AGENDA
1102nd MEETING OF THE BOARD OF TRUSTEES
OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT
JUNE 8TH, 2022

TIME: 5:00 P.M.
PLACE: Teleconferencing only https://us02web.zoom.us/j/87152394264
see below for additional details.
TRUSTEES: Subru Bhat, President, City of Union City
Victor Aguilar, Vice-President, City of San Leandro
Cathy Roache, Secretary, County-at-Large
Tyler Savage, City of Alameda
Preston Jordan, City of Albany
P. Robert Beatty, City of Berkeley
Shawn Kumagai, City of Dublin
Courtney Welch, City of Emeryville
George Young, City of Fremont
Elisa Márquez, City of Hayward
Steven Cox, City of Livermore
Eric Hentschke, City of Newark
Jan O. Washburn, City of Oakland
Hope Salzer, City of Piedmont
Julie Testa, City of Pleasanton

1. Call to order.

2. Roll call.

3. President Bhat invites any member of the public to speak at this time on any issue relevant to the district (each individual is limited to three minutes).

4. Resolution 1102-1 Authorizing Remote Teleconference Meetings of the Legislative Bodies of the Alameda County Mosquito Abatement District Pursuant to Brown Act Provisions **(Board action required)**

5. Approval of the minutes of the 1101st Regular Meeting held May 11th, 2022 (**Board action required**).

6. Public Hearing on the proposed tax rate. (Information only).

7. Resolution 1102-2, a resolution ordering the levy of assessments for fiscal year 2022-23 for the Alameda County Mosquito Abatement District Mosquito and Disease Control Assessment. (**Board action required)**

    a. Verbal report from Ad Hoc Benefit Assessment Committee regarding 5/19/22 meeting (Information only)

8. Closed session to discuss the General Manager's twelve-month evaluation pursuant to Government Code Section 54957.6. (Information only)

9. Compensation recommendation of General Manager Ryan Clausnitzer based on a recommendation from the Manager Evaluation Committee and according to the employee contract. **(Board action required)**

10. Report from the National Association of City & County Health Officers: Vector Surveillance and Control at the Local Level: Findings from the 2020 Vector Control Assessment (Information only)

11. Financial Reports as of May 31st, 2022: (Information only).

    a. Check Register
    b. Income Statement
    c. Investments, reserves, and cash report
    d. Balance Sheet

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

13. Presentation of the Manager's Report (Information only).
    a. Staff Anniversary Recognition
    b. CDPH Weekly Arbovirus Surveillance Bulletin
    c. Training due: AB 1234: Welch, Young

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

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

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

17. Adjournment.

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

Please Note: Board Meetings are accessible to people with disabilities and others who need assistance. Individuals who need special assistance or a disability-related modification or accommodation (including auxiliary aids or services) to observe and/or participate in this meeting and access meeting-related materials should contact Ryan Clausnitzer at least 48 hours before the meeting at 510-783-7744 or acmad@mosquitoes.org.

IMPORANT NOTICE REGARDING COVID-19 AND TELECONFERENCED MEETINGS:

Based on the mandates by the Governor in Executive Order 33-20 and the County Public Health Officer to shelter in place and the guidance from the CDC, to minimize the spread of the coronavirus, please note the following changes to the District's ordinary meeting procedures:

- The meeting will be conducted via teleconference using Zoom. (See Executive Order 29-20)
- All members of the public seeking to observe and/or to address the local legislative body may participate in the meeting telephonically or otherwise electronically in the manner described below.

HOW TO OBSERVE THE MEETING:

Telephone: Listen to the meeting live by calling Zoom at **(669) 900-6833** Enter the **Meeting ID#** 871 5239 4264 followed by the pound (#) key.

Computer: Watch the live streaming of the meeting from a computer by navigating to https://us02web.zoom.us/j/87152394264

Mobile: Log in through the Zoom mobile app on a smartphone and enter **Meeting ID#** 871 5239 4264

HOW TO SUBMIT PUBLIC COMMENTS:

Before the Meeting: Please email your comments to acmad@mosquitoes.org, write "Public Comment" in the subject line. In the body of the email, include the agenda item number and title, as well as your comments. If you would like your comment to be read aloud at the meeting (not to exceed three minutes at staff's cadence), prominently write "Read Aloud at Meeting" at the top of the email. All comments received before 12:00 PM the day of the meeting will be included as an agenda supplement on the District's website under the relevant meeting date and provided to the Trustees at the meeting. Comments received after this time will not be read aloud but will be added to the record after the meeting.

During the Meeting: The Board President or designee will announce the opportunity to make public comments. Speakers will be asked to provide their name and city of residence, although providing this is not required for participation. Each speaker will be afforded up to 3 minutes to speak unless another time is specified. Speakers should remain silent and/or will be muted until their opportunity to provide public comment.
Telephone: Press star (*)9, which will alert staff that you have a comment to provide.
Computer or **Mobile**: Use the "raise hand" feature to alert staff that you have a comment to provide.

PUBLIC RECORDS:

Public records that relate to any item on the open session agenda for a meeting are available for public inspection. Those records that are distributed after the agenda posting deadline for the meeting are available for public inspection at the same time they are distributed to all or a majority of the members of the Board. The Board has designated the District's website located at https://www.mosquitoes.org/board-of-trustees-regular-meetings as the place for making those public records available for inspection. The documents may also be obtained by emailing acmad@mosquitoes.org.

RESOLUTION NO. 1102-1

A RESOLUTION OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT AUTHORIZING CONTINUED REMOTE TELECONFERENCE MEETINGS OF THE LEGISLATIVE BODIES OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT PURSUANT TO BROWN ACT PROVISIONS

WHEREAS, on March 4, 2020, the Governor of the State of California issued a Proclamation of a State of Emergency due to COVID-19. Such Proclamation remains and is in effect as of the date of this Resolution, as are the facts, circumstances, and emergency under which it was issued; and

WHEREAS, the Alameda County Mosquito Abatement District ("District") ordinarily holds its regular meetings on the second Wednesday of the month at 5 p.m. at the Board Room, 23187 Connecticut Street, Hayward, California 94545; and

WHEREAS, the District officially closed its public facilities as of March 16th, 2020 due to the coronavirus pandemic, making the Board Room unavailable to the public; and

WHEREAS, on March 30, 2020 the District's Board President issued a Declaration altering the regular meeting location to be held via teleconference only pursuant to Executive Order N-29-20.

WHEREAS, the Health Officer of the County of Alameda ("Health Officer") have issued various health orders and updates designed to slow the spread of COVID-19 (including variants thereof) such as vaccinations, quarantines, face covering requirements, and social distancing recommendations designed to protect public health; and

WHEREAS, on September 20, 2021, Health Officer issued recommendations for safely holding public meetings, including strongly recommending teleconferencing meetings as those meetings present the lowest risk of transmission of SARS-CoV-2, the virus that causes COVID-19, and further recommended social distancing and face masking of all attendees; and

WHEREAS, as of June 2, 2022 The Health Officer required masking in most indoor public settings; and

WHEREAS, COVID-19 continues to spread and pose imminent health and safety concerns. The risk of exposure to COVID-19 depends on the likelihood of coming into close physical contact with people who may be infected and through contact with contaminated surfaces and objects. The severity of the illness varies and the number of cases of infections and deaths occurring locally can be determined by viewing the dashboards of the Health Officer; and

WHEREAS, on June 11, 2021, the Governor issued Executive Order N-08-21, which placed an end date of September 30, 2021 on such authority; and

WHEREAS, due the rise in COVID-19 cases, the District continues to be deeply concerned about protecting the health and safety of attendees, people may contract and transmit the virus before knowing they are infected and/or if they are asymptomatic; meetings of the District can

last several hours, the District has a large board of Trustees, its meeting facilities are limited in space with seats that are close together, and have restricted air flow; and

WHEREAS, the California State legislature adopted AB 361 as an urgency measure that was signed by the Governor on September 16, 2021. AB 361 amends the Brown Act to allow local governments to use teleconferencing and virtual meeting technology as long as there is a gubernatorial "proclaimed state of emergency" upon the local legislative body finding that State or local officials have imposed or recommended measures to promote social distancing or that meeting in person would present imminent risks to the health or safety of attendees; and

WHEREAS, the Board desires to continue holding public meetings of the District using teleconferencing and virtual meeting technology in order to avoid the imminent risk to the health and safety of attendees; and

WHEREAS, the District found that conducting its meetings using virtual meeting technology allowed the equivalent, if not improved, access to the meetings for Trustees, staff, and the public based on the ease of use and flexibility of technology. This experience has been confirmed by the Little Hoover Commission, which evaluated the effectiveness of remote meetings statewide; and

WHEREAS, the Board held a duly noticed public meeting on October 13th, 2021; and

WHEREAS, at such public meeting, the Board considered all pertinent oral and written information, exhibits, testimony, and comments received during the public review process, including, without limitation, information received at the public hearing, the oral report from District staff, the written report from staff, this Resolution, and all other information on which each of the Trustees has based their decision (collectively, "Remote Meeting Information"); and

WHEREAS, the Board found that a state of emerbency remained active due to the coronavirus pandemic, which affects the ability of attendees to meet safely in person; and

WHEREAS, the Board desires to make the findings necessary to continue to meet remotely in light of the fact that there remains a significant portion of the population that is not eligible for vaccination or booster shots and that even fully vaccinated people may contract and transmit the virus and it is not possible to socially distance within the District's Board meeting room.

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the District as follows:

Section 1. Recitals. The Board hereby finds and determines that the foregoing recitals are true and correct; the recitals are hereby incorporated by reference into each of the findings as though fully set forth therein. The recitals and the information below constitute findings in this matter, and together with the Remote Meeting Information, serve as an adequate and appropriate evidentiary basis for the findings and actions set forth herein.

Section 2. AB 361 Findings. The Board, on behalf of itself and its legislative bodies, hereby further finds the following: A state of emergency in California remains active due to the coronavirus pandemic, which continues to directly impact the ability of attendees to meet safely in person. Federal, state, and/or local officials have imposed and/or recommended measures to

promote social distancing and use face coverings in indoor settings to shelp stop the spread of the virus. They have strongly recommended public agencies hold their meetings online because doing so presents the lowest risk of transmission of SARS-CoV-2, the virus that causes COVID-19. COVID-19 continues to pose an imminent risk to the health and safety of attendees to meet in person because it can be contracted and transmitted by people without symptoms and regardless of vaccination status and has the potential to lead to severe disease and death.

Section 4. **Remote Meetings**. Meetings of the District and its legislative bodies will continue to be conducted remotely using teleconferencing for the next 30 days in compliance with AB 361.

Section 5. **CEQA.** This action does not constitute a "project" within the meaning of Public Resources Code Section 21065, 14 Cal Code Reg. Section 15060(c)(2), 15060(c)(3), and/or 15378 because it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. In addition, this action is categorically exempt pursuant to Section 15061(b)(3), "Review for Exemptions" of the CEQA Guidelines because there is no possibility that it may have a significant effect on the environment, and no further environmental review is required. No unusual circumstances exist and none of the exceptions under CEQA Guidelines Section 15300.2 apply. This determination reflects the Board's independent judgment and analysis.

DULY AND REGULARLY ADOPTED by the District's Board of Trustees this 8th day of June, 2022 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
President, Board of Trustees,
Alameda County Mosquito Abatement District

ATTEST: _____
Secretary of the Board of Trustees, Alameda County
Mosquito Abatement District

MINUTES

1101st MEETING OF THE BOARD OF TRUSTEES OF THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT

May 11th, 2022

TIME:	5:00 P.M.
PLACE:	Hybrid Meeting of the Board of Trustees Physically held at the Office of the District 23187 Connecticut Street, Hayward, CA 94545 and Teleconferencing at https://us02web.zoom.us/j/84041716616
TRUSTEES:	Subru Bhat, President, City of Union City Victor Aguilar, Vice-President, City of San Leandro Cathy Roache, Secretary, County-at-Large Tyler Savage, City of Alameda Preston Jordan, City of Albany P. Robert Beatty, City of Berkeley Shawn Kumagai, City of Dublin Courtney Welch, City of Emeryville George Young, City of Fremont Elisa Márquez, City of Hayward Steven Cox, City of Livermore Eric Hentschke, City of Newark Jan O. Washburn, City of Oakland Hope Salzer, City of Piedmont Julie Testa, City of Pleasanton

1. Board President Bhat called the regularly scheduled board meeting to order at 5:00 P.M.

2. Trustees Bhat & Hentschke were in-person at the district. Trustees Aguilar, Savage, Jordan, Beatty, Kumagai, Welch, Márquez, Salzer, and Testa were present on the Zoom conference. Trustees Young, Cox and Washburn were absent. Trustee Roache arrived at the district at 5:23 P.M.

3. Board President Bhat invited members of the public to speak on any issue relevant to the district. Melanie Lee from SCI Consulting Group was present to give a presentation of the preliminary Engineer's Report for fiscal year 2022-2023. Anthony Armas and Ryan Nicasio of PARS, along with Randall Yurchak of HighMark Capital Management were present to give a presentation on the Pension Rate Stabilization Program Plan Client Review. Information Technology Director Robert Ferdan was present for technical support. Vector Biologist Jeremy Sette was present to record the minutes. No public comments were submitted.

4. Introduction of new Board Member, Hope Salzer, representing the City of Piedmont. President Bhat welcomed Trustee Salzer who introduced herself and gave a background of her professional experience.

5. Approval of the minutes of the 1100th meeting held April 13th, 2022.
   Motion: Trustee Hentschke moved to approve the minutes.
   Second: Trustee Márquez
   Vote: motion carries: unanimous with Trustee Salzer abstaining.

6. Presentation and approval of the final budget for fiscal year 2022-23.
   Discussion:
   The General Manager mentioned changes to the final budget including increase in utilities and insurance amounts and fielded the following discussion. Trustee Salzer suggested adding visual graphs for future budget presentations (yes, already included in the Strategic Plan).
   Motion: Trustee Jordan moved to approve the budget for fiscal year 2022-23
   Second: Trustee Hentschke
   Vote: motion carries: unanimous.

7. Presentation of the preliminary Engineer's Report for fiscal year 2022-2023 by Melanie Guillory-Lee from SCI Consulting Group.
   Discussion:
   The General Manager gave a background of the Benefit Assessment and Engineer's Report and introduced Melanie Lee from SCI Consulting Group who presented the Engineer's Report for fiscal year 2022-23 and fielded the following discussion. Trustee Salzer asked for a definition of single-family equivalence (SFE, explained). Trustee Salzer asked if square footage of property could be considered for the assessment, commented that properties under an acre could vary greatly, and asked about the rationale provided based off of square footage and how that can affect inequities. Trustee Jordan suggested having an assessment based off of both square footage *and* acreage. Lee explained the rational behind using acreage of single-family homes. Trustee Jordan explained differences of residences between an 800 ft^2 condominium and 5000 ft^2 house and Trustee Salzer commented on the different sizes of lots, questioned why a 1-acre lot size was chosen as the smallest assessment size, and the potential differences in services. Lee commented on how the assessments were locked in when they were assessed in 2008 and that it may be overly complicated to have a separate assessment for each parcel in the county. Trustee Salzer asked if the methodology for determining the assessment was set in 2008 and are unchangeable (the methodology was fixed by the assessment and the district would have to start over with a new assessment if they wanted to change it). Trustee Beatty commented that a whole new ballot would have to be introduced to change the benefit assessment. Trustee Márquez noted that the rate hasn't increased in 14 years from $2.50, even though the district has the authority to do so from an original $5.00 to now over $7.00. Trustee Jordan added $2.50 of SFE, to be clear. Trustee Salzer suggested revisiting the structure of the assessment with regards to equity and Trustee Jordan agreed. Lee noted that a revisit would be complicated which led Trustee Salzer to ask why it would be complicated. Trustee Salzer commented that "service" is different than "benefit". The General Manager offered to have a future meeting agenda addressing this topic and that he would be happy to connect Trustee Salzer with SCI Consulting staff to go over details of the assessment with her, which President Bhat agreed and that the meeting should move on. Trustee Jordan asked to be included in this connection with SCI Consulting. Trustee Salzer suggested forming a workgroup to fully explain the current benefit assessment as a detailed explanation is warranted to improve understanding among Trustees. The General Manager again suggested that an ad-hoc subcommittee will and should be formed to address this.

8. Resolution 1101-1 intending to continue assessments for fiscal year 2022-23, preliminarily approving the Engineer's Report, and providing for notice of hearing.
   Discussion:
   President Bhat asked for a vote on Resolution 1101-1 intending to continue assessments for fiscal year 2022-23, preliminarily approving the Engineer's Report. Trustee Salzer asked what she was specifically voting on, the methodology or just accepting the report as presented. Lee and Trustee Jordan explained that the resolution was only to accept the report, not agreeing with the methodology. Trustee Salzer commented on not seeing any info on mosquitoes and diseases in the report. Trustee Jordan noted that mosquitoes will be referenced further into the meeting. Trustee Márquez also referenced the biennial report as a source for this data.
   Motion: Trustee Beatty moved to approve Resolution 1101-1 intending to continue assessments for fiscal year 2022-23, preliminarily approving the Engineer's Report, and providing for notice of hearing
   Second: Trustee Roache
   Vote: motion carries: unanimous. (Another one with individual votes)

9. Pension Rate Stabilization Program Plan Client Review by Anthony Armas and Ryan Nicasio from Public Agency Retirement Services and Randall Yurchak from HighMark Capital Management.
   Discussion:
   The General Manager gave a background of PARS and turned it over to Anthony Armas and Ryan Nicasio of PARS and Randall Yurchak of HighMark Capital Management who presented on the Pension Rate Stabilization Program Plan Client Review and fielded the following discussion. Trustee Salzer asked how the Moderately Conservative strategy was chosen (the General Manager explained the Finance Committee's decision back in 2017 and addressed the different pension funds) and asked about active funds and fees (Yurchak answered that the decision for active or passive was chosen at that time and that the fees are higher for active than passive but active has higher returns). Trustee Salzer asked if the investment strategy has been the same since 2017 (the General Manager answered yes with annual reviews by the finance committee). Trustee Jordan asked about the unfunded liability in reference to CalPERS' projections (Nicasio explained). Trustee Jordan asked what target PARS is using related to funded status (funded status varies by pool but asset status is specific to an agency) and is the liability based on being 100% funded (the General Manager provided background on why the finance committee recommended investing with PARS rather than fully funding CalPERS). Trustee Jordan rhetorically asked if the longevity and retention of ACMAD employees affects CalPERS projections. Trustee Salzer asked why the report uses data from 2020 and asked if there were any current numbers (Armas answered that in August CALPERS will release the 2021 numbers and is normally a year behind).

