San Gabriel Valley Mosquito and Vector Control District
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April 24, 2025

To: Keaton Browder
Public Assistance Group Supervisor
Email: Keaton.browder@fema.dhs.gov

RE: FEMA-4856-DR-CA (California Eaton Fire)
Subject: Justification for Public Assistance – Eaton Fire Emergency Mosquito Abatement Operations

To Whom It May Concern,

The San Gabriel Valley Mosquito and Vector Control District (SGVMVCD) respectfully submits the attached justification in support of our request for FEMA Public Assistance reimbursement under Category B – Emergency Protective Measures.

SGVMVCD is an independent special district formed under California Health and Safety Code §§ 2000–2093 with the statutory authority and responsibility to protect public health from mosquito-borne diseases. The District is authorized to inspect and abate mosquito breeding sources on private property without Right of Entry agreements (Health & Safety Code §§ 2040–2055), and all operations are carried out under a Cooperative Agreement with the California Department of Public Health, in compliance with EPA and Cal/OSHA regulations.

This request is in response to an active, measurable public health emergency created by the Eaton Fire. The fire destroyed critical pool infrastructure—including pumps, filters, and chemical systems—leaving behind over 1,400 fire-damaged basins that are no longer functional swimming pools, but unmanaged, stagnant water sources. As of this filing, approximately 75% of these basins are actively producing mosquito larvae. These are not theoretical risks—they are established breeding habitats generating thousands of mosquitoes weekly. Surveillance confirms mosquito production at levels that substantially elevate the risk of human infection from mosquito-borne diseases, including West Nile virus and dengue.

This hazard has not been addressed through any federal or state debris removal effort. No other agency has the authority or capacity to eliminate these breeding sources. The responsibility has defaulted to SGVMVCD, which is now leading sustained emergency abatement operations across the impacted area.

These operations are not routine—they are disaster-induced, time-sensitive public health interventions. The attached justification provides supporting documentation and field data demonstrating that this response is necessary, appropriate, and fully aligned with FEMA Policy 9523.10 and the Public Assistance Program and Policy Guide.

We respectfully request that FEMA approve this reimbursement request to sustain these essential protective measures and safeguard public health in the Eaton Fire recovery zone.

Sincerely,

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April 22, 2025

Justification for FEMA Public Assistance – Eaton Fire Response

Overview

The San Gabriel Valley Mosquito and Vector Control District (SGVMVCD) submits this justification statement in support of its request for FEMA Public Assistance reimbursement. This request pertains to emergency mosquito control operations conducted in direct response to conditions created by the 2025 Eaton Fire disaster. In accordance with FEMA Policy 9523.10 and the Public Assistance Program and Policy Guide (PAPPG), the actions described below meet the threshold for Category B Emergency Protective Measures, undertaken in response to an immediate and documented public health threat.

Authority and Legal Mandate

SGVMVCD is an independent special district established under the California Health and Safety Code §§ 2000–2093,[1] with statutory authority and responsibility to protect public health from mosquito nuisance and mosquito-borne disease.

The District serves 26 member cities and the County of Los Angeles, each of which appoints one representative to a governing Board of Trustees. This regional governance structure ensures local accountability and oversight across a jurisdiction of more than 1.5 million residents.

The District is solely funded through a direct benefit assessment on local parcels, a model designed for routine operations, not scalable disaster response. As such, emergency costs arising from disasters like the Eaton Fire exceed the fiscal capacity built into the District's funding framework, underscoring the request for federal assistance.

The Health and Safety Code grants the District explicit authority to enter upon private property for inspection and abatement purposes (Cal. Health & Safety Code §§ 2040–2055), eliminating the need for Right of Entry agreements.

In the context of the Eaton Fire, the District is acting under its lawful charge to identify, treat, and eliminate mosquito breeding sources to safeguard residents and recovery personnel in the disaster-affected area.

Historical context

Since 2003, West Nile virus (WNV) has been consistently detected in mosquito and bird populations throughout California.[2] Over time, both the virus and the disease transmitting mosquitoes (vectors) have become permanently established in many local ecosystems, including the San Gabriel Valley, where WNV is now endemic.[3] Of these vectors *Culex quinquefasciatus*, the Southern House mosquito, is found through all regions of the SGVMVCD service area, in most unmaintained swimming pool sources and readily transmits WNV to birds and humans. Within the SGVMVCD service area, WNV activity is tracked annually and seasonally (Fig. 1 and 2) with the District focusing enhanced surveillance and control efforts in specific areas when mosquito abundance or virus prevalence rises above standard thresholds.

