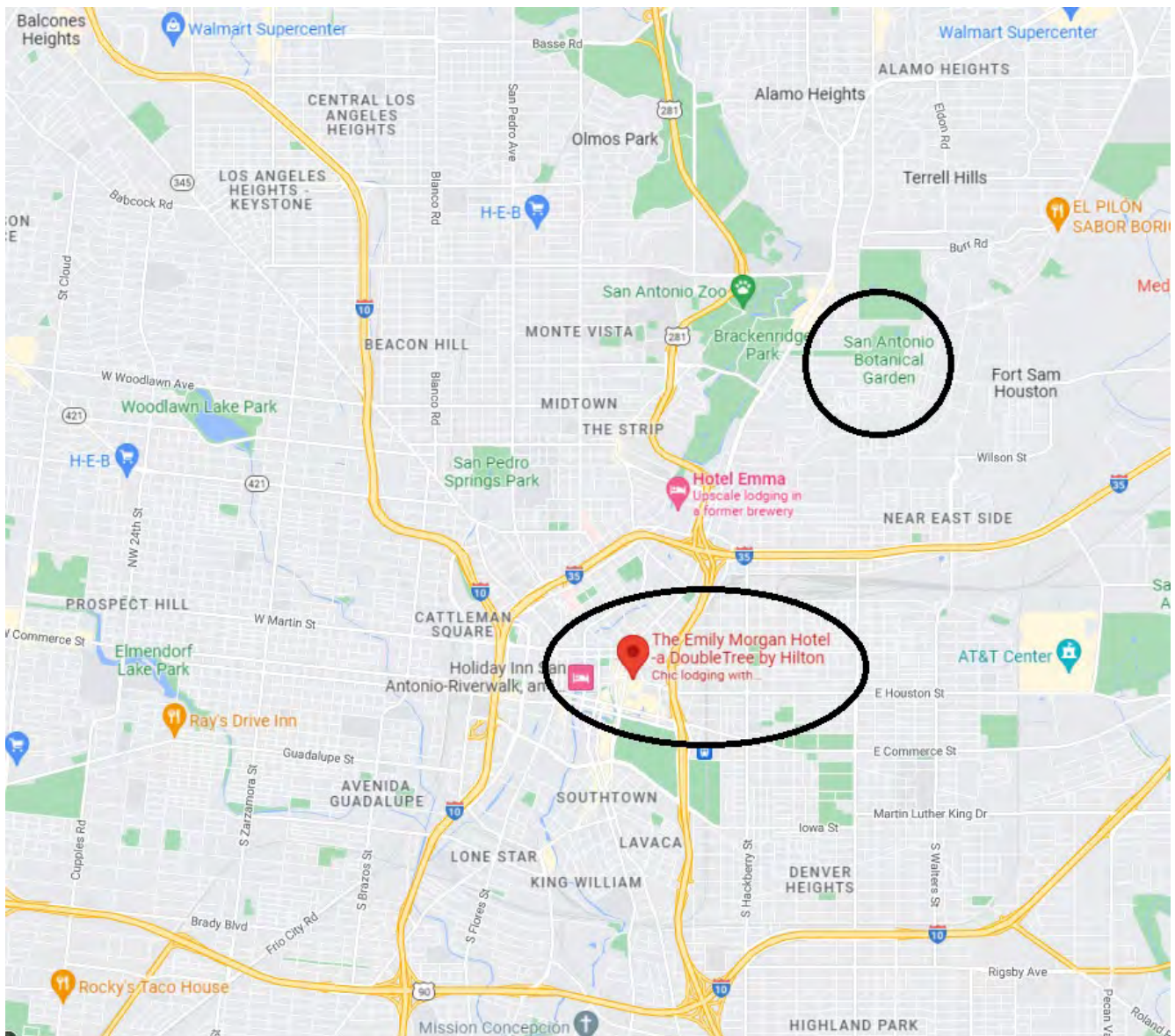
In this public/private partnership, the Botanical Garden Society brought major capital improvements to the Garden, while community events and exhibits heightened public awareness of the Botanical Garden.