10. Financial Reports as of April 30th, 2022.
    Discussion:
    The General Manager presented the Financial Reports and fielded the following discussion. The General Manager thanked Trustees Bhat and Beatty for signing checks. Trustee Salzer asked if the Bay Alarm payment for the new technology was a one-time cost (yes). The General Manager asked if the Board enjoyed the new camera set up in the Board Room (Trustee Márquez noted that the new system is great) and the General Manager thanked Information Technology Director Robert Ferdan for setting it up. Trustee Salzer asked for clarification between household expenses and utilities (will look into the difference). Trustee

Jordan asked for clarification on earnings and asked if it is unrealized gains (the General Manager will check if it is realized or unrealized loss).

11. Presentation of the Monthly Staff Report.
    Discussion:
    The General Manager gave the Monthly Staff Report and fielded the following discussion. Trustee Beatty asked if West Nile Virus has decreased recently in California (yes).

12. Presentation of the Manager's Report.
    Discussion:
    The General Manager presented the Manager's Report and fielded the following discussion. The General Manager congratulated Vector Biologist Jeremy Sette for his anniversary of seven years of District service and thanked him for his hard work. Trustee Beatty asked about the training he is due to complete (AB 1234). Trustee Salzer noted that she completed the trainings which the General Manager thanked her.

13. Board President Bhat asked for reports on conferences and seminars attended by Trustees. None.

14. Board President Bhat asked for announcements from the Board. None.

15. Board President Bhat asked trustees for items to be added to the agenda for the next Board meeting. The General Manager is requesting a HASPA update as well as an update on SIT mosquitoes. Trustee Beatty suggested postponing or eliminating an SIT update based on the plethora of recent reports the Board has received on the subject (noted). Trustee Salzer suggested reviewing the benefit assessment in a future meeting (the General Manager suggested forming an ad-hoc sub committee and revisiting). Trustee Hentschke asked to join such a committee (the General Manager added Trustee Hentschke with Trustees Salzer and Jordan).

16. The meeting adjourned at 6:47 P.M.

Respectfully submitted,

_____
Cathy Roache, Secretary
BOARD OF TRUSTEES

Approved as written and/or corrected
at the 1102nd meeting of the Board of
Trustees held June 8th, 2022

_____
Subru Bhat, President
BOARD OF TRUSTEES

RESOLUTION NO. 1102-2

A RESOLUTION APPROVING THE ENGINEERING'S REPORT, AND ORDERING THE LEVY OF CONTINUED ASSESSMENTS FOR FISCAL YEAR 2022-23 FOR THE ALAMEDA COUNTY MOSQUITO ABATEMENT DISTRICT MOSQUITO AND DISEASE CONTROL ASSESSMENT

WHEREAS, the Alameda County Mosquito Abatement District ("District") is authorized, pursuant to the authority provided in Health and Safety Code Section 2082 and Article XIIID of the California Constitution, to levy assessments for mosquito and disease control projects and services; and

WHEREAS, such mosquito surveillance and control projects and services provide tangible public health benefits, reduced nuisance benefits and other special benefits to the public and properties with the areas of service; and

WHEREAS, an assessment for mosquito and disease control projects and services has been given the distinctive designation of the "Mosquito and Disease Control Assessment" ("Assessment"), and is primarily described as encompassing the boundaries of Alameda County; and

WHEREAS, the Assessment was authorized by an assessment ballot proceeding conducted in 2008 and approved by 70.19% of the weighted ballots returned by property owners, and such Assessments were levied by the Board of Trustees of the Alameda County Mosquito Abatement District by Resolution No. 937-1 passed on May 14, 2008;

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Alameda County Mosquito Abatement District that:

SECTION 1. SCI Consulting Group, the Engineer of Work, prepared an engineer's report in accordance with Article XIIID of the California Constitution and Section 2082, et. seq., of the Health and Safety Code for the Assessment (the "Report"). The Report have been made, filed with the District and duly considered by the Board and is hereby deemed sufficient and approved. The Report shall stand as the Engineer's Report for all subsequent proceedings under and pursuant to the foregoing resolution.

SECTION 2. On May 11, 2022, this Board adopted Resolution No. 1101-1 to continue to levy and collect the assessments for fiscal year 2022-23, preliminarily approving the Engineer's Report, and providing for notice of hearing on June 8, 2022, at the hour of 5 o'clock p.m. To improve access to public information, residents may access meetings remotely, by telephone, computer, or mobile through Zoom.

SECTION 3. At the appointed time and place the hearing was duly and regularly held, and all persons interested and desiring to be heard were given an opportunity to be heard, and all matters and things pertaining to the levy of Assessment were fully heard and considered by this Board, an all oral statements and all written protests or communications were duly heard, considered and

overruled, and this Board there by acquired jurisdiction to order the levy of Assessment prepared by and made a part of the Engineer's Report to pay the costs and expenses thereof.

NOW, THEREFORE, IT IS FOUND, DETERMINED, RESOLVED AND ORDERED, that:

SECTION 4. The above recitals are true and correct.

SECTION 5. The public interest, convenience and necessity require that the levy be made.

SECTION 6. The assessment is levied without regard to property valuation.

SECTION 7. The Engineer's Report for the Assessment together with the proposed assessment roll for fiscal year 2022-23 is hereby confirmed and approved.

SECTION 8. That based on the oral and documentary evidence, including the Engineer's Report offered and received at the public hearing, the Board expressly finds and determines that: (a) each of the several lots and parcels of land subject to the Assessment will be specially benefited by the services to be financed by the Assessment proceeds in at least the amount of the Assessment apportioned against such lots and parcels of land, respectively; and (b) that there is substantial evidence to support , and the weight of the evidence preponderates in favor of, said finding and determination as to special benefit to property from the mosquito and disease control services to be financed with Assessment proceeds.

SECTION 9. That Assessments for fiscal year 2022-23 shall be levied at the rate of two dollars and fifty cents ($2.50) per single family equivalent benefit unit as specified in the Engineer's Report with estimated total annual Assessment revenues as set forth in the Engineer's Report; and

SECTION 10. That the mosquito and disease control project and services to be financed with Assessment proceeds described in the Engineer's Report are hereby ordered.

SECTION 11. No later than August 10th following such adoption, the Board shall file a certified copy of this resolution with the Auditor of the County of Alameda ("County Auditor"). Upon such filing, the County Auditor shall enter on the County assessment roll opposite each lot or parcel of land the amount of Assessment. The Assessments shall be collected at the same time and in the same manner as County taxes are collected and all the laws providing for collection and enforcement shall apply to the collection and enforcement of the Assessments. After collection by the County, the net amount of the Assessments, after deduction of any compensation due the County for collection, shall be paid to the Mosquito and Disease Control Assessment.

SECTION 12. All revenues from Assessments shall be deposited in a separate fund established under the distinctive designation of the Alameda County Mosquito Abatement District Mosquito, and Disease Control Assessment.

SECTION 13. The Assessment, as it applies to any parcel, may be corrected, cancelled or a refund granted as appropriate, by order of the Board of Trustees of the District. Any such corrections, cancellations or refunds shall be limited to the current fiscal year.

SECTION 14. The Board of Directors of the Alameda County Mosquito Abatement District hereby certifies that the assessments to be placed on the fiscal year 2022-23 property tax bills meet the requirements of Proposition 218 that added Articles XIIIC and XIIID to the California Constitution.

PASSED and ADOPTED by the Alameda County Board of Trustees for the Alameda County Mosquito Abatement Program at a regular meeting thereof held on June 8, 2022, at 23187 Connecticut Street, Hayward, California, by the following vote:

AYES:

NOES:

ABSTAINED:

ABSENT:

_____

President, Board of Trustees, Alameda County Mosquito Abatement District

ATTEST:

_____

Secretary of the Board of Trustees, Alameda County Mosquito Abatement District

Vector Surveillance and Control at the Local Level

Findings from the 2020 Vector Control Assessment

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Introduction

Vector-borne diseases pose a substantial risk to human health. Mosquitoes and ticks are the two primary vectors of pathogens that cause disease in the United States. The most commonly reported mosquito-borne and tickborne disease in the U.S. are West Nile virus disease and Lyme disease respectively, with the latter being the most reported vector-borne disease overall. Cases of West Nile virus disease, dengue, and chikungunya are reported most years, with dengue and chikungunya — both mosquito-borne diseases — reported mainly in the U.S. territories. An estimated 476,000 cases of Lyme disease are diagnosed and treated in the U.S. every year. While a recent vaccine for dengue has been authorized, and a new vaccine for Lyme disease is in development, pharmaceutical options to prevent most vector-borne diseases are currently limited. Reducing overall contact with disease vectors remains the best available prevention strategy.

Local vector programs play a critical role in monitoring and managing disease-carrying species of mosquitoes and ticks. These programs may be housed in local health departments (LHDs), in mosquito control districts, or in other governmental structures such as tribal authorities. Local vector programs may conduct critical activities such as trapping and species identification, coordination with neighboring counties and state epidemiologists, and insecticide resistance testing. Using a combination of evidence-based strategies, local programs can help mitigate the risk of vector-borne disease within their communities.

Local vector programs also engage in outreach activities to help raise awareness of the risk of vector-borne diseases. They provide information to help their communities understand the best ways to minimize the risk of encountering local species of mosquitoes or ticks. The risk of vector-borne disease can vary widely depending on the local climate and ecology. For example, Lyme disease is commonly reported in the northeast and less likely to be reported in the southwest. While Lyme disease is less of a concern in the southwest, ticks in this region may carry other diseases such as Rocky Mountain spotted fever, a disease that has notably affected tribal communities in Arizona. The range of climates and habitats found throughout the U.S. also means that local communities have different seasonal patterns to account for as they try to minimize human contact with mosquitoes and ticks. Local vector programs are uniquely positioned to respond to issues that may arise in their communities.

It is essential to have a well-functioning local vector surveillance and control system across the country, not only to address routine community risks but also to monitor for new vector-borne pathogens and prevent vector-borne epidemics. The mosquito-borne Zika virus caused a cluster of cases in Brazil in 2015, leading the World Health Organization to declare a public health emergency in 2016. The disease was primarily reported in Latin America, but some locally-acquired cases as well as some travel-associated cases were reported in the United States. Pregnant women and newborn infants experienced severe consequences of the outbreak as the virus was found to cause serious fetal abnormalities. While the virus was last reported in the U.S. territories in 2019, the possibility of a vector-borne epidemic remains present. The predicted effects of climate change may also influence the risk of vector-borne disease. Warming temperatures may expand vector habitats and introduce the risk of some mosquito and tickborne diseases in areas where they have not historically been common. The U.S. Centers for Disease Control and Prevention (CDC) has observed that climate-related changes are already increasing the risk for infectious diseases, including vector-borne diseases.

2020 Vector Control Assessment

Purpose

To understand the range of activities and overall capacity of local vector programs, the National Association of County and City Health Officials (NACCHO), supported by a cooperative agreement from the CDC, conducted a nationwide assessment of local vector control programs in 2017. This initial assessment provided a baseline understanding of local mosquito surveillance and control capacity. In 2020, NACCHO conducted the second iteration of this national assessment, with an expanded questionnaire that included items related to tick surveillance and control.

The results of the 2020 Vector Control Assessment provide updated data on local mosquito surveillance and control capacity, as well as an opportunity to begin tracking changes in mosquito-related activities over time and provide baseline data on tick surveillance and control. This report provides a summary of the results from the assessment, highlighting results that may be most relevant to public health officials and policymakers.

Methods

The 2020 assessment was conducted through Qualtrics© survey software. It included 26 total items. The assessment was sent to 1,664 verified programs. These programs were drawn from NACCHO's database of 2,213 local vector programs. Verified programs were defined as those programs for which an active email address or phone number could be confirmed. After the survey was distributed via Qualtrics©, routine follow-up emails were sent, and NACCHO staff directly followed up with as many programs as possible via phone and email. A total of 483 programs responded accounting for a response rate of 29%. A total of 348 programs responded to both the 2017 and 2020 assessments.

Forty-eight states as well as D.C. are represented in the sample. Maine and Vermont had no respondents, but this does not necessarily reflect a lack of local vector control programs in those states. Responses were not distributed proportionately across all regions of the country. The three states with the highest number of responding programs accounted for 22% of the total sample (Illinois had 49 responding programs; Ohio had 39; and Indiana had 20).

Possible Effect of the COVID-19 Pandemic

It should be noted that this assessment was fielded during the coronavirus disease 2019 (COVID-19) pandemic. Responses were requested between November 2020 and January 2021, a period which coincided with a notable spike in COVID-19 cases across much of the United States. It is likely that the response rate was affected by this trend as many local health department staff were diverted from their usual programmatic areas to support the COVID-19 response. The response rate for the 2020 assessment was 29%, a notable decline from a response rate of 57% in 2017. When the response rate for the 2020 Vector Assessment is compared to other national surveys NACCHO fielded during the pandemic, it aligns with the overall trend NACCHO research staff observed. Survey response rates have declined during the COVID-19 pandemic.

Data Limitations

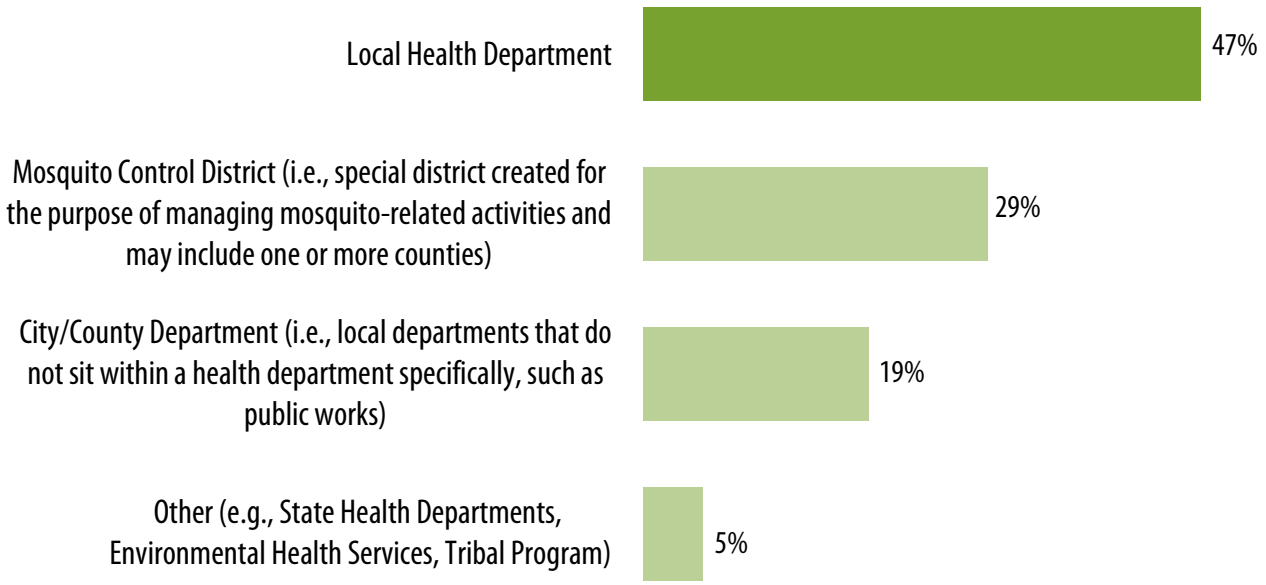
Several limitations should be considered when using the results of this study. All data were self-reported by respondents and were not independently verified. Respondents may have provided incomplete, imperfect, or inconsistent information for various reasons. Some of these reasons could include skipping questions due to time constraints, estimating responses to reduce burden, or interpreting undefined questions or response options differently. Second, the low response rate may be biased, such as toward respondents more engaged in this work, which could limit generalizability.

When interpreting these results, the overrepresentation of respondents located in the Midwest should be taken into account. In addition, it should be noted that population size did not have any notable relationship with the number of programs responding by state. For example, three programs responded from Pennsylvania, the fifth largest state by population per the 2020 U.S. Census, while six responded from Wyoming, the least populated state.

Comparisons with data from the prior assessment are provided. However, it should be noted that both the study population and the respondents are different for each assessment. In addition, comparisons are not tested for statistical significance.

Program Characteristics

Organization Type of Responding Programs



n=483

Nearly half of respondents (47%) were from programs managed by LHDs.

Population Size Served

A majority of respondents (55%) reported that their program serves a population of less than 100,000 people.

Twenty-six percent serve populations of less than 25,000 people, and 9% serve populations of 1 million people or more.

Funding

Sixty-seven percent of programs reported having dedicated funding (these are funds appropriated for specific purposes), and 83% reported that at least part of their funding was from local sources (e.g., taxes).

Dedicated funding ranged from just $500 for some programs to approximately $35,000,000 – the highest funding reported by a program.

Mosquito Surveillance and Control Capacity

A scoring matrix was created to prioritize and weight questions based on the necessary capacities of a comprehensive, evidence-based vector control program. Using the CDC framework for vector control capacity as guidance, five core capacities and five supplemental capacities were used to rank each organization as **fully capable**, **competent**, or **needs improvement**.