Although WNV is endemic to the region, increased mosquito abundance significantly raises the risk of transmission to humans.[4] Abundance is a key factor for virus transmission and is most effectively managed through larval control, which targets mosquitoes before they reach adulthood. SGVMVCD focuses control operations on standing water sources across its jurisdiction to eliminate mosquito habitats. Non-functional and unmaintained swimming pools are a persistent and predictable source of mosquito activity each year.[5] These breeding sites are ideally managed by restoring the swimming pool to a clean, functional state, or by keeping it empty, clean, and completely dry throughout the year. If the pool cannot be restored or otherwise maintained to eliminate mosquito habitat, it is managed through the temporary application of larvicides or the introduction of mosquito fish, and monitored until the property owner is able to resume regular maintenance or restore the pool to a functional condition.

Emergency Conditions Created by the Eaton Fire

The Eaton Fire, which began on January 7, 2025, burned over 14,000 acres and destroyed more than 9,000 structures.[6] Post-fire aerial surveillance identified 2,895 unmaintained swimming pools across the impacted area. Of these, 1,405 were confirmed to be non-functional due to structural damage, debris accumulation, or lack of access. (Fig. 3) Prior to the fire, SGVMVCD treated only 18 unmaintained pools in this region. The sudden increase to over 2,800 sources represents a 155-fold surge in unmanaged mosquito habitats. (Fig. 3, 4, 5)

While SGVMVCD's total service area spans 289 square miles, the residential portion of the burn scar, where swimming pools are concentrated, covers just 10 square miles. Yet within that small footprint, post-fire assessments identified more than 1,400 fire-damaged pools—over half of all unmaintained pools in the District in 2025, concentrated in less than 4% of the service area. This extraordinary density of mosquito breeding sources is a disaster-specific condition and poses a highly localized, acute public health threat.

These conditions are not seasonal and fall well outside the District's routine operational scope. The sheer volume and pace of mosquito breeding activity, coupled with widespread property inaccessibility, triggered an exigent public health response. Immediate abatement was required to prevent a rapid escalation in mosquito populations and reduce the risk of disease transmission, including West Nile virus and dengue.

SGVMVCD's actions are disaster-induced, time-critical, and materially different from pre-disaster operations. They meet FEMA's threshold for Category B Emergency Protective Measures—addressing a direct public health threat, requiring specialized expertise, and initiated in the absence of any other agency with the authority or capacity to respond.

Adjacent Zone Hazards and Secondary Impacts

In addition to the fire-damaged swimming pools located within the Eaton Fire perimeter, SGVMVCD has also identified a substantial number of pools immediately adjacent to the burn zone that are now non-functional due to ash, soot, and debris contamination. (Fig. 3) While not structurally damaged by flames, these pools have suffered catastrophic filtration and chemical system failure, rendering them unmaintainable and biologically active mosquito habitats.

These pools were impacted directly by disaster-related ash fall and debris carried by wind and firefighting operations, which overwhelmed pool systems and required property owners to drain or abandon them. In many cases, these systems cannot be restored without costly repairs, which are likely to be deferred or delayed due to displacement, insurance timelines, or contractor access. These conditions are directly attributable to the disaster and have created stagnant, untreated water bodies capable of producing thousands of mosquitoes per week.

While SGVMVCD recognizes that these sources fall outside the fire perimeter, we believe they merit consideration for FEMA eligibility as disaster-induced hazards under Category B – Emergency Protective Measures. Costs and treatment data for these pools are tracked separately from those within the burn zone and can be provided as a distinct work category.

Justification Summary

CDC-EPA Recommendations on Vector Control in Disaster Settings: In 2020, the CDC and EPA jointly issued federal guidance underscoring the importance of continuing mosquito surveillance and control during natural disasters and public health emergencies — even when those disasters are not vector-related. Their recommendation states that, "to mitigate mosquito-borne disease threats, it is critical that mosquito control and public health organizations continue their surveillance and control programs to the extent that local conditions and resources will allow."[7]

SGVMVCD has followed this guidance by deploying sustained emergency abatement operations in direct response to fire-damaged mosquito habitats. However, local resources are not sufficient to meet the scale of the threat. FEMA support is necessary to allow SGVMVCD to maintain this response at the level required to protect public health, consistent with CDC and EPA's position that mosquito control must remain active even during times of resource scarcity or competing disaster priorities.