EXPANSION & PRIVATIZATION. The Botanical Garden expanded by eight acres in 2017 with support from its \$40 million GROW capital campaign. Complementing the existing Garden through a new entrance experience, a culinary garden and outdoor kitchen for teaching health and wellness, and a family adventure garden promoting nature play.

As of early 2019, the Botanical Garden transitioned into privatization after a 30-year partnership with the City of San Antonio. This nearly 40-year-old Garden continues to operate on City property.

The Emily Morgan Hotel

Built in 1924 as the Medical Arts Building, it contained numerous medical offices. In 1976 it was converted into business office space, and in 1984 it was converted into the Emily Morgan Hotel. The location is across the street from the Alamo in downtown San Antonio. The map below shows its location in relation to the San Antonio Botanical Garden. For more information about the hotel, to learn about its haunted history, and to see pictures of what it looks like, please go to [The Emily Morgan San Antonio DoubleTree Hotel \(hilton.com\)](https://www.hilton.com/en/hotels/santx01emil-the-emily-morgan-hotel-in-san-antonio/) or [Historic Emily Morgan Hotel in San Antonio | The Emily Morgan Hotel.](https://www.hilton.com/en/hotels/santx01emil-the-emily-morgan-hotel-in-san-antonio/)



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Technical Advisor Report

Daniel Markowski, PhD

The Kay Hagan TICK Act was passed in 2019 and had the primary goal of improving the government's response to Lyme and other tick-borne diseases. However, the TICK Act also spelled out 3 broad approaches for improving the Nation's response to vector-borne diseases:

- The TICK Act would require the Department of Health and Human Services (HHS) to develop a National Strategy. This would help expand research, improve testing and treatment, and coordinate common efforts across federal agencies including with DOD, USDA, EPA, the VA, and the Departments of Interior and Homeland Security.
- It reauthorized the Regional Centers of Excellence in Vector-Borne Disease for five years at \$10 million per year. Funding for these centers, which was initially allocated in 2017, and the TICK Act allowed for the renewal of these Centers in 2022.
- It also authorized CDC grants at \$20 million per year that would be awarded to state health departments to improve data collection and analysis, support early detection and diagnosis, improve treatment, and raise awareness.

It is this first bullet point that I'm writing about today. Beginning in 2020, the U.S. Department of Health and Human Services (HHS), Office of the Assistant Secretary for Health (OASH) and CDC began leading the development of a "whole-of-government" strategy for vector-borne diseases with an emphasis on implementation. Their approach was to develop a National Strategy using CDC's [National Public Health Framework for the Prevention and Control of Vector-Borne Diseases in Humans](#) as a foundation for their priorities and for executing a plan that would address the Nation's ability to combat various vector-borne diseases, such as Zika virus, West Nile virus, and the many tick-borne diseases, including Lyme disease.

In November 2022, HHS published the draft *National Public Health Strategy for the Prevention and Control of Vector-Borne Diseases in Humans*. The National Strategy was developed in collaboration with 17 agencies and divisions and lays out a plan that spans both civilian agencies and defense departments. It has 3 primary objectives:

- Assess gaps and any unnecessary duplication of federally funded programs.
- Identify strategic goals to address such diseases.
- Coordinate programs and federal activities to address such diseases.

To address these 3 objectives, they identified 5 goals and 19 strategic priorities which, again, were based on the framework of the previously released National Public Health Framework for

the Prevention and Control of Vector-Borne Diseases in Humans. Below is a summary of the goals defined by HHS:

Goal 1: *Better understand when, where, and how people are exposed to and become sick or die from vector-borne diseases (VBDs).*

- *Strategic Priority 1:* Better understand vectors, the pathogens they transmit, and the potential effects of a changing climate.
- *Strategic Priority 2:* Modernize and maintain surveillance systems for vectors, reservoirs, and VBDs.
- *Strategic Priority 3:* Better understand the risk factors for and effects of VBDs on humans.