Core Capacities

1. Routine mosquito surveillance through standardized trapping and species identification
2. Treatment decisions using surveillance data
3. Larviciding, adulticiding, or both
4. Routine vector control activities (e.g., chemical, biological, source reduction, or environmental management)
5. Pesticide resistance testing

Supplemental Capacities

6. Licensed pesticide application
7. Vector control activities other than chemical control (e.g., biological, source reduction, or water management)
8. Community outreach and education campaigns regarding mosquito-borne diseases, how they spread, and how to prevent infection
9. Regular communication with LHDs regarding surveillance and epidemiology
10. Outreach (e.g., communication and/or cooperation) with nearby vector control programs

Definitions

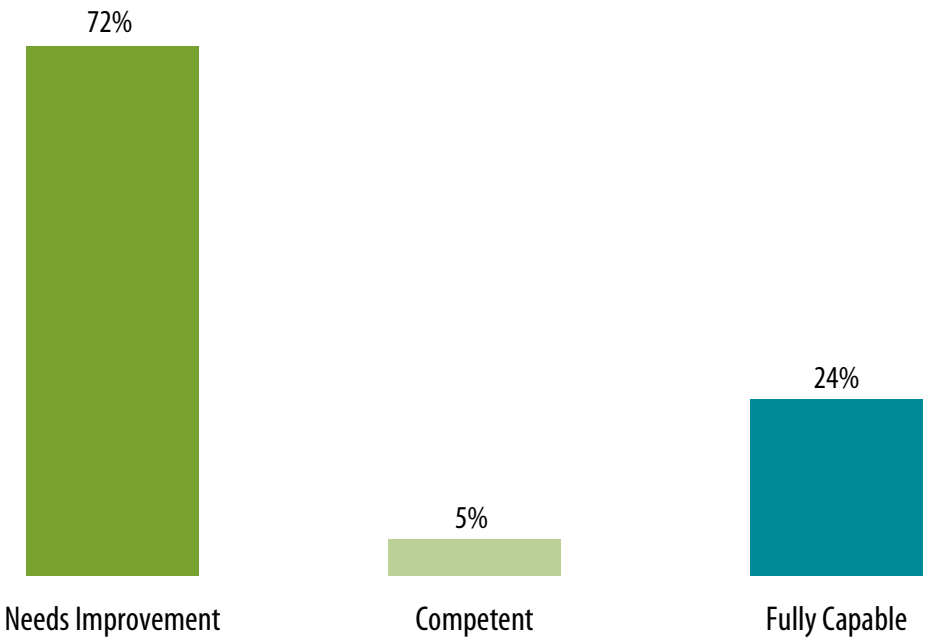
Fully Capable: Vector control organization performs all core and supplemental capacities

Competent: Vector control organization performs all core capacities

Needs Improvement: Vector control organization fails to perform one or more core capacities

Mosquito Surveillance and Control Capacity

Mosquito Program Capacity

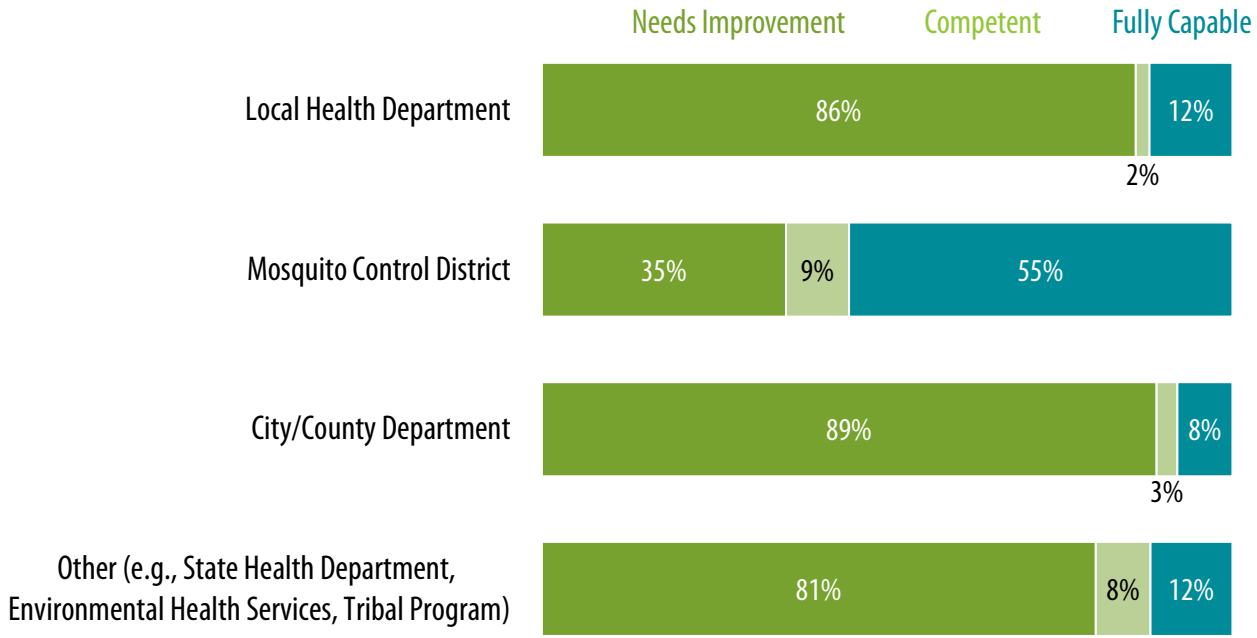


n=483

A majority of programs (72%) fell into the needs improvement category. This trend appeared to be driven mostly by limited capacity for pesticide resistance testing.

Mosquito Surveillance and Control Capacity

Mosquito Program Capacity, by Organization Type

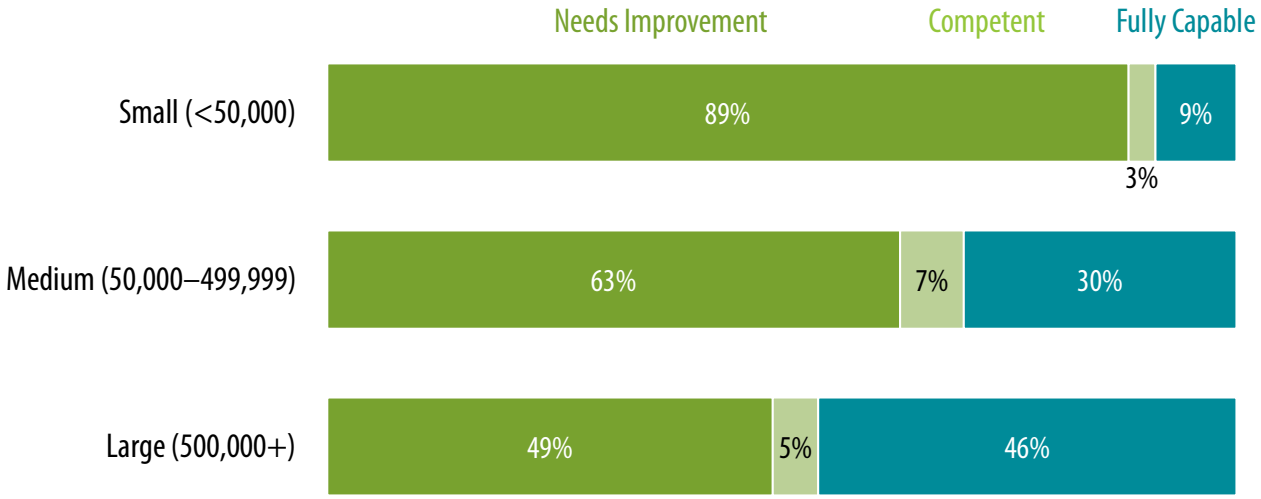


n(LHD)=226
n(MCD)=139
n(city/county)=92
n(other)=26

More than half of programs managed by mosquito control districts (55%) were fully capable, while 12% or fewer of those in other organization types were characterized as such.

Mosquito Surveillance and Control Capacity

Mosquito Program Capacity, by Size of Population Served

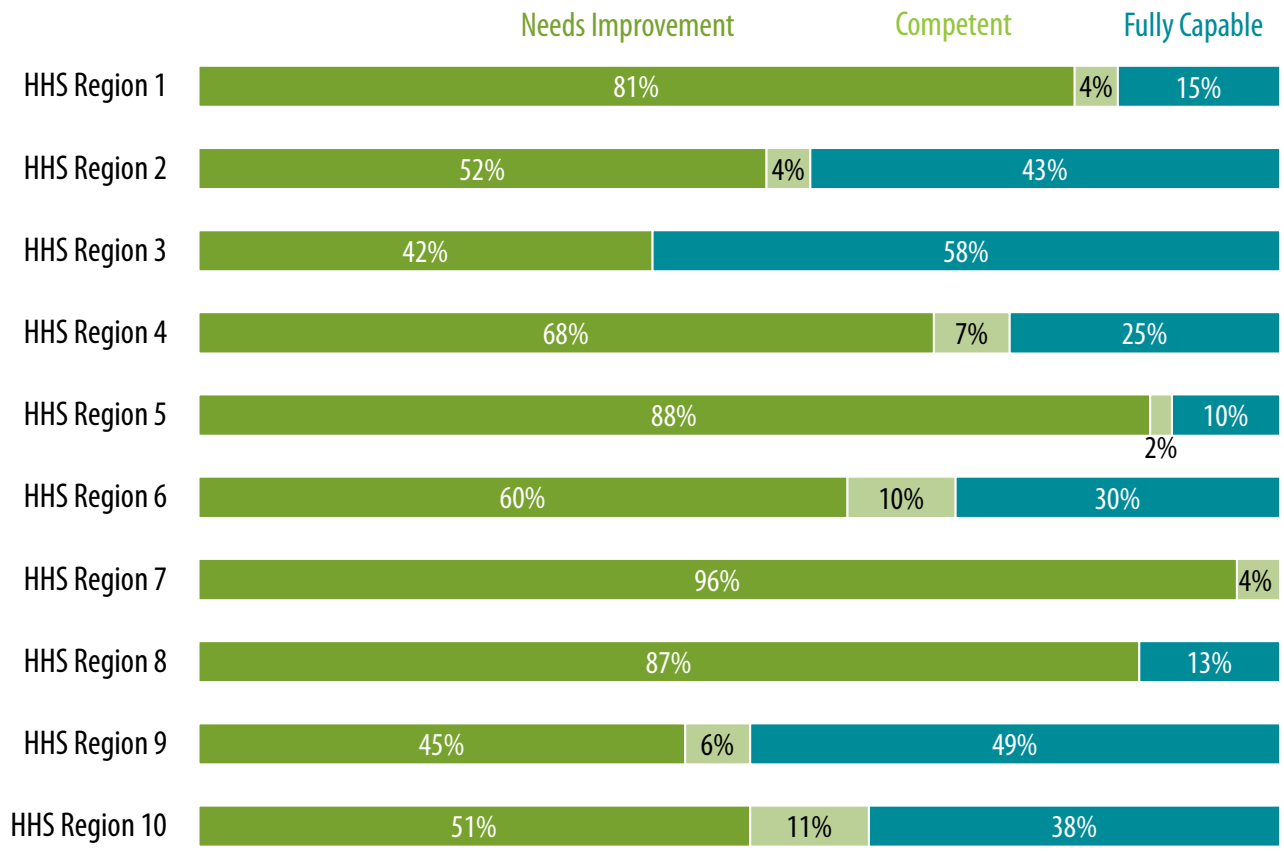


n(small)=200
n(medium)=198
n(large)=79

Programs serving larger populations (i.e., more than 500,000 people) were **more likely** to be fully capable compared to those serving smaller populations (i.e., less than 50,000 people).

Mosquito Surveillance and Control Capacity

Mosquito Program Capacity, by HHS Region



n(Region 1)=27
n(Region 2)=23
n(Region 3)=19
n(Region 4)=84
n(Region 5)=135
n(Region 6)=40
n(Region 7)=26
n(Region 8)=45
n(Region 9)=47
n(Region 10)=37

Program capacity was analyzed across the U.S. Department of Health and Human Services (HHS) Regions.

When analyzed by HHS Region, programs located in Region 3 (Pennsylvania, West Virginia, Maryland, Delaware) and Region 9 (Hawaii, California, Nevada, Arizona) were **most likely** to be fully capable.

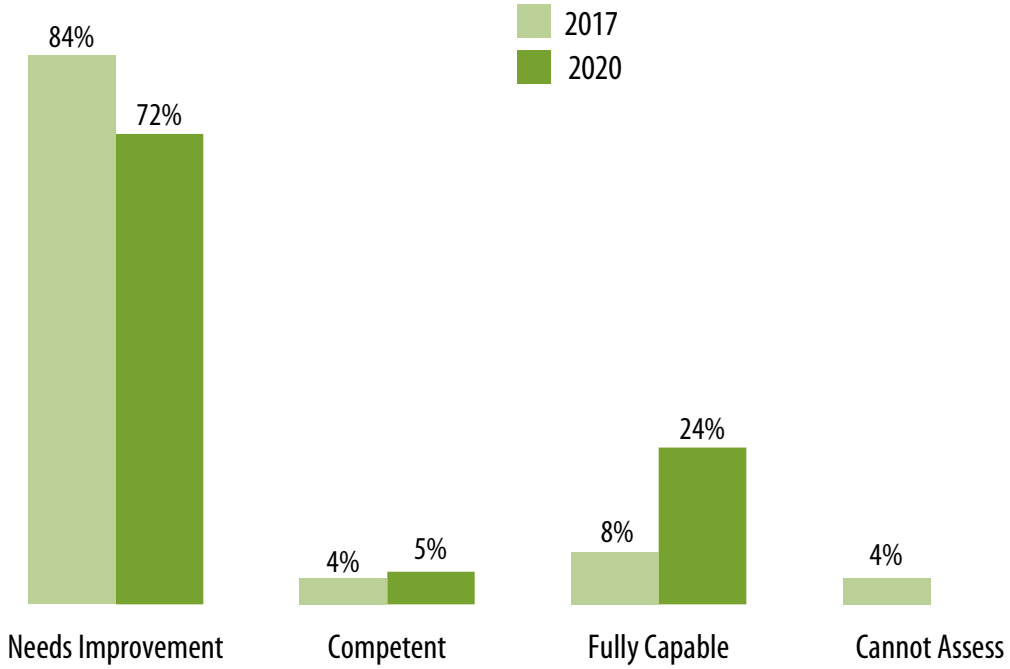
Notably, no programs in Region 7 (Nebraska, Iowa, Kansas, Missouri) reported being fully capable.

Programs in Region 5 (Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota) were **less likely** to be fully capable than those in many other regions. However, it should be considered that this region had a higher response rate than other regions; therefore, Region 5 did have a larger number but lower proportion of programs that were fully capable.

Note: Totals may not sum to 100% due to rounding.

Mosquito Surveillance and Control Capacity

Mosquito Program Capacity, Over Time



n(2017)=1,083
n(2020)=483

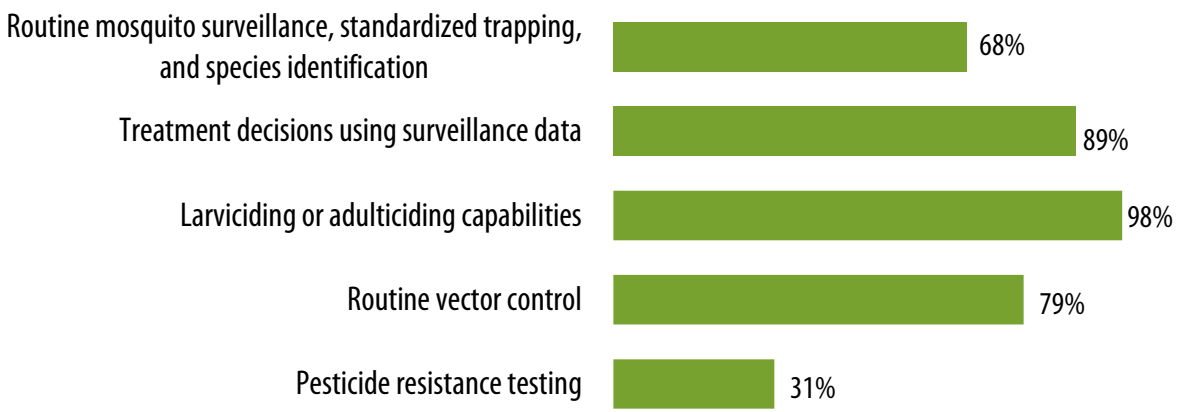
When compared to 2017, there was an overall trend of improvement. In particular, the proportion of programs categorized as needs improvement decreased by 12 percentage points. Meanwhile, the proportion of programs categorized as fully capable tripled.

Out of 483 responses in 2020, 348 were from programs that had also completed the assessment in 2017. Seventeen percent of these programs showed measurable improvement, with 11% moving from needs improvement to fully capable.