Structural Failure Due to Fire: The Eaton Fire destroyed the critical infrastructure—pumps, filters, and chlorination systems—that makes a swimming pool a safe, functional system. Without this infrastructure, these are no longer swimming pools; they are fire-damaged basins. They will not become swimming pools again until that infrastructure is fully rebuilt. In their current state, these fire-damaged basins are stagnant, debris-filled, and biologically active mosquito habitats. This condition is a direct and measurable result of the Eaton Fire.

Change in District Role: Normally, SGVMVCD assists property owners in managing mosquito issues in temporarily non-functional pools through collaborative mitigation while owners work toward a long-term solution. In these situations, residents retain options, and there is a clear path to accountability. In the burn zone, however, the District is no longer dealing with temporarily unmaintained swimming pools—it is responding to fire-damaged basins that are indefinitely non-functional. Any stagnant water present in these basins will grow mosquitoes if left untreated.[8] Most affected properties are abandoned, hazardous, lack clear ownership, and recovery timelines are indefinite. The District is now acting as a primary responder—conducting direct abatement to fire-damaged basins and other stagnant water sources without owner coordination or accountability. This represents a fundamental departure from the District's normal operational model and reflects a disaster-specific, emergency response posture.

Ongoing, Active Public Health Threat: The public health risks presented by fire-damaged mosquito sources required urgent and exigent intervention. Delaying response would have

allowed mosquito populations to multiply unchecked, significantly increasing the risk of human exposure to vector-borne diseases such as West Nile virus and dengue. In addition, any delay would have made future intervention more difficult and significantly more expensive, as adult mosquito populations are harder to control and require broader, less targeted measures. Field surveillance confirms that roughly 75% of fire-damaged basins inspected are actively producing mosquito larvae—clear evidence of an immediate and escalating public health threat. (Fig. 6, 7). These are not just potential risks—they are active breeding sites. Each untreated basin will produce thousands of mosquitoes weekly. The sheer number of new mosquito breeding sites created by the Eaton Fire is unprecedented in the region and mosquitoes are currently growing at a rate that has significantly elevated the risk of disease transmission in nearby communities.[9]

Epidemiological Risk Context: Los Angeles County recorded 70 human cases and 3 deaths from West Nile virus in 2023. The first locally acquired dengue case in California occurred in 2023 in Pasadena; in 2024, LA County saw a fivefold increase in local dengue cases. Saint Louis Encephalitis has also reemerged in the region. These events underscore the urgency of response in areas where vector populations are exploding. It is well-documented by CDC, CDPH, and WHO that increased mosquito density correlates directly with increased disease transmission risk, particularly in areas with known vector presence like Los Angeles County.[10, 11, 12]

Debris Cleanup Gaps: Federal debris operations, including those conducted by the U.S. Army Corps of Engineers, remove ash and some debris from pools, occasionally using pool water for ash suppression.[13] However, the underlying pool structures remain intact and untreated—leaving a damaged basin with residual water and no functioning filtration or chlorination. These persistent water sources remain entirely unaddressed by current cleanup programs and constitute an unresolved, disaster-caused public health hazard requiring emergency protective measures.

Forced Local Response: By design, the current disaster response effort and debris cleanup has left thousands of open-air biological hazards—fire-damaged basins—many of which are actively producing mosquitoes. No state or federal agency involved in the cleanup effort has the authority, training, or mandate to address vector control needs.[14] While agencies such as the U.S. Army Corps of Engineers may remove some debris from basins, the structural source of mosquito production remains intact and untreated. As a result, the responsibility for addressing this ongoing public health hazard has defaulted to SGVMVCD. The District has been forced to initiate urgent, sustained operations without supplemental resources, absorbing extraordinary costs to address a disaster-specific hazard. The District's immediate deployment of mosquito abatement operations reflects

the exigency of the situation, in which no other agency was positioned or authorized to act, and inaction would have created an escalating health emergency. This response is reactive, disaster-induced, and fully aligned with FEMA's objectives to protect life, public health, and safety.