“ Being able to directly impact the kinds of research and ensure the success of new researchers to our field is a rare opportunity, and one that is not available in all industries ”

Goal 2: *Develop, evaluate, and improve tools and guidance for the diagnosis and detection of vector-borne diseases.*

- *Strategic Priority 1:* Identify and characterize novel VBD pathogens and their clinical manifestations.
- *Strategic Priority 2:* Develop, evaluate, and improve diagnostic tests for VBDs.
- *Strategic Priority 3:* Develop and evaluate evidence-based recommendations and guidelines on VBD diagnosis in humans.
- *Strategic Priority 4:* Develop, maintain, and distribute non-commercial diagnostic resources to facilitate VBD testing.

Goal 3: *Develop, evaluate, and improve tools and guidance for the prevention and control of vector-borne diseases.*

- *Strategic Priority 1:* Develop, evaluate, and improve safe and effective VBD prevention tools such as vaccines, vector control strategies, and health communication tools and products that are tailored for communities that are disproportionately affected.
- *Strategic Priority 2:* Develop and evaluate data-driven and adaptive predictive models and decision support tools for VBDs.
- *Strategic Priority 3:* Develop and evaluate evidence-based recommendations and guidelines on VBD prevention.

- *Strategic Priority 4:* Develop and evaluate tools and processes for responding to public health emergencies.

Goal 4: *Develop and assess drugs and treatment strategies for VBDs.*

- *Strategic Priority 1:* Identify, develop, and evaluate safe and effective drugs and treatment strategies (regimens) for VBDs.
- *Strategic Priority 2:* Develop evidence-based recommendations and guidelines on the treatment and management of VBDs.
- *Strategic Priority 3:* Evaluate drug and treatment use patterns.

Goal 5: *Disseminate and support the implementation of effective public health products, tools, programs, collaborations, and innovations to prevent, detect, diagnose, and respond to VBD threats.*

- *Strategic Priority 1:* Disseminate evidence-based information about VBD prevention and control, guidelines, and recommendations to partners and the public.
- *Strategic Priority 2:* Ensure current and future capacity to implement and adequately and equitably scale safe, effective, and publicly accepted VBD prevention and control programs.
- *Strategic Priority 3:* Monitor and evaluate evidence-based public health programs and tools.
- *Strategic Priority 4:* Respond to public health emergencies resulting from VBD threats.
- *Strategic Priority 5:* Clarify, facilitate, and improve processes to bring regulated diagnostic tests, treatment strategies, vaccines, and vector control products to market.

A more [detailed description of the goals and strategic priorities can be found online](#). Because the National Strategy will be a future roadmap for implementing U.S. solutions to monitoring for and controlling various vector-borne diseases, HHS requested more information from interested parties. The deadline to provide comments and input on the strategy just passed in December, but myself, the AMCA Technical Advisor, along with members of the Board, L&R Committee, Chemical Control Committee and PR Committee prepared and submitted comments that we felt relevant to our members.

Our submitted comments are listed below:

Goal 1: Strategic Priority 1: There needs to be an emphasis on increasing global partnerships. Many vector-borne disease (VBD) threats are not endemic to the United States and increased global partnerships will enable research opportunities to gain a better understanding of how to mitigate potential VBD threats.

Goal 1: Strategic Priority 2: There is a potential national database (VectorSurv) that could allow for greater usability of various types of vector surveillance data. Identifying the limitations of this database and properly funding its continued development could expand data access and the timeliness of enhanced data visualizations.

Goal 1: Strategic Priority 3: This priority could be expanded to include studying risk factors and the effects of VBDs in non-

human animals. Many VBDs are not human-specific, so taking an explicitly One Health approach (as is done in Strategic Priority 2) can more holistically benefit human health.

Additionally, there should be research into the development of standardized, calculated measures of risk such as Maximum Likelihood Estimate (MLE) or Vector Indices (VI) for calculating the risk of transmission within vector populations. The great disparity in reporting disease presence can lead to confusion regarding the current risk and the resultant need for control measures. Additionally, there needs to be a better understanding between epidemiological principles and entomological knowledge of the different surveillance tools available in an area. For example, using host-seeking mosquitoes versus gravid mosquitoes or sentinel animals all provide valuable data regarding the presence of virus circulating in an area; however, the actual risk may vary greatly dependent upon the surveillance tools being implemented.