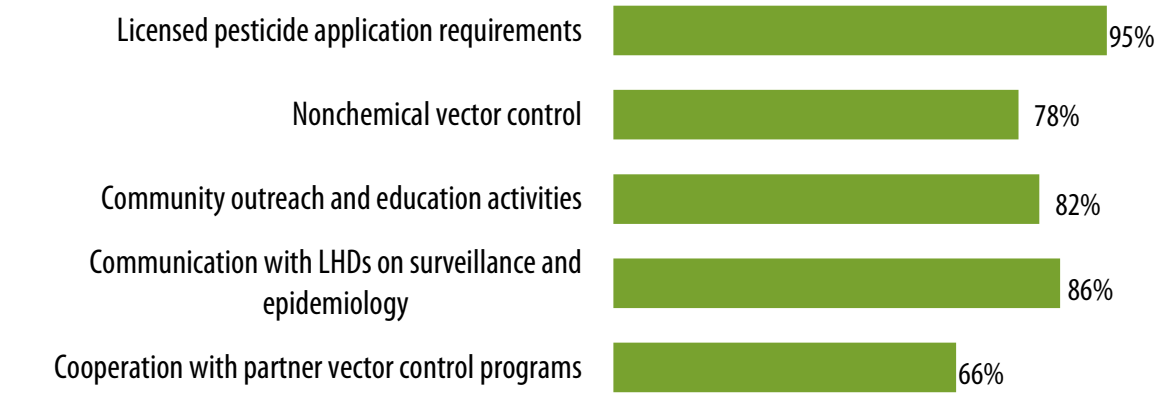
Mosquito Surveillance and Control Capacity

Mosquito Surveillance and Control Capacity, in 2020

Core Capacities



Supplemental Capacities



n=330–483

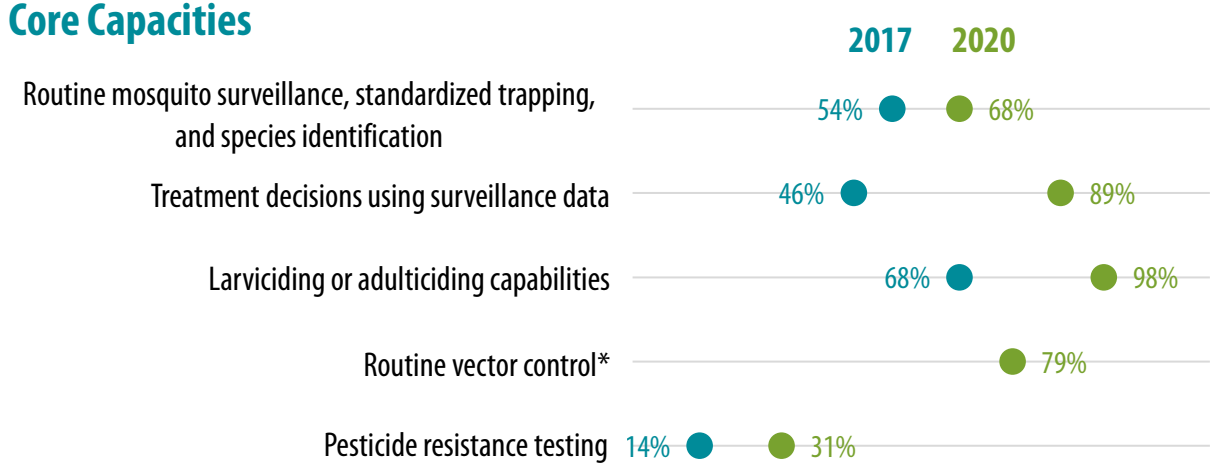
Most programs had the capacity to perform four out of five core activities and all supplemental activities.

Only 31% of respondents reported capacity to conducting pesticide resistance testing—the primary driver for programs characterized as needs improvement.

Mosquito Surveillance and Control Capacity

Changes in Mosquito Control and Surveillance Capacity, Over Time

Core Capacities



Supplemental Capacities

n(2017)=541–1,083, n(2020)=330–483

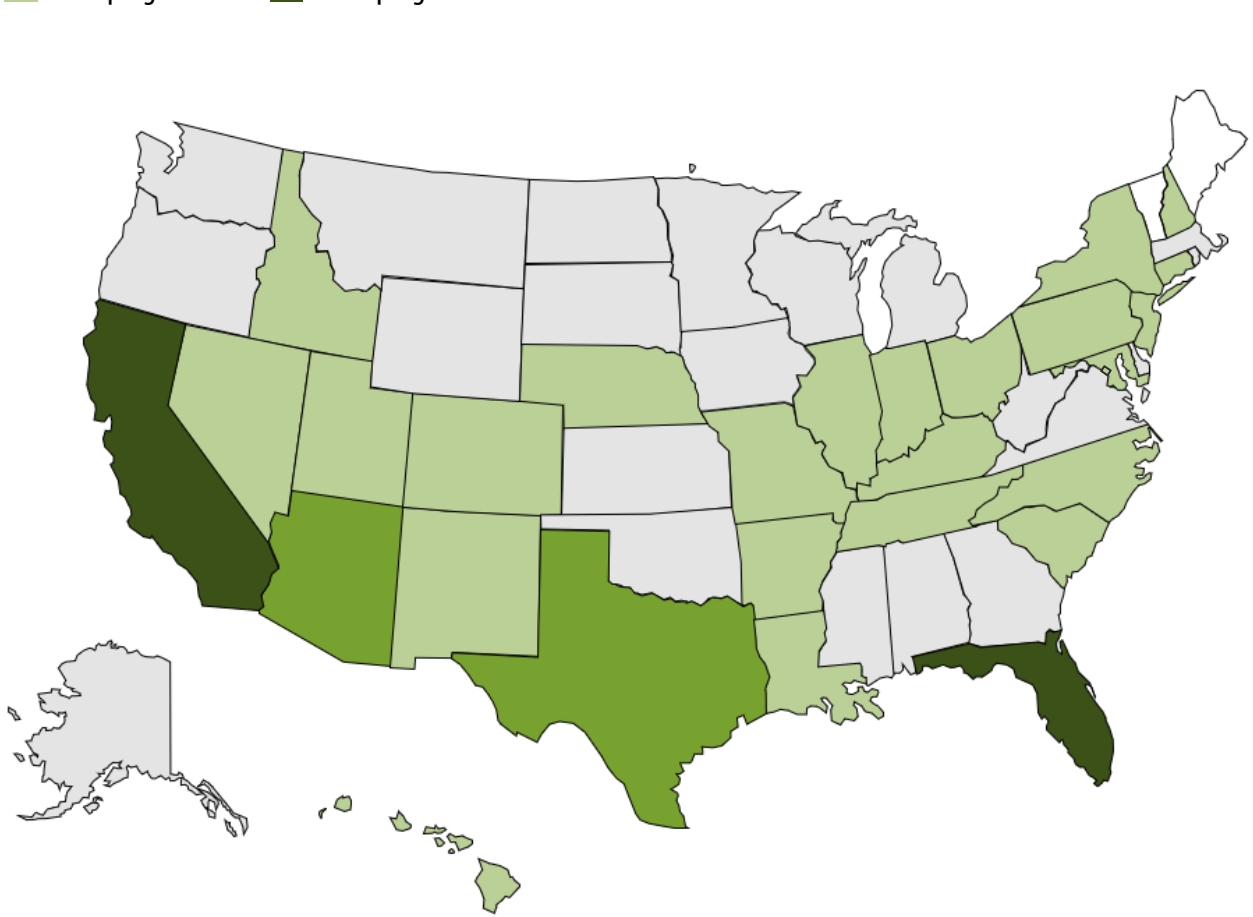
A higher proportion of programs were able to perform activities across the core and supplemental capacities in 2020 as compared to 2017. In particular, treatment decisions using surveillance data increased by 43 percentage points.

**In 2017, the assessment asked only about routine control for Aedes aegypti and Aedes albopictus, as Zika was of specific concern at this time. This item is not directly comparable to the 2020 assessment, which asked about routine control without regard to a specific species.*

***In 2020, this item was changed, but the results remain comparable.*

Mosquito Surveillance and Control Capacity

Aedes aegypti Targeted Control, by State



n=380

Programs in California and Florida were **most likely** to conduct control activities targeting *Aedes aegypti*.

Note: NACCHO does not have data for Maine and Vermont.

Mosquito Surveillance and Control Capacity

Remaining Gaps in Capacity

- Pesticide resistance testing remains the biggest gap in mosquito surveillance and control capacity.
- Routine mosquito surveillance has increased but continues to lag behind mosquito control capacity.
- Non-chemical vector control has increased but trails behind chemical control activities.
- Some programs may be applying pesticides without accompanying surveillance data to help guide those decisions.

Species-Specific Activities

- While not routine, of the programs that reported species-specific control activities, the most reported target species was *Culex pipiens*.
- *Culex pipiens* is a known vector for West Nile virus and is found across the northern continental United States.
- In 2021, an outbreak of West Nile virus disease was documented in Arizona, primarily around Maricopa County. With over 1,600 cases estimated, and over 1,100 of those cases classified as neuroinvasive, this outbreak is one of the largest in U.S. history. While West Nile virus disease outbreaks can be difficult to predict given the confluence of factors leading up to them, this latest outbreak emphasizes the need for continued investment in vector control and surveillance. As of now, West Nile virus disease has no specific medical treatment options, so minimizing contact with mosquitoes remains the best available strategy for lowering the risk of serious or potentially fatal disease.

Tick Surveillance and Control Activity

This assessment marks the first comprehensive national assessment of tick-related activity focused on program capacity at the local level. A survey of tick activity published in 2020[†] included some local or county public health professionals, as well as state-level professionals. The 2020 survey found that inconsistent funding, as well as limited infrastructure, guidance, and institutional capacity prevented local and state programs from expanding their tick surveillance and control activities. In addition, a 2019 report by NACCHO detailed similar findings regarding tick-related activity. LHDs reported insufficient staffing and lack of direct funding as barriers to conducting tick-related activities. The 2019 report also noted that a lack of uniform training for tick-related activities posed a challenge for LHDs.

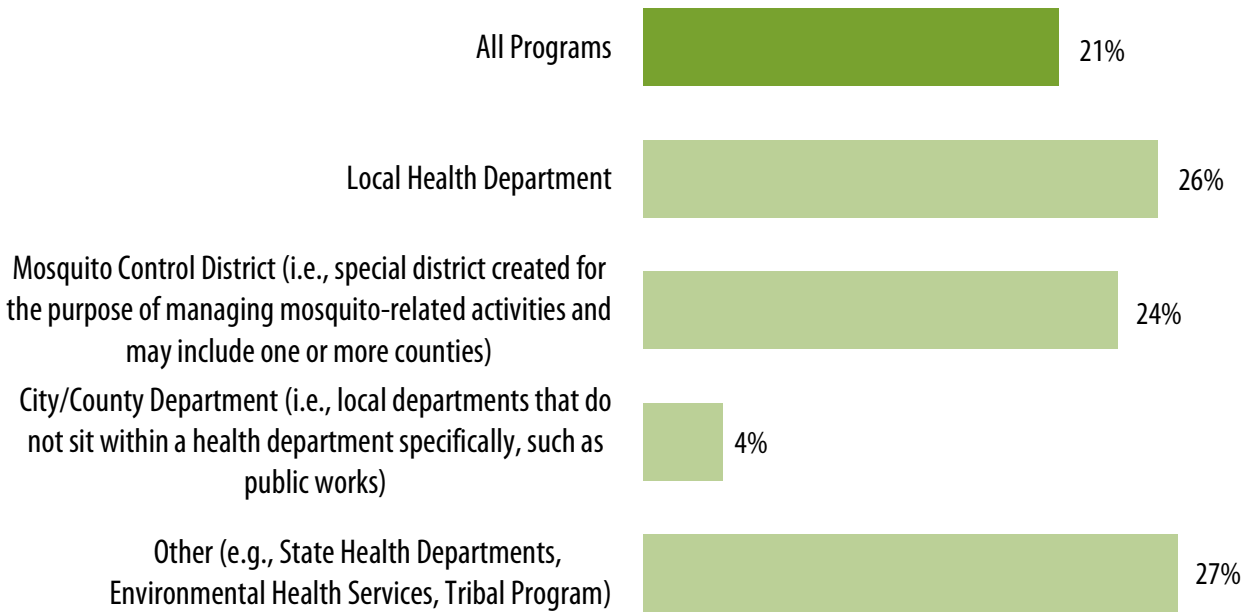
In the 2020 Vector Control Assessment, a much lower number of programs reported tick-related activities than mosquito-related activities. (A total of 483 programs responded to the mosquito assessment items. This number dropped down to 103 for the tick portion of the assessment.) Most programs reported some mosquito surveillance or control activities, but most programs were not engaged in tick surveillance or control. It should be noted that tick surveillance and control does not have the same structured set of best practices and core activities as mosquito surveillance and control.

The data from the 2020 Vector Control Assessment provides a baseline measure of local capacity for tick-related activity, and this information may be used to help inform future interventions in the field, which could include best practice guidance for tick control programs.

[†] *Emily M Mader, Claudia Ganser, Annie Geiger, Laura C Harrington, Janet Foley, Rebecca L Smith, Nohra Mateus-Pinilla, Pete D Teel, Rebecca J Eisen, A Survey of Tick Surveillance and Control Practices in the United States, Journal of Medical Entomology, Volume 58, Issue 4, July 2021, Pages 1503–1512, https://doi.org/10.1093/jme/tjaa094*

Tick Surveillance and Control Activity

Tick Surveillance, by Organization Type



n(all)=483
n(LHD)=226
n(MCD)=139
n(city/county)=92
n(other)=26

There were no significant trends observed among the organization types engaged in tick surveillance. While mosquito control districts notably outperformed for mosquito-related activities, LHDs and mosquito control districts reported conducting tick surveillance activities at similar rates.

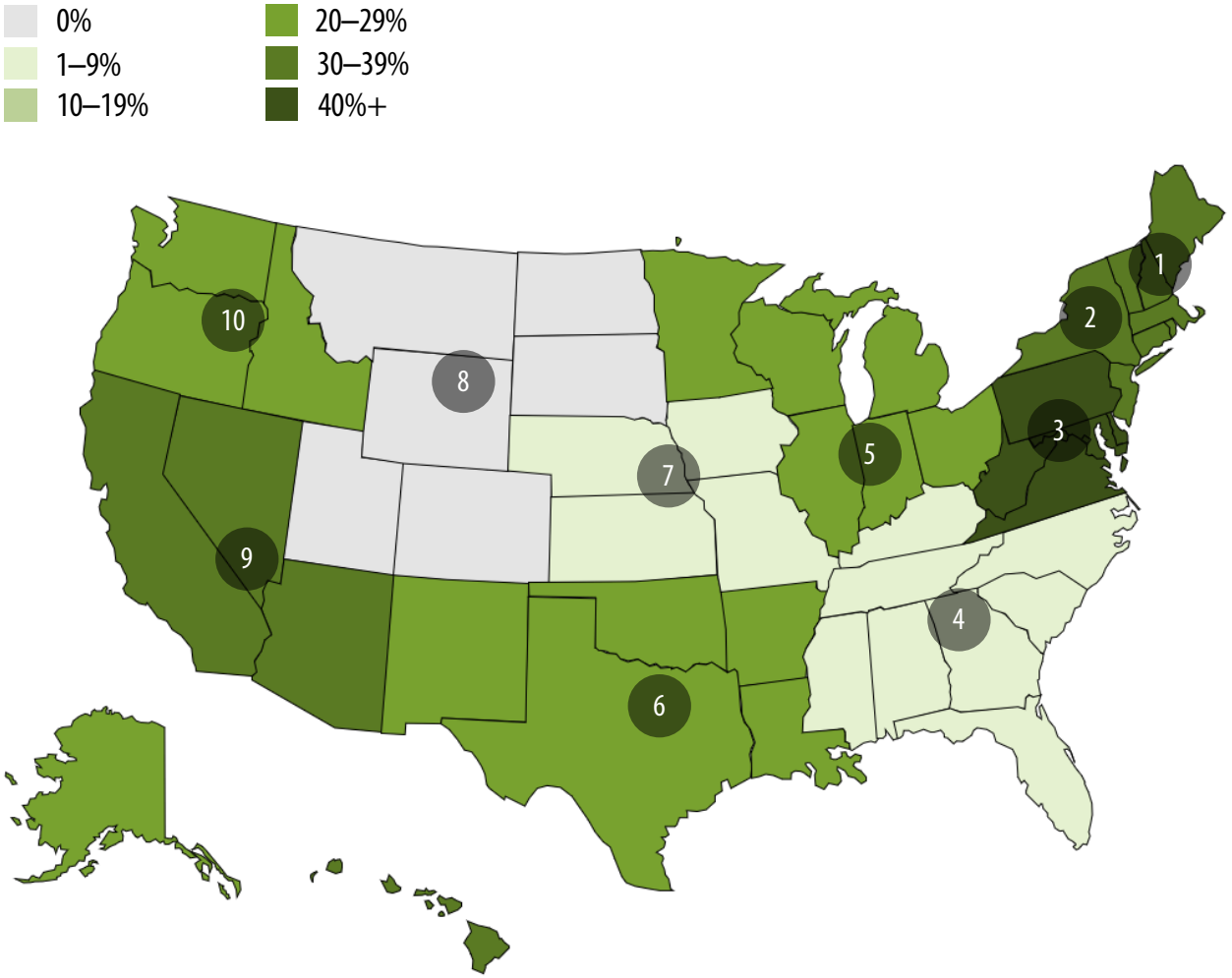
Of the programs engaged in tick surveillance, most (73%) reported dedicated funding.

Fifty-five percent of programs that were engaged in tick surveillance target *Ixodes scapularis*, the predominant vector for Lyme disease, and 50% target *Dermacentor variabilis*, a vector for Rocky Mountain spotted fever.

Nearly half of programs (45%) engaged in tick surveillance reported that they summarize and share this data with the public.