Goal 2: Consider utilizing a One Health approach with VBDs. Overall, Goal 2 should engage and incorporate animal health. Developing, evaluating, and improving tools and guidance for the detection and diagnosis of VBDs in veterinary clinics and other animal care settings would serve the dual purpose of creating robust sentinel reporting systems for human VBD risk while also improving animal health.

Goal 2: Strategic Priority 4: Part of the diagnostic services required for VBD testing should include funding sources for adding personnel capable of expanding laboratory capacity to test for a great variety of VBD.

Goal 3: Strategic Priority 1: Federal or state land management agencies, county or municipal governments, and private landowners need to be informed about and accommodate environmentally compatible mosquito and other vector control activities on their lands as practiced by authorized mosquito and vector control programs at federal, state, county, district, or municipal levels. Actions undertaken by these control programs are vital for improving public health and quality of life. Vector control activities need to be adequately integrated with other land management goals and objectives to help ensure the success of the vector control actions. Allowance for and accommodation of mosquito control activities needs to take place not only in the aftermath of public health emergencies but in advance of any such eruptions, to proactively prevent or lessen adverse impacts from mosquito outbreaks.

Goal 3: Strategic Priority 3: To adequately provide evidence-based interventions, recommendations, and guidelines; it is essential that vector control must be included in land management plans and activities. In many locations, the implementation of vector control activities may require action via statute, regulation, ordinance, or policy at the federal, state, county, or municipal levels.

To ensure expertise is available at the state level to develop and update evidence-based guidelines for VBD prevention, every state

should have a state Entomologist available to consider the local population bionomics of vector species capable of transmitting disease-causing pathogens.

Goal 3: Strategic Priority 4 (also applies to Strategic Priority 1): Consider adding the word "technologies" to places where vector control tools and strategies are mentioned. Tools and strategies are likely meant to encompass emerging technologies such as gene drive, cytoplasmic incompatibility, and other genetic modification approaches, but these words could be interpreted to not include novel technologies. Genetic modification (GM) technologies are likely to play a critical role in vector and VBD mitigation and be explicitly acknowledged.

“ Being able to directly impact the kinds of research and ensure the success of new researchers to our field is a rare opportunity, and one that is not available in all industries ”

Goal 4; Strategic Priority 2: The increasing amount of misinformation surrounding the application of pesticides for the control of vectors of public health importance is of great concern to the AMCA. There should be an assessment of known interventions for VBDs and subsequent material disseminated to inform local, state, territorial and tribal agencies regarding approved, science-based interventions that are available. This assessment should also include a survey of the increasing amount of misinformation surrounding the application of pesticides for the control of vectors of public health concern. Enforcement measures need to be considered to limit the misrepresentation and/or false statements in the media pertaining to products available in the market for the control of VBDs.

Goal 5: As mentioned for Goal 3, Strategic Priorities 1 and 4 above, consider adding the word "technologies" to specifically address GM control efforts.

Goal 5: Strategic Priority 2: The National Strategy needs to increase the availability of hands-on training and certifications for vector control professionals.

Additionally, there could be a plan to increase the release of material and content on publicly available national education channels, such as PBS TV, radio, and other mass broadcast platforms. Measures should be in place to evaluate and justify the national training courses and educational releases to assess further improvements and future needs.

Goal 5: Strategic Priority 3: Evaluating public health programs' implementation strategies and tools is critically important. There needs to be a full analysis of what state, local, territorial, and tribal programs' capabilities, practices, and results. Dedicated vector management programs should be the priority, as opposed to programs with staff and resources divided among a variety of public and environmental health concerns non-related to VBD prevention. Many programs have seen their budgets cut and staff absorbed into larger departments, effectively reducing the amount of expertise, time, and resources dedicated to managing VBDs.

Goal 5: Strategic Priority 4: When responding to public health emergencies, there should be an emphasis placed on the availability of local vector experts. There is an overwhelming need for state/regional Entomologists to provide expertise on local vector population dynamics which is required for proper intervention strategies.

Goal 5: Strategic Priority 5: In addition to the emphasis of bringing new vector control products to market, HHS must also maintain the availability of existing products for vector control use. This is particularly important for pesticides used both for agricultural and public health purposes as they undergo registration review. Ensuring the continued availability of all the products in the integrated vector management toolkit provides end users with adequate tools to combat future challenges such as novel diseases and pesticide resistance.

General comment: AMCA feels it is critical to include language within the Strategy recognizing that mosquitoes are potential vectors even in the absence of a detected disease outbreak. An increasing number of federal, state, and local agencies have regulations that prevent their participation in vector control activities unless there is documented human disease circulation, which is an issue when there are high levels of known vectors that could easily bridge enzootic and human transmission for endemic pathogens. Supporting "nuisance" control efforts for known disease vectors such as mosquitoes is a practice that ultimately safeguards public health and improves the quality of life for humans and animals, proactively. In addition, these proactive steps demonstrate to the public the value of continued funding for vector control programs in the absence of ongoing disease outbreaks. Preventative actions should be acknowledged in the national strategy to enable comprehensive policies and regulations and support appropriate funding measures for these efforts.

—end comments—

As you can see, the priorities within the National Strategy align with many of our priorities and could be quite impactful to our operations across the country. I think it's imperative that our voices are heard on this and many other national topics. If anyone would like to help prepare comments in the future, just let me know and we'll work together on them. May 2023 bring a fun and uneventful mosquito season to us all. ■

Final 2022 Mosquito-Borne Disease Summary

Below are selected pages from the last 2022 mosquito-borne disease summary from the Texas Department of State Health Services. To see the full summary or other weekly reports, please visit the DSHS website at [DSHS Arbovirus Weekly Activity Reports | Texas DSHS](https://www.dshs.texas.gov/Arbovirology/Arbovirology-Weekly-Activity-Reports). From this page you can access previous years' summaries and compare them to 2022. These may be useful in planning your program's activities this year. For 2023, no disease has been reported.



TEXAS
Health and Human
Services

**Texas Department of State
Health Services**

2022 DSHS Arbovirus Activity Report
Week #52 (ending December 31, 2022)
Report Date: January 3, 2023

Table 1. 2022 Arbovirus Activity Summary, Texas, Week 52

Arbovirus	Mosquito Pools	Avian	Veterinary	Sentinel Chicken	Human					
					Febrile Illness	Neurologic Illness	Severe Dengue	TOTAL (HUMAN)	Deaths	PVD ²
California Serogroup ¹								0		
Chikungunya								0		
Dengue					35			35		
Eastern Equine Encephalitis			1					0		
St. Louis Encephalitis	2					1		1		
West Nile	410	1	10		5	31		36	7	12
Zika								0		
TOTAL REPORTS	412	1	11	0	40	32	0	72	7	12

¹California Serogroup includes California encephalitis, Jamestown Canyon, Keystone, La Crosse, snowshoe hare, and trivittatus viruses.

²PVD - Presumptive viremic blood donors are people who had no symptoms at the time of donating blood through a blood collection agency, but whose blood tested positive when screened for the presence of West Nile virus or Zika virus. Unless they meet the case reporting criteria, they are not counted as a case for official reporting purposes and are not included in the "Total (HUMAN)" column.

Table 2. 2022 Aedes-Associated Arbovirus Activity by County†, Week 52

County	CHIKV		DENV*		ZIKV*		
	M	H	M	H	M	H	PVD
Bexar				1			
Cameron				1			
Collin				3			
Dallas				11			
Ector				1			
Fort Bend				1			
Harris				1			
Hays				1			
Montgomery				1			
Tarrant				4			
Travis				7			
Williamson				3			
Total Number of Reports	0	0	0	35	0	0	0

M - mosquito H- human

CHIKV - Chikungunya Virus

DENV - Dengue Virus

ZIKV - Zika Virus

* All reported cases are imported.

†County level data is not reported for conditions with <5 cases reported in a year.