Tick Surveillance and Control Activity

Percent of Programs Conducting Tick Surveillance, by HHS Regions 1 through 10



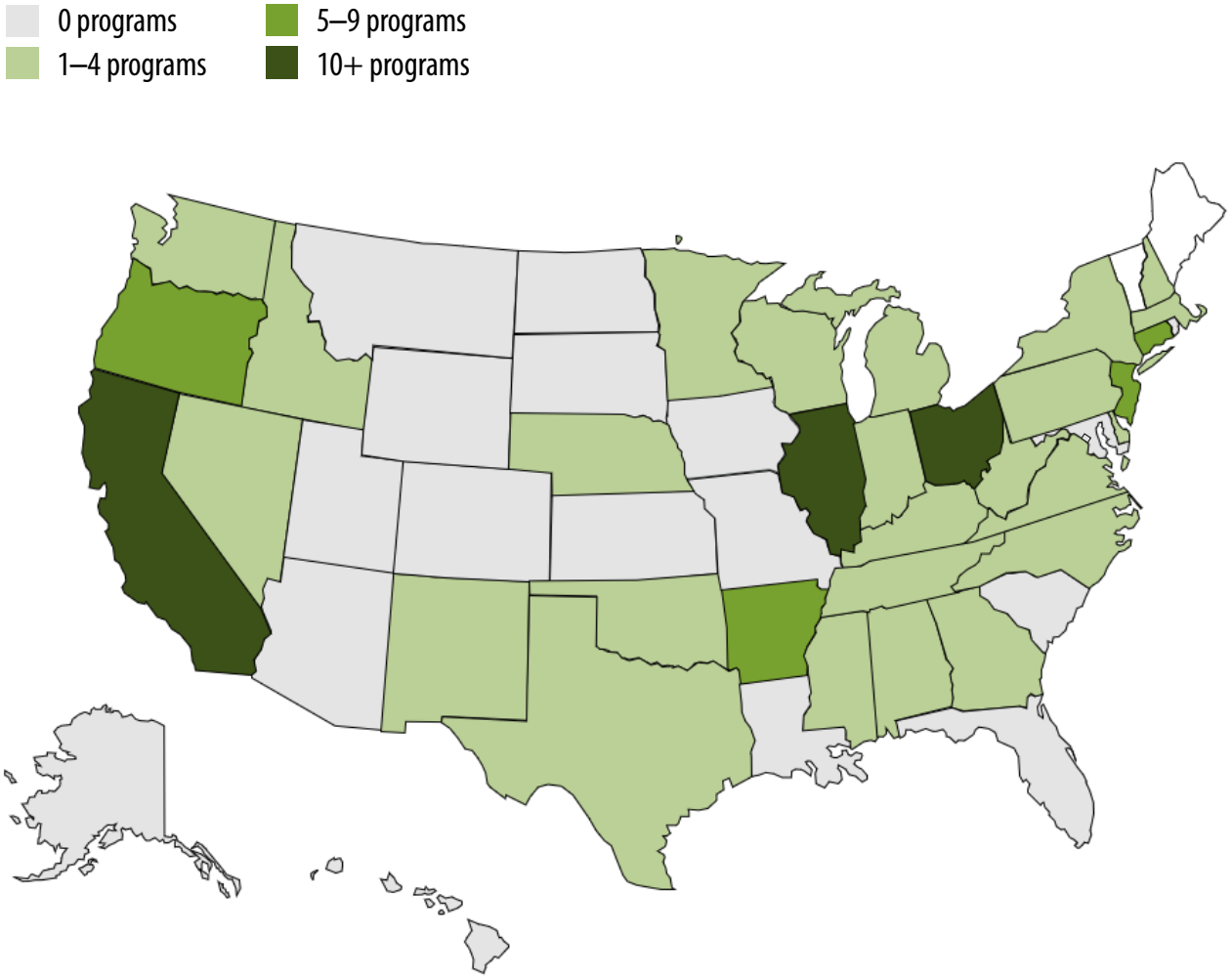
n=103

Of the 103 programs that were engaged in tick surveillance activities, those located in HHS Region 3 (Pennsylvania, Delaware, Maryland, West Virginia, Virginia) were **most likely** to conduct tick surveillance activities. Forty-seven percent of programs within this region reported tick surveillance activity.

Meanwhile, no programs located in HHS Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming) reported conducting tick surveillance activities.

Tick Surveillance and Control Activity

Tick Surveillance, by State



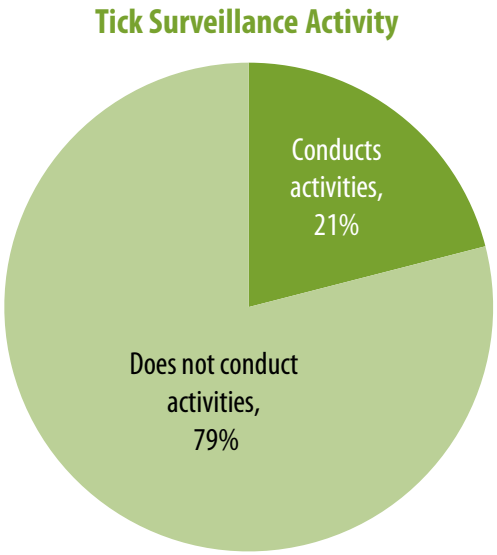
n=483

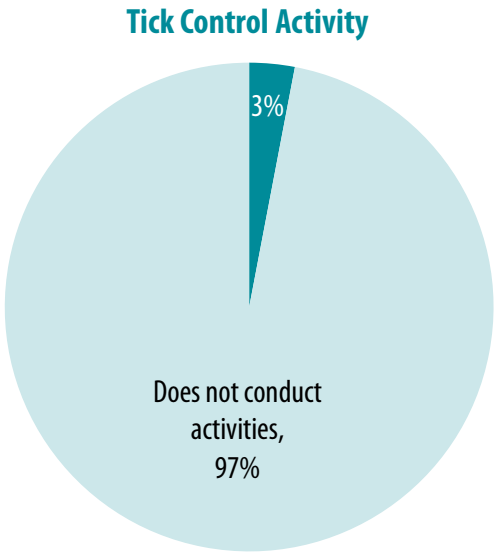
Of the 103 programs that were engaged in tick surveillance activities, those located in California, Illinois, and Ohio were **most likely** to conduct tick surveillance—with 16, 14, and 12 programs in each state doing so, respectively.

Note: NACCHO does not have data for Maine and Vermont.

Tick Surveillance and Control Activity

Tick Surveillance Compared to Tick Control Activity





n(surveillance)=483
n(control)=483

While reported rates of both tick surveillance and tick control were low, control activities lagged notably behind surveillance.

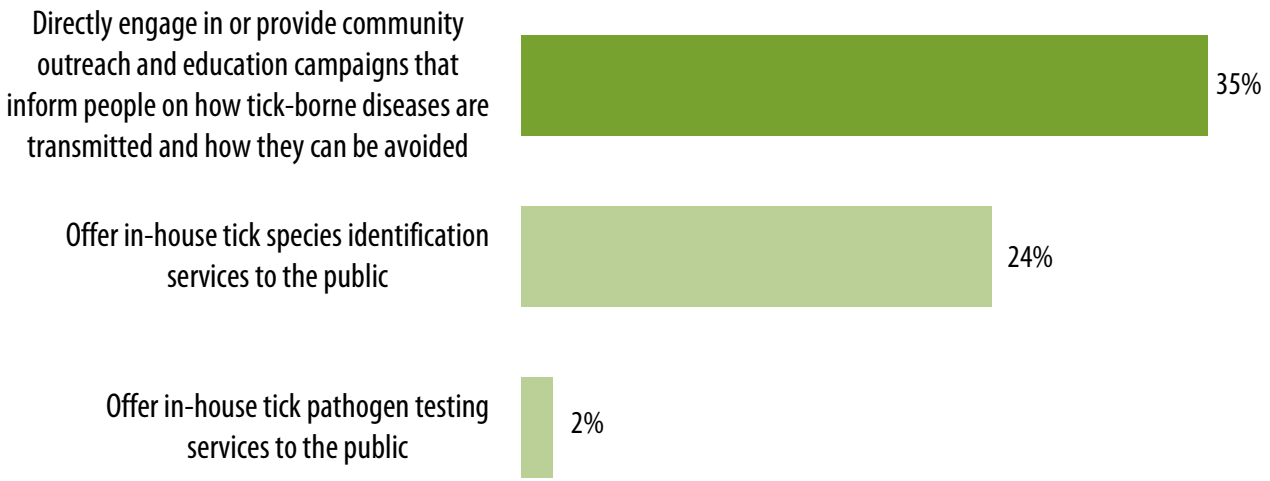
Approximately one in five respondents reported conducting tick surveillance activities. Only 3% of programs reported any type of tick control activity.

Tick surveillance activities may include tick collection and species identification.

Tick control activities may include application of synthetic chemical acaricide to kill host-seeking ticks or vegetation management (i.e., mowing or brush removal).

Tick Surveillance and Control Activity

Other Tick Activity



n=483

Thirty-five percent of programs provided community outreach and education that inform people on how tickborne diseases are transmitted and can be avoided.

In addition, 24% offered in-house tick species identification to the public. Only 2% offered in-house tick pathogen testing.

Conclusions and Recommendations

Mosquito surveillance and control capacity improved between 2017 and 2020. Most vector programs reported engaging in activities across the core and supplemental capacities.

However, most programs still need additional support to build capacity for pesticide resistance testing.

Many programs may benefit from additional support to build capacity for non-chemical vector control.

Some programs may be applying pesticides without accompanying surveillance data to help guide those decisions. Additional support may be needed to help bolster surveillance and evidence-based pesticide application efforts.

Across the 2017 and 2020 assessments, mosquito control districts continued to outperform LHDs in terms of mosquito control capacity.

Most programs were not engaged in tick surveillance or tick control activities. Tick control activities were notably lagging, with a vast majority of programs reporting no tick control activity at all. Given the prevalence of Lyme disease, urgent action may be needed to better understand the kind of obstacles local programs encounter around tick-related activities.

Most programs did not engage in education and outreach around preventing tickborne diseases. Increased resources or support may be needed to help bolster community engagement and education in this area.

Helpful Resource

Whether you are a local program establishing a mosquito surveillance and control program for the first time or considering building on current capacity, NACCHO's 'Practical Guide to Building Local Mosquito Control Capacity' can help. This resource educates, supports, and encourages local programs to be better prepared for future mosquito-borne disease outbreaks.

NACCHO
National Association of County & City Health Officials
The National Connection for Local Public Health

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Report authors include **Angana Roy**, MPH, **Chelsea Gridley-Smith**, PhD, **Danielle Chatelain**, MPH, **Timothy C. McCall**, PhD, **Kyle Brees**, MA, and **Kellie Hall**, MSOD, with support from **Anupama Varma**, MS.

The mission of the National Association of County and City Health Officials (NACCHO) is to improve the health of communities by strengthening and advocating for local health departments.

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www.naccho.org

Alameda County Mosquito Abatement Dist.

Check Register

For the Period From May 1, 2022 to May 15, 2022

Filter Criteria includes: Report order is by Date.

Check #	Date	Payee	Amount
3124	5/11/22	Adapco	8,783.62
3125	5/11/22	Airgas	805.36
3126	5/11/22	Argo Adventure	944.37
3127	5/11/22	AT&T	69.81
3128	5/11/22	Berkeley JuneTeenth Cultural	100.00
3129	5/11/22	California Department of Public Health	2,941.00
3130	5/11/22	Cintas	405.58
3131	5/11/22	Coverall North America, Inc.	990.00
3132	5/11/22	Delta Dental	4,679.81
3133	5/11/22	Engravit	24.26
3134	5/11/22	Grainger	27.56
3135	5/11/22	Industrial Park Landscape Maintenance	243.00
3136	5/11/22	Mihaylo, Sky	4,860.00
3137	5/11/22	NBC Supply Corp	861.19
3138	5/11/22	Nearmap US, Inc	2,000.00
3139	5/11/22	PFM Asset Management LLC	1,909.71
3140	5/11/22	PG&E	254.28
3141	5/11/22	Schaeffer MFG.Co.	1,674.71
3142	5/11/22	Target Specialty Products	76.32
3143	5/11/22	Techniclean	143.83
3144	5/11/22	U.S Bank Corporate Payment System	11,015.67
3145	5/11/22	Voya Institutional Trust Company	179.93
3146	5/11/22	Waste Management of Alameda County	297.04
ACH	5/11/22	Alameda County Mosquito Abatement Dist (Payroll)	79,044.12
ACH	5/11/22	CalPERS Retirement	15,201.20
ACH	5/11/22	CalPERS 457	2,973.86
		Total Expenditures - May 15, 2022	**140,506.23**

Alameda County Mosquito Abatement Dist.

Check Register

For the Period From May 16, 2022 to May 31, 2022

Filter Criteria includes: Report order is by Date.

Check #	Date	Payee	Amount
3149	5/25/22	Airgas	651.63
3150	5/25/22	Alco Sheet Metal and Heating, Inc.	485.00
3151	5/25/22	Bay Alarm	801.71
3152	5/25/22	Tom Branan	264.00
3153	5/25/22	Burns, Andrew	144.00
3154	5/25/22	CCCMA Occupational Clinic	125.00
3155	5/25/22	Cintas	225.16
3156	5/25/22	East Bay EDA	1,500.00
3157	5/25/22	Grainger	407.91
3158	5/25/22	Hentschke, Eric Armin	100.00
3159	5/25/22	Regional Government	374.00
3160	5/25/22	Testa, Julie	100.00
3161	5/25/22	The Hartford	214.38
3162	5/25/22	Treds	947.26
3163	5/25/22	Verizon	502.50
3164	5/25/22	Voya Institutional Trust Company	179.93
3165	5/25/22	VSP	693.24
3166	5/25/22	WEX Bank	5,095.41
ACH	5/25/22	Alameda County Mosquito Abatement Dist (Payroll)	83,913.84
ACH	5/25/22	Aguilar, Victor	100.00
ACH	5/25/22	Beatty, Robert .P	100.00
ACH	5/25/22	Bhat, Subrahmanya Y	100.00
ACH	5/25/22	CalPERS Health	38,744.41
ACH	5/25/22	CalPERS Retirement	15,201.20
ACH	5/25/22	CalPERS 457	2,973.86
ACH	5/25/22	Jordan, Preston	100.00
ACH	5/25/22	Kumagai, Shawn	100.00
ACH	5/25/22	Marquez, Elisa	100.00
ACH	5/25/22	Roache, Cathy J Pinkerton.	100.00
ACH	5/25/22	Salzer, Hope	100.00
ACH	5/25/22	Savage, Tyler	100.00
ACH	5/25/22	Welch, Courtney	100.00
		Total Expenditures - May 31, 2022	**154,644.44**

Voided checks:
3147, 3148

Alameda County Mosquito Abatement District
Income Statement
May 31, 2022. (11 of 12 mth, 92%)

REVENUES	Actual 2019/20	Actual 2020/21	Current Month	Year to Date 2021/22	Budget 2021/22	Actual vs Budget
Total Revenue	**$ 4,986,220.87**	**$ 5,150,753.15**	**$ 218,346.54**	**$ 5,379,605.13**	**$ 4,765,864.00**	113%

EXPENDITURES	Actual 2019/20	Actual 2020/21 [1]	Current Month [2]	Year to Date 2021/22	Budget 2021/22	Actual vs Budget
Salaries	**$ 1,970,928.74**	**$ 2,029,103.97**	**$ 184,199.33**	**$ 1,941,522.17**	$2,236,282	87%
CalPERS Retirement	**$ 378,832.61**	**$ 423,110.21**	**$ 17,826.04**	**$ 453,076.30**	$473,950	96%
Medicare & Social Security	**$ 29,651.04**	**$ 27,866.82**	**$ 2,502.57**	**$ 27,046.08**	$33,062	82%
Fringe Benefits	**$ 465,466.14**	**$ 502,898.39**	**$ 44,595.84**	**$ 479,006.86**	$579,596	83%
Total Salaries, Retirement, & Benefits	**$ 2,844,878.53**	**$ 2,982,979.39**	**$249,124**	**$2,900,651**	**$3,322,890**	**87%**
Clothing and personal supplies (purchased)	**$ 6,213.94**	**$ 4,859.20**	**$ 402.02**	**$ 5,249.67**	$10,000	52%
Laundry service and supplies (rented)	**$ 10,648.44**	**$ 9,124.98**	**$ 630.74**	**$ 8,719.77**	$15,000	58%
Utilities	**$ 25,962.21**	**$ 15,421.56**	**$ 551.32**	**$ 16,601.63**	$17,000	98%
Communications-IT	**$ 80,735.47**	**$ 71,771.02**	**$ 4,635.06**	**$ 56,879.36**	$112,400	51%
Maintenance: structures & improvements	**$ 16,678.86**	**$ 20,261.51**	**$ 954.36**	**$ 22,025.79**	$35,000	63%
Maintenance of equipment	**$ 20,599.88**	**$ 22,290.34**	**$ 3,935.21**	**$ 22,615.11**	$35,000	65%
Transportation, travel, training, & board	**$ 95,813.55**	**$ 74,653.03**	**$ 11,751.59**	**$ 108,705.16**	$127,630	85%
Professional services	**$ 111,224.89**	**$ 91,622.03**	**$ 2,408.71**	**$ 89,081.83**	$203,450	44%
Memberships, dues, & subscriptions	**$ 26,316.50**	**$ 22,906.45**	**$ 1,500.00**	**$ 21,902.00**	$24,000	91%
Insurance - (VCJPA, UAS)	**$ 134,833.60**	**$ 141,650.37**	**$ -**	**$ 160,687.48**	$150,611	107%
Community education	**$ 23,283.51**	**$ 26,317.23**	**$ 756.91**	**$ 12,897.38**	$39,500	33%
Operations	**$ 179,304.00**	**$ 223,362.22**	**$ 10,348.04**	**$ 117,609.59**	$239,000	49%
Household expenses	**$ 14,817.21**	**$ 15,882.05**	**$ 1,963.10**	**$ 20,241.13**	$17,350	117%
Office expenses	**$ 13,760.57**	**$ 9,747.67**	**$ 192.92**	**$ 4,791.24**	$12,000	40%
Laboratory supplies	**$ 100,794.23**	**$ 64,135.55**	**$ 5,618.38**	**$ 67,773.32**	$144,000	47%
Small tools and instruments	**$ 2,055.54**	**$ 2,189.34**	**$ 380.53**	**$ 1,562.58**	$3,000	52%
Total Staff Budget	**$ 863,042.40**	**$ 816,194.55**	**$ 46,028.89**	**$ 737,343.04**	**$1,184,941**	**62%**
Total Operating Expenditures	**$ 3,707,920.93**	**$ 3,799,173.94**	**$ 295,152.67**	**$ 3,637,994.45**	**$4,507,831**	**81%**

1 - As of June 30, 2021.
2 - Total Operating Expenditures in current month may not match the check register due to accounts receivable and petty cash transactions.

Alameda County Mosquito Abatement District
Investment, Reserves, and Cash Balance Report
May 31, 2022. (11 of 12 mth, 92%)

Account #	Investment Accounts	Beginning Balance	Deposits	Withdrawls	Earnings [1]	Ending Balance
1004	LAIF	$ 3,617,678.92	$ -	$ -	$ (296,000.00)	$ 3,321,678.92
1005	OPEB Fund	$ 4,728,224.49	$ -	$ -	$ (2,961.40)	$ 4,725,263.09
1006	VCJPA Member Contingency [2]	$ 371,021.00	$ -	$ -	$ (14,582.00)	$ 356,439.00
1008	CAMP: Repair and Replace	$ 1,356,584.64	$ -	$ -	$ 944.56	$ 1,357,529.20
1009	CAMP: Public Health Emergency	$ 526,732.43	$ -	$ -	$ 366.75	$ 527,099.18
1010	CAMP: Operating Reserve	$ 1,946,221.06	$ -	$ -	$ 1,355.11	$ 1,947,576.17
1011	CAMP: Capital Reserve Fund	$ 30,026.35	$ -	$ -	$ 20.91	$ 30,047.26
1012	PARS: Pension Stabilization [3]	$ 1,772,593.51	$ -	$ -	$ (82,659.71)	$ 1,689,933.80
	Total	**$ 14,349,082.40**	**$ -**	**$ -**	**$ (393,515.78)**	**$ 13,955,566.62**

	Cash Accounts	Beginning Balance	Withdrawls	Activity	Ending Balance
1001	Bank of America (Payroll Account) *	$ 89,340.03	-	-	$ 5,803.13
1002	Bank of The West (Transfer Account) *	$ 393,903.03	-	-	$ 492,585.97
1003	County Account	$ 2,223,197.48	$ -	$ 218,346.54	$ 2,441,544.02
1013	Petty Cash	$ 403.13	$ -	$ (2.00)	$ 401.13
	Total	**$ 2,706,843.67**	**$ -**	**$ 218,344.54**	**$ 2,940,334.25**

1 - Earnings are booked as unrealized gains/losses. These earnings would not be recognized as "realized" gains/losses until the accounts are liquidated.
2 - VCJPA Member Contingency balance is as of March 31, 2022.
3 - PARS - Pension Stabilization balance is as of April 30, 2022.
* - Ending balance differs from beginning balance due to checks clearing the account.

Alameda County Mosquito Abatement
Balance Sheet Comparison
May

	5/31/2022	5/31/2021	5/31/2020
ASSETS			
Current Assets			
Bank of America payroll	$ 90,033.45	$ 103,911.08	$ 107,594.53
Bank of the West	446,995.09	2,327,614.86	396,152.77
County	2,441,544.02	356,406.23	317,766.53
Cash with LAIF	3,321,678.92	2,419,033.93	1,048,188.85
VCJPA- Member Contingency	356,439.00	371,828.00	369,337.00
CAMP - Repair and Replace	1,357,529.20	1,040,942.22	976,101.17
CAMP - Public Health Emergency	527,099.18	526,198.97	525,187.39
CAMP - Operating Reserve	1,947,576.17	1,944,249.96	1,940,512.29
CAMP - Capital Reserve Fund	30,047.26	19,991.70	131,241.90
PARS	1,689,933.80	1,833,021.75	1,604,301.39
Deposit in transit	-	-	1,939,433.04
Petty cash	401.13	405.78	224.83
Total Current Assets	**12,209,277.22**	**10,943,604.48**	**9,356,041.69**
Property and Equipment			
Acc Dep - equipment	(1,479,068.00)	(1,479,068.00)	(1,282,441.98)
Acc Dep - stru & improv	(2,485,267.00)	(2,485,267.00)	(2,349,631.01)
Construction in progress	-	-	602,327.16
Equipment	1,751,859.00	1,751,859.00	1,699,506.64
Structure/improvement	4,799,729.70	4,799,729.70	4,638,621.62
Land	61,406.00	61,406.00	61,406.00
Total Property and Equipment	2,648,659.70	2,648,659.70	3,369,788.43
Other Assets			
Net OPEB Asset	2,522,763.00	1,823,556.00	690,338.00
Total Other Assets	2,522,763.00	1,823,556.00	690,338.00
Total Assets	**$ 17,380,699.92**	**$ 15,415,820.18**	**$ 13,416,168.12**
LIABILITIES AND CAPITAL			
Current Liabilities			
Accounts payable	$ 104,526.08	$ 154,773.46	$ 165,962.03
Acc payroll/vacation	208,228.89	200,290.26	187,668.43
Def inflow - 75	1,254,695.00	931,786.00	49,810.00
Def inflow pen defer GASB 68	289,664.00	289,664.00	192,480.00
Defer outflow pen cont GASB 68	(1,056,534.00)	(1,056,534.00)	(1,208,279.00)
Net pension liability GASB 68	3,277,554.00	3,277,554.00	2,952,714.00
Total Current Liabilities	$ 4,078,133.97	$ 3,797,533.72	$ 2,340,355.46
Total Liabilities	**4,078,133.97**	**3,797,533.72**	**2,340,355.46**
Capital			
Designated fund balances	4,816,355.25	4,440,057.25	4,763,137.19
Investment in general fixed as	6,894,403.96	5,296,151.61	4,637,374.11
Net Income	1,591,806.74	1,882,077.60	1,675,301.36
Total Capital	13,302,565.95	11,618,286.46	11,075,812.66
Total Liabilities & Capital	**$ 17,380,699.92**	**$ 15,415,820.18**	**$ 13,416,168.12**

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MONTHLY STAFF REPORT –1102

A. OPERATIONS REPORT

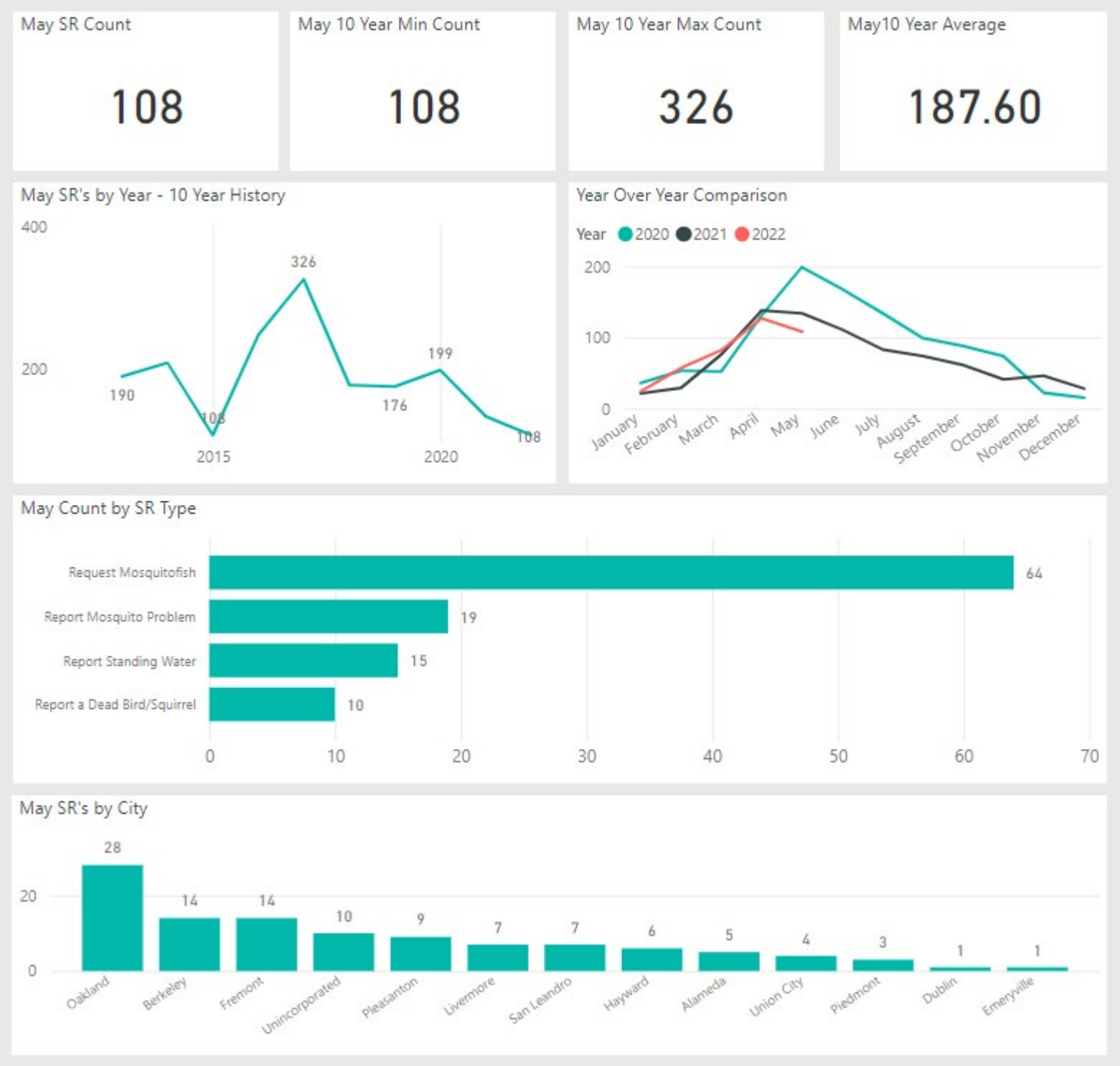
In May, operations staff continued to focus on our county's spring & summer mosquito species. The main target gerera was *Culex* which has the potential to vector West Nile virus. Larvae of all three of our main *Culex spp.: Cx. pipiens, Cx. tarsalis,* and *Cx. erythrothorax* were collected, identified to species, and treated by operations staff. *Cx. pipiens* tend to breed in foul-water sources such as catch basins and sanitation treatment facilities. Operations staff, including our new operation seasonal employee, are routinely treating catch basin treatments throughout the county for *Culex* species. *Cx. tarsalis* were primarily collected in freshwater marshes, slow moving canals, creeks, and unmaintained swimming pools. *Cx. erythrothorax* is closely associated with tule and bullrush in freshwater marsh habitats with difficult to collect larvae but which produces significant numbers of adults collected in traps. During the latter part of May, a large marsh in Union City was treated for this species with the ACMAD A-1 Super Duty mist blower. This was the first time this piece of equipment was utilized in this habitat type for this mosquito species by our district. Post-treatment inspections indicated that the treatment was effective. Inspections and treatments for all three of these *Cx. spp.* will continue in the months to come.

May also saw a significant high-tide event that inundated and induced hatching of eggs of *Aedes dorsalis* in tidal salt marshes in Union City, Newark, and Fremont. Operations staff conducted numerous treatments by hand and with the A-1. Post-treatment inspections, field observations, lab adult trapping data, and service request data all indicated that these treatments were effective. Two high-tide events, including one significant high-tide event, will occur over each of the next six months. Each of these has the potential to cause a hatch of eggs of this species. Operations staff has these dates calendared to coordinate inspections, treatments, adult mosquito trapping, service request response, and public outreach around these tide events. The goal is to ensure that larvae are detected and treated within the limited window available to prevent adults of this aggressive day-biting mosquito from emerging.

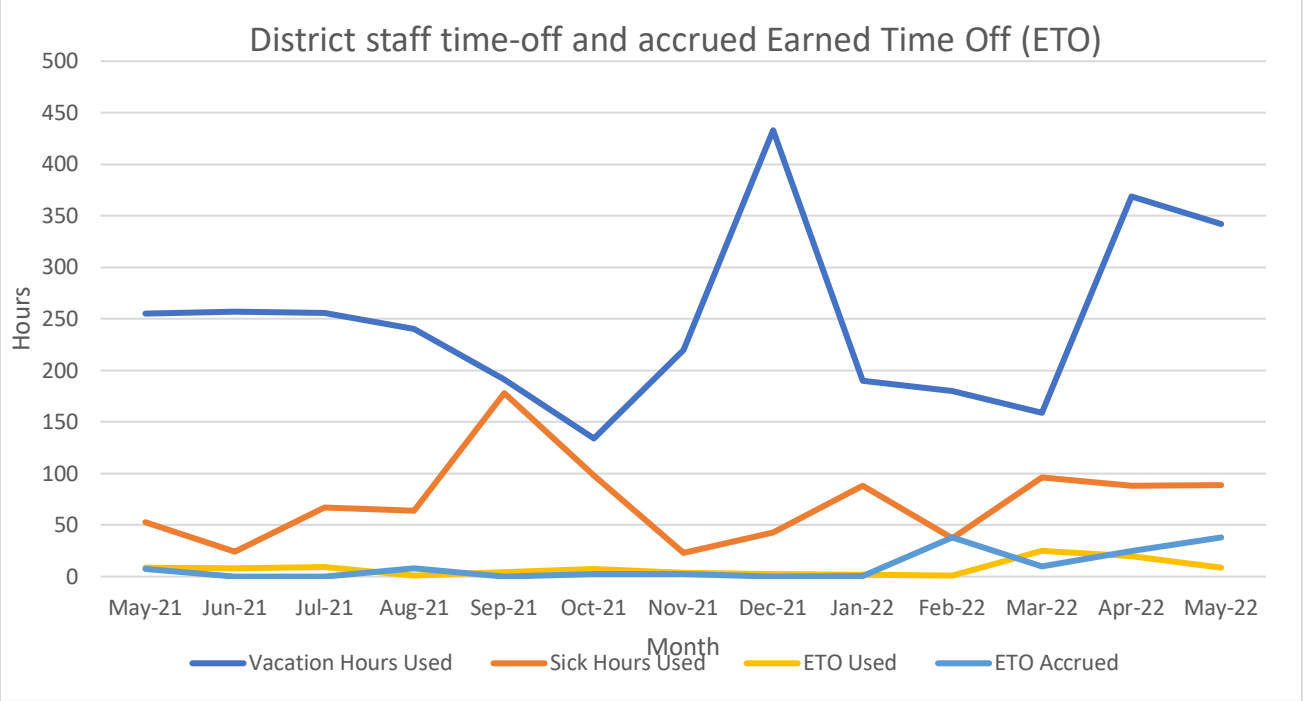
Service requests received from the public in May were at the lowest of the ten-year average for the month. Reports of dead birds, which were recently included in the monthly request count, added ten requests to the overall number of 108. All ten of these birds tested negative via ACMAD's lab and to date in 2022, no WNV positive birds or adult mosquitoes were collected in Alameda County. As per usual, more than half of the requests received by the district were requests for mosquito fish for ornamental ponds, water gardens, unmaintained swimming pools, and livestock watering troughs. Of the 19 requests to report a "mosquito problem", about half were attributed to non-biting "mosquito-like" insects such as midges and various fly species. Of the remaining "mosquito problem" calls, five were attributed to *Culiseta incidens* mostly from backyard standing water sources, three to *Culex pipiens* from catch basins, and one to *Aedes sierrensis* from a tree-hole. Of the requests to "report standing water" ten were for sources that were on the properties of the callers and the remaining five were to report standing water in street gutters, for containers, or unmaintained swimming pools on neighboring properties.

Field Operations Supervisor
Joseph Huston

Service Requests

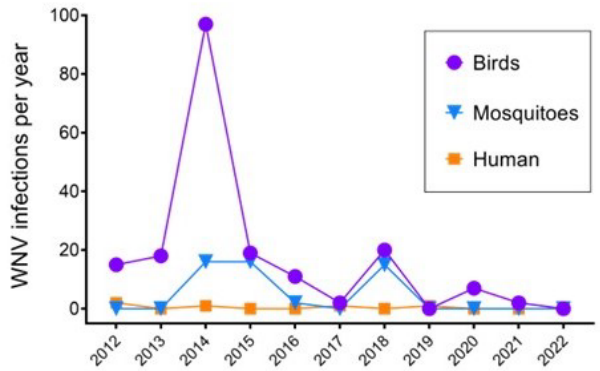


Activity Report

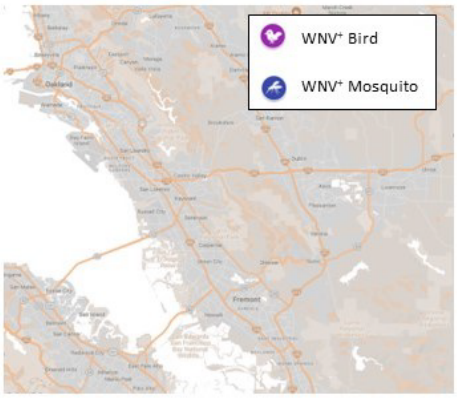


WNV Activity

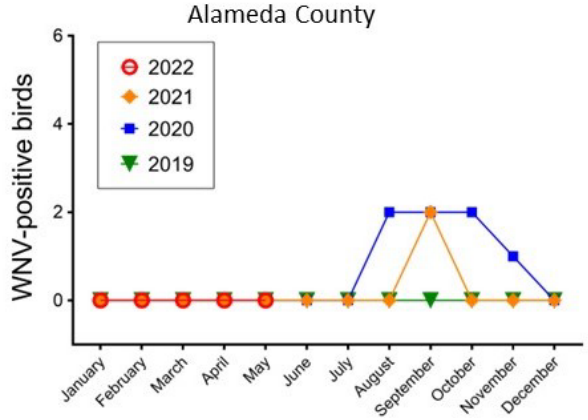
WNV infections detected in Alameda County 2012 – 2022



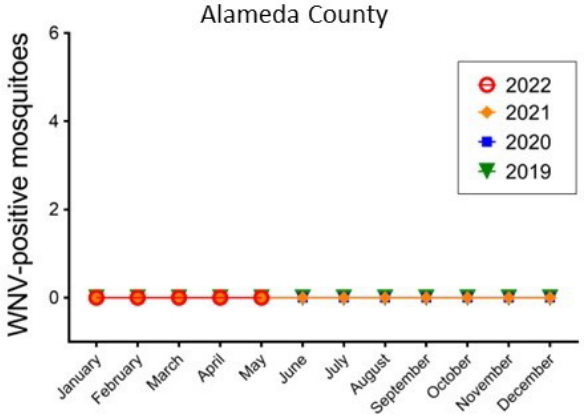
Locations of WNV-infected mosquitoes and birds in Alameda County during 2022



WNV-infected birds collected in Alameda County



WNV-infected mosquitoes collected in Alameda County



B. LAB

Summary

- *Arboviruses.* West Nile virus (WNV) was not detected in birds during May 2022. Saint Louis encephalitis virus (SLEV) and Western equine encephalitis virus (WEEV) were not detected in Alameda County during the prior 5 years.
- *Native mosquitoes.* A total of 494 CO_2-baited encephalitis virus survey (EVS) traps were placed during May, catching 7,665 adult female mosquitoes (15.5 mosquitos per trap night). Three New Jersey Light Traps (NJLT) captured 161 adult mosquitoes during the same period.
- Sentinel chicken flocks were placed in Livermore and Newark. None of the chickens show signs of WNV, SLEV, or WEEV infection.
- Invasive *Aedes* mosquitoes were not detected in Alameda County during 2022.