Table 3. 2022 Other Arbovirus Activity by County†, Week 52

County	CAL		EEEV				SLEV			WNV								
	M	H	M	V	SC	H	M	SC	H	M	A	V	SC	H				
														WNF	WNND	PVD#	TOTAL	
Austin										0		1						0
Bexar										13						1		1
Brazoria										1							1	0
Brown										0							1	0
Collin										19								0
Cooke										0		1						0
Cottle										0				1				1
Dallas										55						3		3
Denton										19							1	0
El Paso								2		7				1	9			10
Ellis										2		1						0
Erath										0		2						0
Grayson										0		1						0
Grimes				1						0								0
Hardeman										0		1						0
Harris									1	48	1				2	1		2
Hill										0							1	0
Hood										0		1						0
Hunt										0		1			1			1
Johnson										5								0
Kleberg										1								0
Lubbock										5								0
Montgomery										189				1	11	6		12
Parker										0						1		0
Randall										0		1		1				1
San Patricio										1								0
Tarrant										33				1	1			2
Travis										6					1			1
Wharton										0					1			1
Wichita										2								0
Williamson										4					1			1
Total Number of Reports	0	0	0	1	0	0	2	0	1	410	1	10	0	5	31	12	36	

M - mosquito A-avian V-veterinary SC- sentinel chicken H- human WNF - West Nile Fever WNND - West Nile Neuroinvasive Disease

CAL - California Serogroup Viruses

EEEV - Eastern Equine Encephalitis Virus

SLEV - St. Louis Encephalitis Virus

WNV - West Nile Virus

†County level data is not reported for conditions with <5 cases reported in a year.

#PVDs are not included in the "Total" column.

Membership in TMCA Committees

Interested in serving on a TMCA Committee? If yes, you may contact the Committee Chair **OR** go to the TMCA website and sign up online at <https://www.texasmosquito.org/membership-and-committees>. To join a committee, send a request to info@texasmosquito.org.

LOCAL CONTACT:
Colton Cooper
Technical Sales Rep

Colton.Cooper@azelis.com
(225) 287-2120

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Texas Mosquito Control Association

Membership Application

Purpose: To assist in promoting public health and comfort through the control of disease transmitting and pestiferous mosquitoes, to provide for the scientific advancement of Association members, and to stimulate public interest in mosquito control activities.

Publications: A Newsletter is published quarterly and emailed to active members. The Association web site is located at <http://www.texasmosquito.org>

TMCA Annual Fall Meeting: Held in October at an announced site within the state. Papers presented at this meeting are primarily technical reports dealing with new and improved methods of mosquito control, new insecticides, and application techniques. Basic research related to mosquito life cycles, bionomics, diseases, and natural histories are also presented. Distributors display and answer questions about their equipment and chemicals. A registration fee is required to attend.

TMCA Spring Workshop: Held each year during February, March, or April at an announced site within the state. This is a basic training workshop on the operational aspects of mosquito control. Topics include general mosquito biology, mosquito borne diseases, sampling and surveillance techniques, methods of mosquito control, public relations, equipment maintenance, chemicals and chemical safety, record keeping, administrative problems, and advanced operational training in calibration, droplet size determination, mosquito identification, and surveillance devices and techniques. Distributors are present to display and demonstrate their products. Registration is free, and several meals are usually provided by the TMCA to help reduce costs to attendees.

CEU's: CEU's for the Texas Department of Health Vector Control Certified Applicator License are offered at the Spring Workshop. Fees are \$20 per hour of CEU requested for non-members, free to all TMCA members. A copy of the TDA regulations can be downloaded from the TMCA web site at <http://www.texasmosquito.org>

Annual Dues: Dues are payable on a calendar year basis. Active Memberships are \$30 per year, and Supporting Memberships are \$60 per year.

Name: _____ Date: _____

Affiliation: _____ Position: _____

Work Mailing Address: _____

City & State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

Membership type applied for: Active (\$30): _____ Sustaining (\$60): _____

Make check payable to: Texas Mosquito Control Association

Return application & remittance to: Dr. Mark Johnsen,
Chair, TMCA Membership Committee
10213 Buckwood Ave
El Paso, Texas 79925

Phone: 979-595-7711 Email: TMCAmembership@gmail.com