Arbovirus Monitoring

- WNV was not detected in birds or mosquitoes during April. WNV was last detected in birds collected in Alameda County during September 2021 (WNV Activity figure, above).
- WNV was last detected in mosquitoes during 2018 (WNV Activity figure, above). Although the lab tests all groups of mosquitoes for the presence of SLEV and WEEV, neither have not been detected in the County for over a decade.
- New sentinel chickens were placed in the coops that were established previously in Livermore and Newark. Both sites required substantial maintenance before the chickens could be placed. Blood collected from each chicken was tested for antibodies against WNV, SLEV and WEEV. None of the chickens showed signs of infection (i.e., they had not seroconverted).

Native Mosquito Abundance

- The following species are the principal transmitters of WNV, SLEV and WEEV in California: *Culex pipiens* (occurs predominantly in urban settings), *Culex tarsalis* (associated with marsh and peri-urban areas), and *Culex erythrothorax* (occurs exclusively in marsh but adults can disperse into nearby communities).
- 494 CO_2-baited EVS traps were placed during May. A total of 7,665 adult female mosquitoes were collected, which was 4 % more than the prior month (Figure 1; 15.5 mosquitos per trap night). Adult mosquito abundance during 2022 has been higher than prior years (Figure 1), predominantly due higher quantities *Cx. tarsalis* and *Aedes washinoi* in marsh habitats. Forty-three of the EVS traps did not collect any mosquitoes (Figure 2A, upper right insert).
- EVS traps from northern region of the county (Albany to San Leandro) captured a low quantity of *Cx. pipiens* and *Culiseta incidens* (Figure 2B). A moderate quantity of *Cx. tarsalis* were collected in the salt marsh that is southeast of Oakland Airport (Figure 2A, 2B).
- A large quantity of adult *Cx. erythrothorax* were collected in Coyote Hills Regional Park and in the marsh habitat nearby that abuts Seabreeze Park in Union City (N = 890). Larval monitoring practices are insufficient for this species due to their close association with tule and bulrush that makes their collection challenging. Thus, control efforts for this species are typically initiated when adult mosquito abundance is anomalously high. As noted above in the Operations Report, the anomalous abundance of adult *Cx. erythrothorax* prompted the use of the A1 turbine mister to apply 12-AS during the end of the month in the area that abuts Seabreeze Park. Adult mosquito traps will be placed in the area thoroughout the coming month to monitor the efficacy of the application.
- Similar to the prior month, the highest adult mosquito abundance was observed around Coyote Hills Regional Park where *Ae. washinoi* was most common, followed by *Cx. tarsalis*. (Figure 2A, 2C).
- Mosquito abundance was low in the eastern region of the county (Dublin, Livermore, and Pleasanton), but species diversity was high (Figure 2D). Thus, there is potential for high abundance were effective mosquito control efforts not made.
- The two most abundant species in the county during May were *Cx. tarsalis* and *Aedes vexans*, followed by *Culex erythrothorax* (Figure 3). The high abundance of *Ae. vexans* resulted from increased water levels in Lake Del Valle that pushed water into vegetated areas that boarder the lake. Increased temperatures triggered algae blooms that provide enhanced habitat for mosquito growth. Operations has made substantial progress, resulting in *Ae. vexans* abundance that is 64% lower than the prior year.
- The three NJLT in service that are located in the southern region of the county collected a total of 161 mosquitoes, with *Culiseta inornata* being most common (Figure 4).

LAB FIGURES

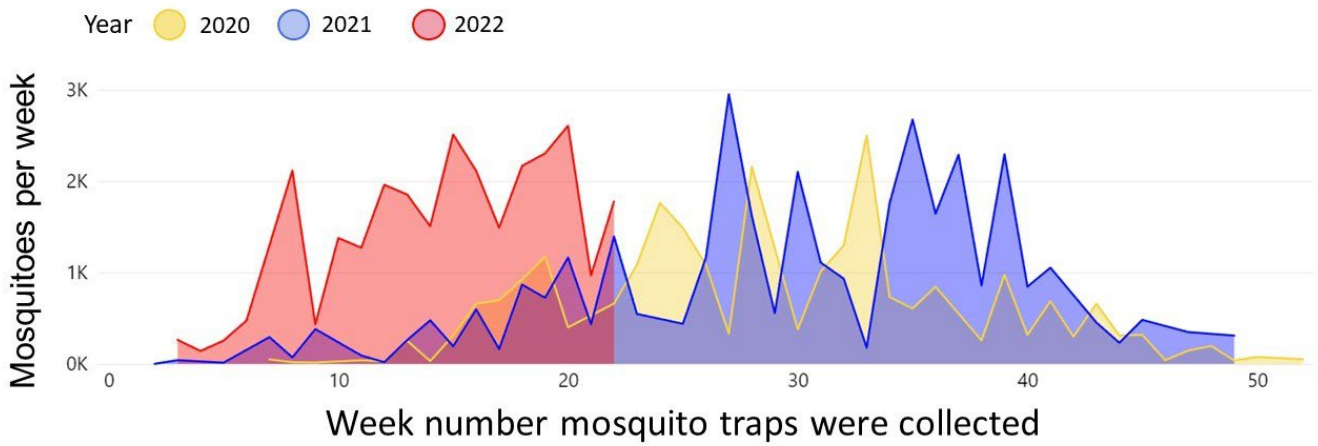
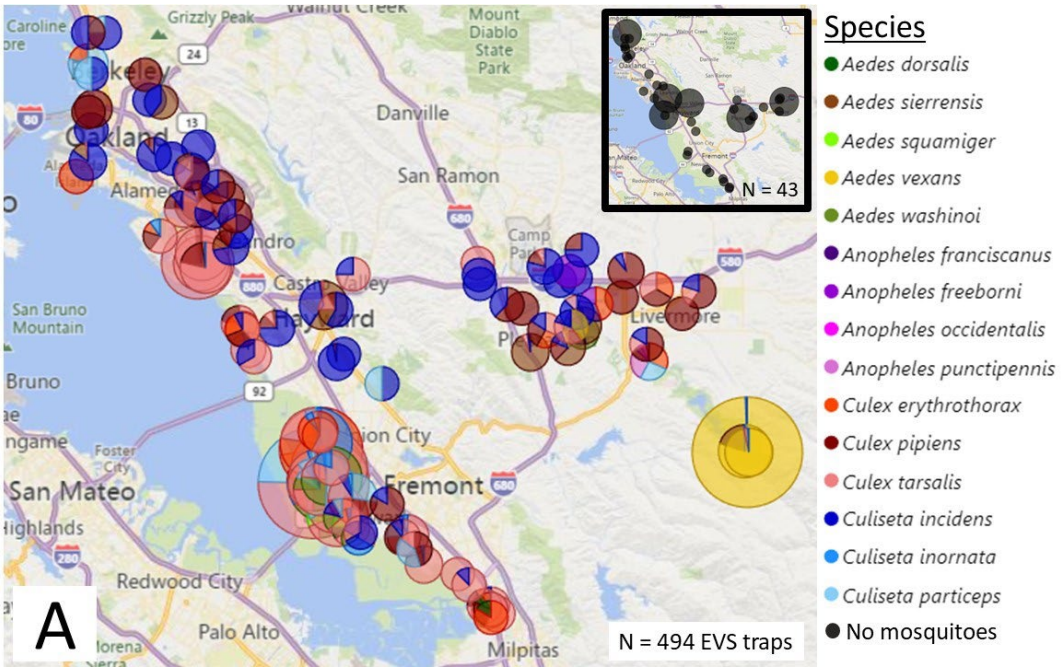


Figure 1. Mosquitoes captured in EVS CO_2 traps from 2020 – 2022. A total of 7,905 adult mosquitoes were captured in EVS CO_2 traps during May of 2022 and identified to species. Week 24 was excluded from the graph because the high anomalous abundance during 2021 skewed the y-axis.



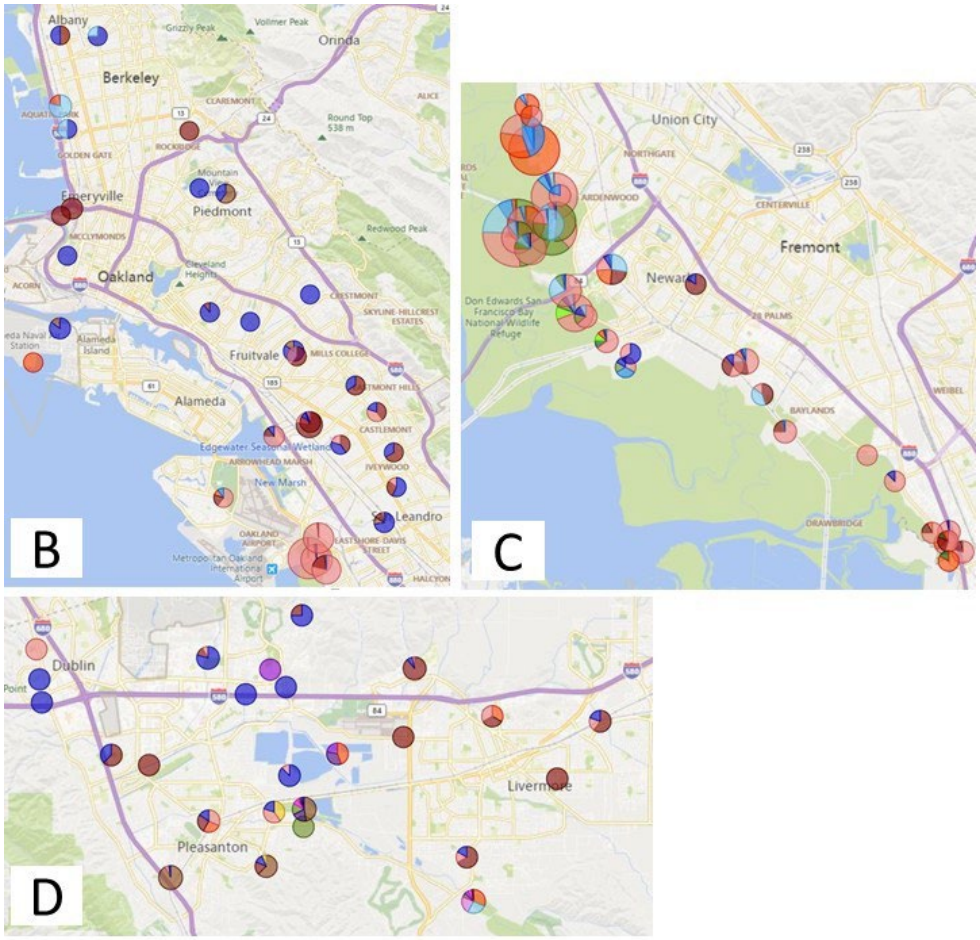


Figure 2. Mosquito abundance by trap site evaluated using EVS CO_2 traps. Pie charts over trap sites indicate the distribution of mosquito species collected at the trap site. The size of each pie chart indicates the relative number of mosquitoes at each site during May of 2022. (A) Alameda County (the insert shows traps that were placed but did not collect mosquitoes), (B) the northern region of the county, (C) the southern region, and (D) the eastern region.

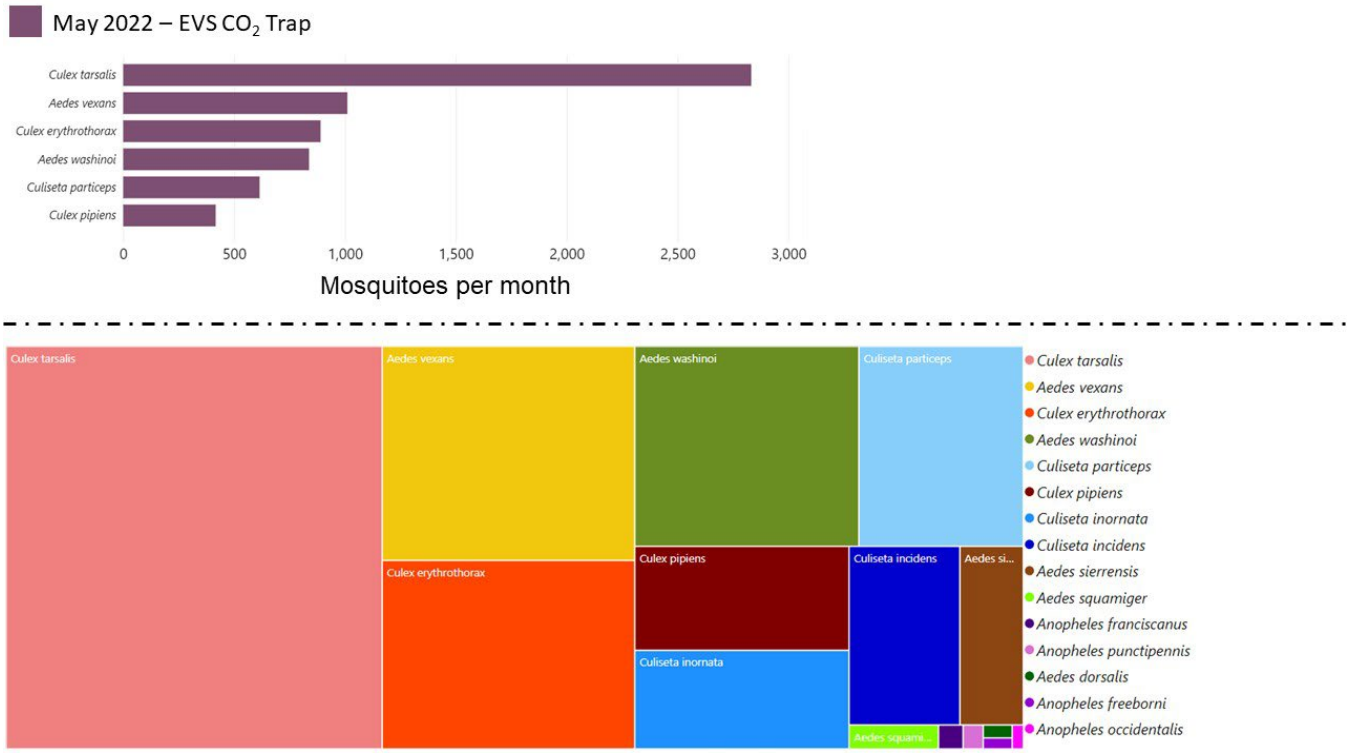


Figure 3. The most abundant species of mosquito captured using EVS CO_2 traps. Larger squares and rectangles indicate higher abundance of that species.

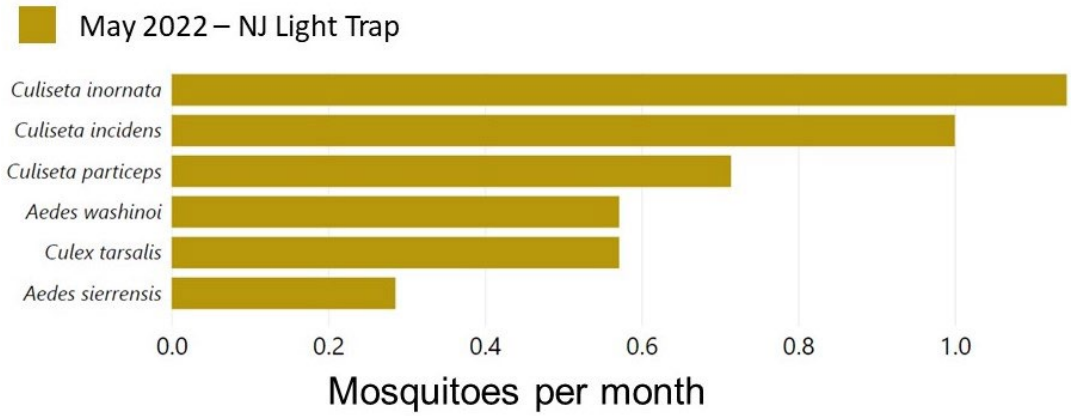


Figure 4. The most abundant species of mosquito captured in NJLT. A total of 161 mosquitoes were captured in NJLT.

Analysis and report by Eric Haas-Stapleton, PhD, Laboratory Director

C. PUBLIC EDUCATION

Upcoming Events and Presentations

- Cherryland Parade in San Leandro - June 4
- Berkeley Juneteenth Festival - June 19
- Peralta Hacienda Historical Park Day Camp “Mosquito Education” June 13, 20, 27
- Alameda County Fair Display June 17- July 10

School Program

- Four Newark teachers and two San Leandro teachers completed the curriculum in May.
- General Manger Ryan Clausnitzer and Trustee Eric Hentschke each attended a class presentation in Newark.
- In June and July, Judi will interview each teacher to receive feedback about the project and how to improve the curriculum.

Google Analytics

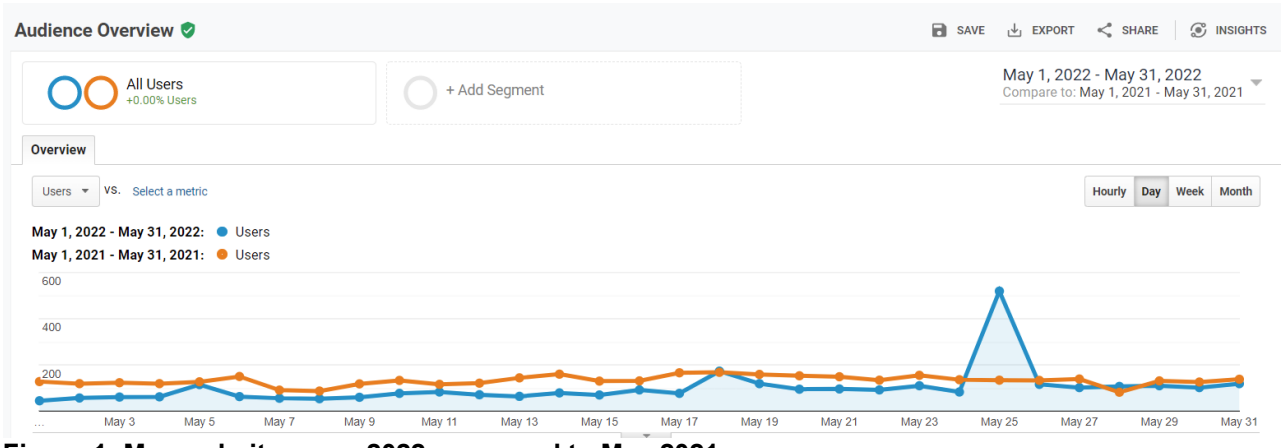
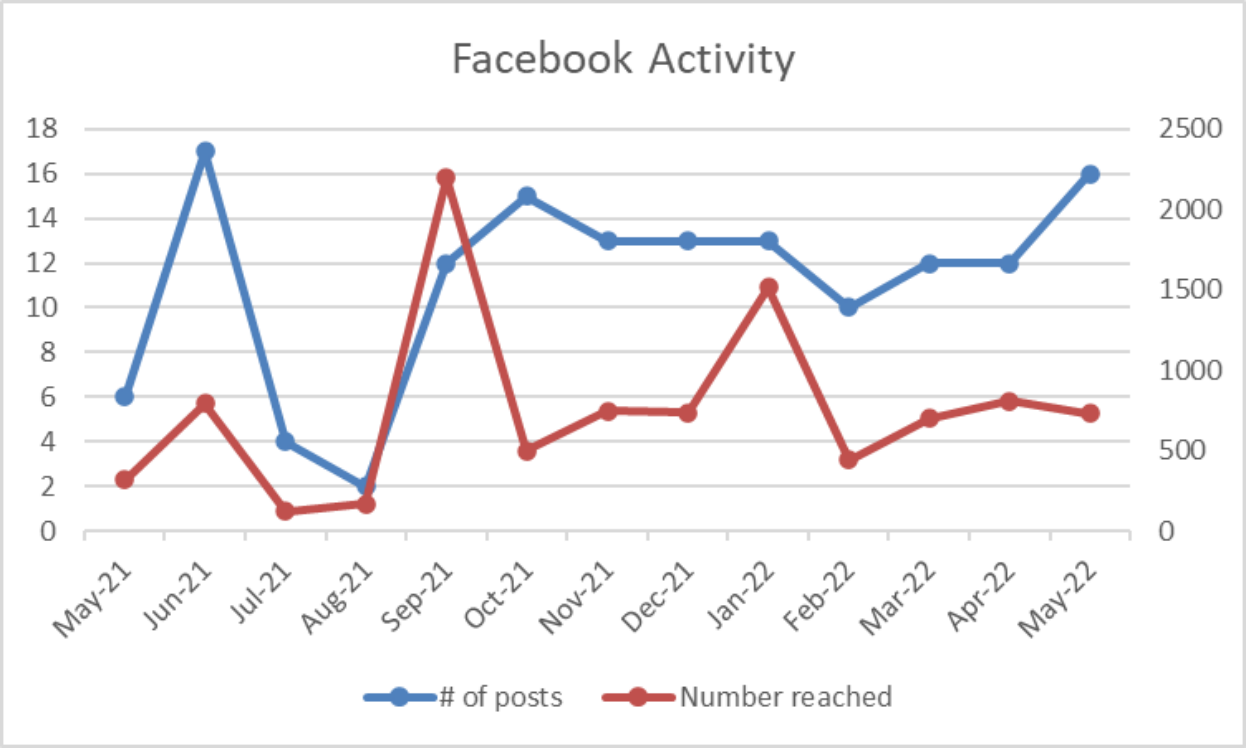


Figure 1: May website users 2022 compared to May 2021.

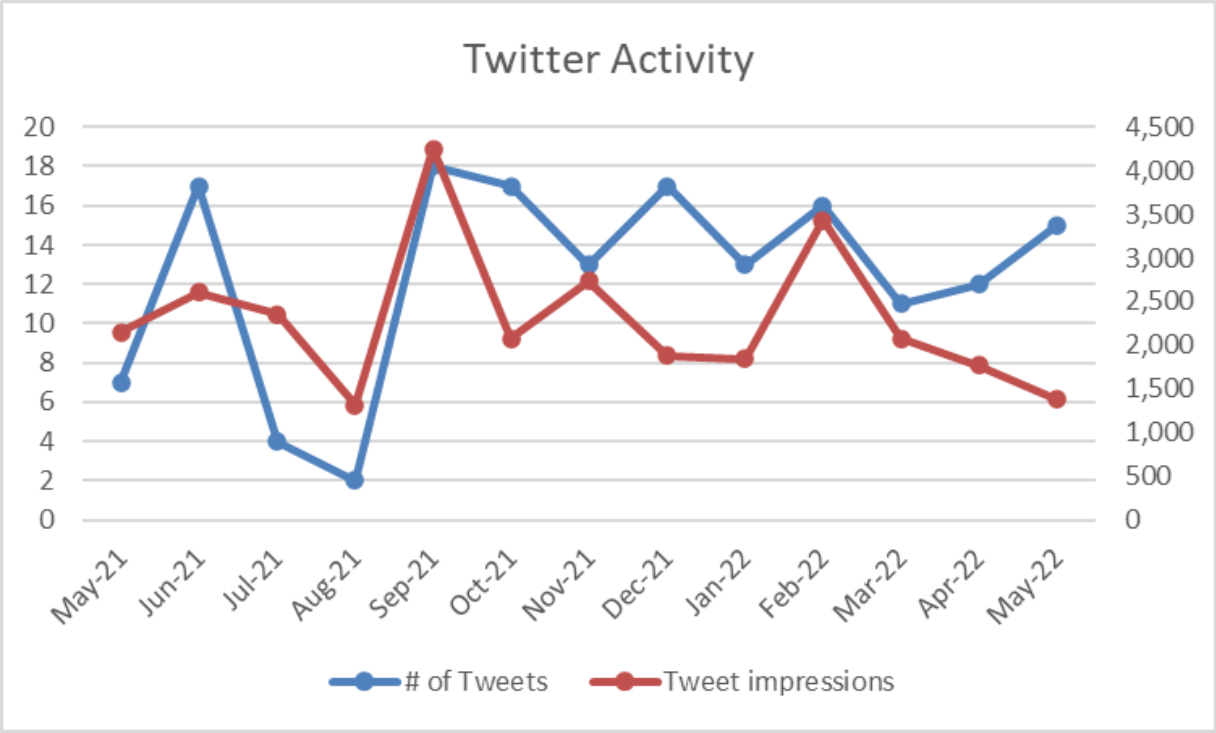
Facebook



May data: Posts – 16 Reach – 732 Followers – 332 (one dropped)

Top May Facebook Post: We are excited to join the Livermore Downtown Street Festival this year, check out our booth on South Livermore!

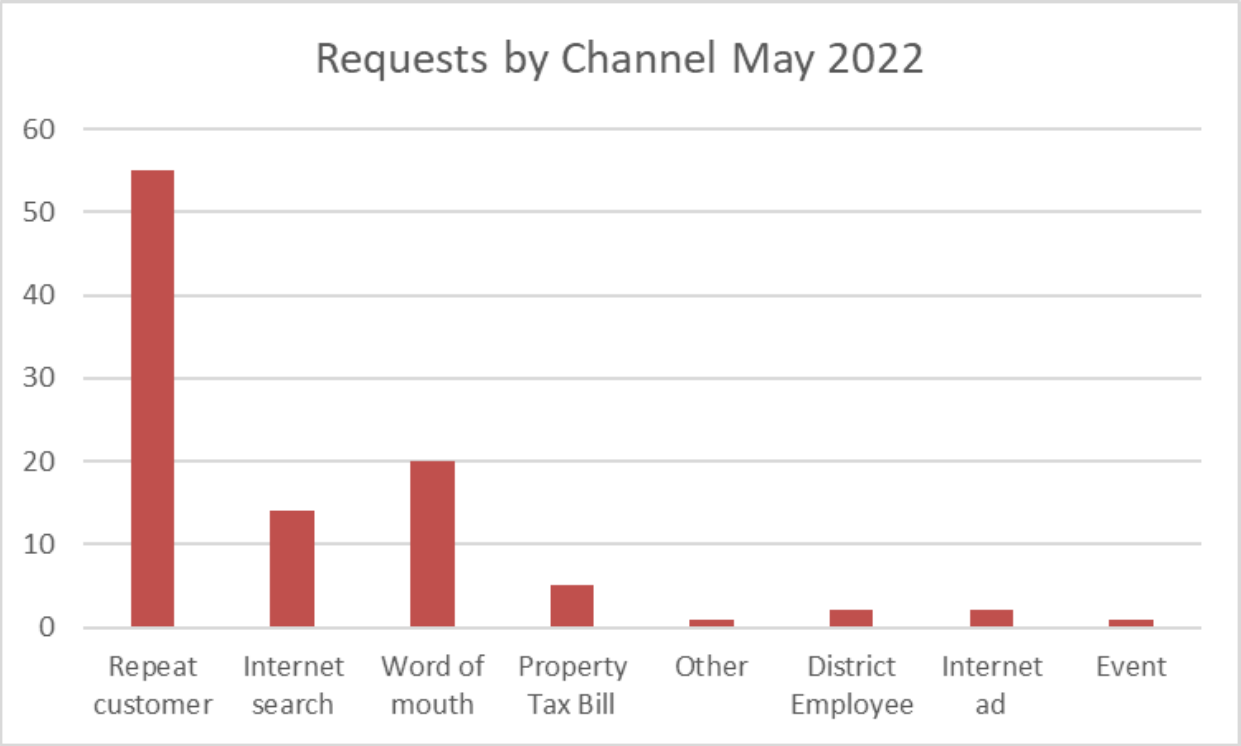
Twitter



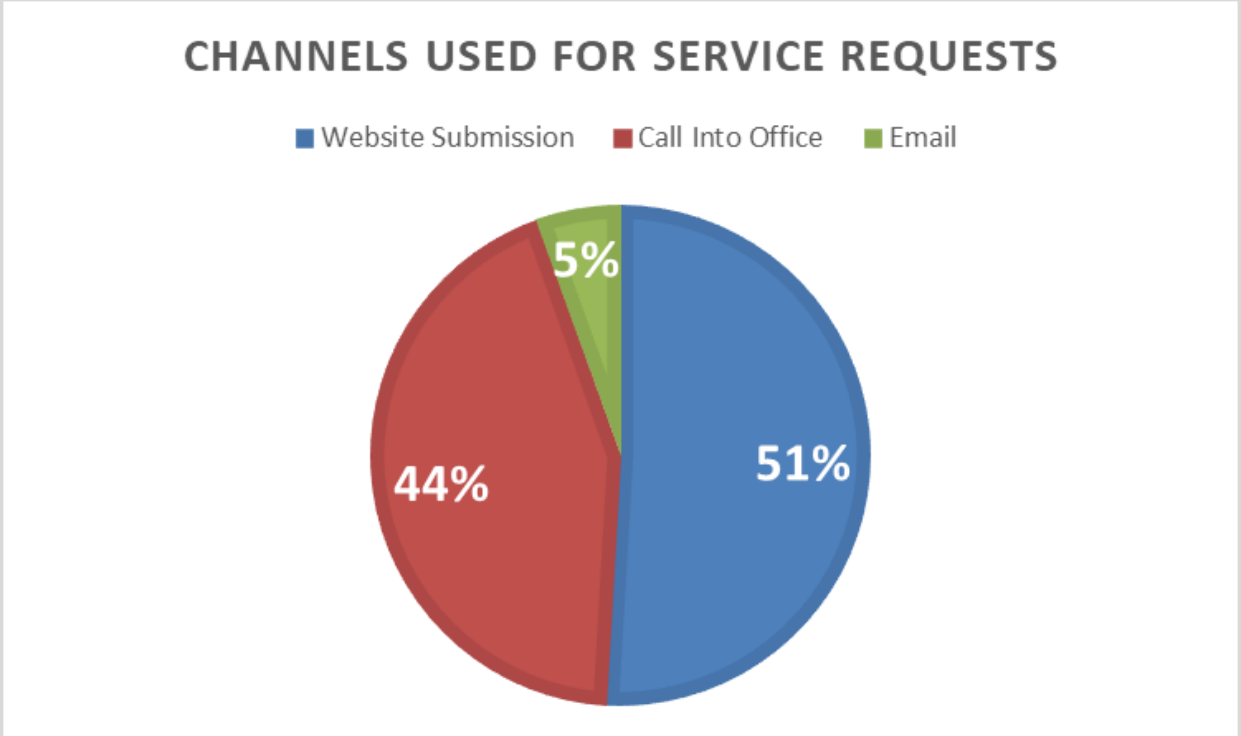
May data: Posts – 15 Impressions – 1380 Followers – 775 (4 added)

Top May Twitter Post

Service Request Referral Summary for May



Channels Used by Residents to Request Service in May



110 requests in total: 56 web submissions, 48 calls, 6 emails
Note: 1 website submission requested multiple services

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Staff Anniversary Recognition:

Background:

ACMAD is pleased to recognize and thank the following employee on their anniversary in June.

Employee	Title	Years of Service	Anniversary Date
Dereje Alemayehu	Vector Scientist	23	June 21st

California Arbovirus Surveillance Bulletin #8

Week 21 Friday, May 27, 2022

Weekly Update

Humans

No human infections have been reported in 2022.

Dead Birds

No new positives were reported this week. To date this year, one West Nile virus (WNV) positive dead bird has been reported from one county. At this time last year, four WNV positive dead birds had been reported from two counties.

Mosquito Pools

Two WNV positive mosquito pools were reported this week from Fresno (1) and Kern (1) counties. **This is the first detection of WNV activity in Kern County this year.** In 2022, five WNV positive mosquito pools have been reported from four counties. At this time last year, no positive mosquito pools had been reported.

Sentinel Chickens

No seroconversions have been reported in 2022.

2021 & 2022 YTD West Nile Virus Comparisons		
	2021	2022
Total # Dead Bird Reports	1,966	1,582
# Positive Counties	2	5
# Human Cases	0	0
# Positive Dead Birds / # Tested	4 / 475	1 / 307
# Positive Mosquito Pools / # Tested	0 / 5,526	5 / 5,432
# Seroconversions / # Tested	0 / 844	0 / 567

California Arbovirus Surveillance Bulletin #8

Week 21 Friday, May 27, 2022

YTD WNV Activity by Element and County, 2022					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Contra Costa			1		
Fresno				2	
Kern				1	
Orange				1	
Riverside				1	
Totals	**0**	**0**	**1**	**5**	**0**

TESTING SUMMARIES

Humans

		WNV	SLEV	WEEV
Human Cases	Week	0	0	0
	YTD	0	0	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	43	0
	YTD	307	1

Sentinel Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	253	0	0	0
	YTD	567	0	0	0

Mosquito Pools

		Positive / Total Tested					
		WNV	SLEV	WEEV	CHIK	DENV	ZIKA
Mosquito Pools	Week	2 / 989	0 / 989	0 / 989	0 / 0	0 / 0	0 / 0
	YTD	5 / 5,432	0 / 5,375	0 / 5,375	0 / 0	0 / 0	0 / 0

California Arbovirus Surveillance Bulletin #8

Week 21 Friday, May 27, 2022

POSITIVES

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Fresno	FRNO0089	196	Cx. tarsalis	Fresno	11	GRVD	5/24/22	WNV
Kern	KERN2039	108	Cx. quinquefasciatus	Bakersfield	42	GRVD	5/19/2022	WNV

TEST PROTOCOLS

Humans:
Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing with a plaque reduction neutralization test (PRNT).

Dead Birds
Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

Sentinel Chickens:
Dried blood spot samples from sentinel chickens are tested at the California Department of Public Health Vector-Borne Disease Laboratory for IgG antibodies to West Nile, St. Louis encephalitis, and western equine encephalomyelitis viruses by an EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:
Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

Website Information: For updated information on WNV in California, please visit the California WNV website, https://westnile.ca.gov*, or the California Vectorborne Disease Surveillance System website,* https://maps.vectorsurv.org.

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