PPE and Hazard Conditions: Because this operation occurs in a post-wildfire burn zone, all field specialists are required to wear enhanced Personal Protective Equipment (PPE) in accordance with Cal/OSHA regulations for fire debris environments.[15] These PPE requirements far exceed standard vector control protocols, introducing new cost burdens and safety logistics that are solely attributable to the hazardous post-fire environment.

Collectively, these conditions meet FEMA's criteria for emergency protective measures: they are immediate, measurable, caused directly by the disaster, and require urgent action to protect public health and safety.

Documentation and Compliance

These activities are conducted under the District's Cooperative Agreement with the California Department of Public Health (CDPH) for pesticide application, ensuring compliance with all operational, training, and reporting standards (Cal. Health & Safety Code §116180). All activities undertaken are necessary, reasonable, and compliant with applicable federal, state, and local public health regulations, including the use of U.S. EPA-registered materials applied in accordance with label requirements.

Surveillance and treatment data are documented by location, date, method, and follow-up.

Conclusion

The vector control operations described in this justification are not part of SGVMVCD's routine work. They are reactive, immediate, and necessitated by the direct effects of the Eaton Fire. The District is actively mitigating a growing, measurable public health hazard through sustained emergency protective measures.

These activities meet FEMA's eligibility standards under Policy 9523.10 and PAPPG v5 and are consistent with FEMA's mission to protect life, public health, and safety during disaster recovery.

We respectfully request approval for Public Assistance reimbursement to sustain and complete these essential mosquito control efforts.

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Figures

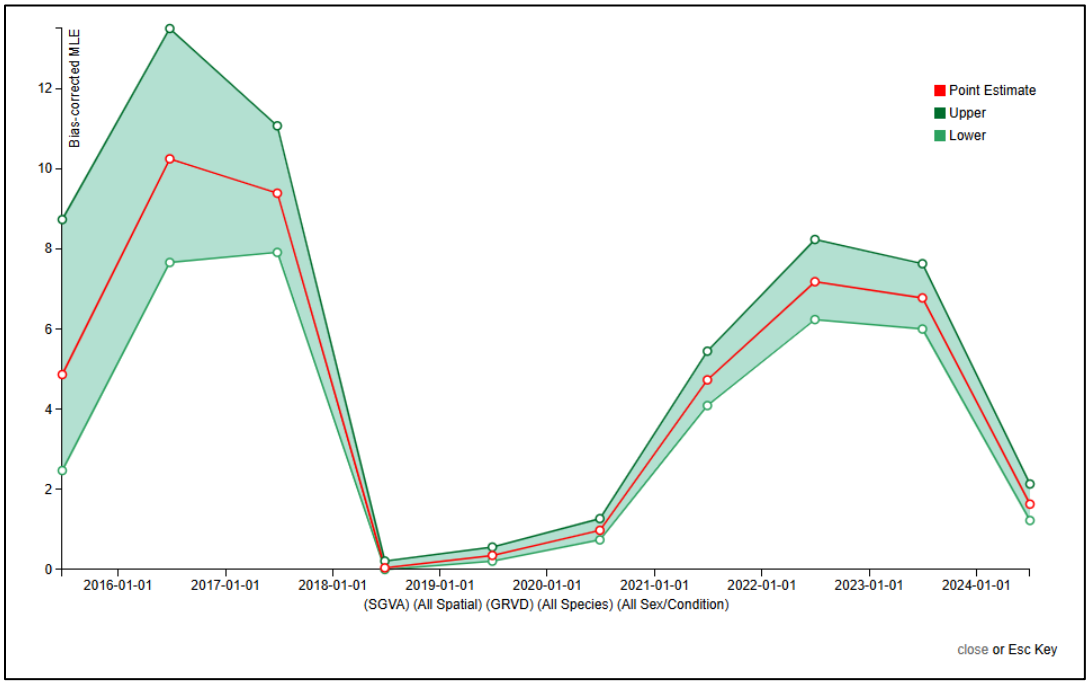

Figure 1. Above are maximum likelihood estimates, a risk metric for WNV transmission, from 2016 through 2024. This tool combines mosquito abundance and virus prevalence to aid in measuring the risk of virus transmission to human populations. While estimates vary annually in the SGVMVCD service area, there is a consistent presence of WNV in local vector populations, thus the presence of WNV in the area is continual.

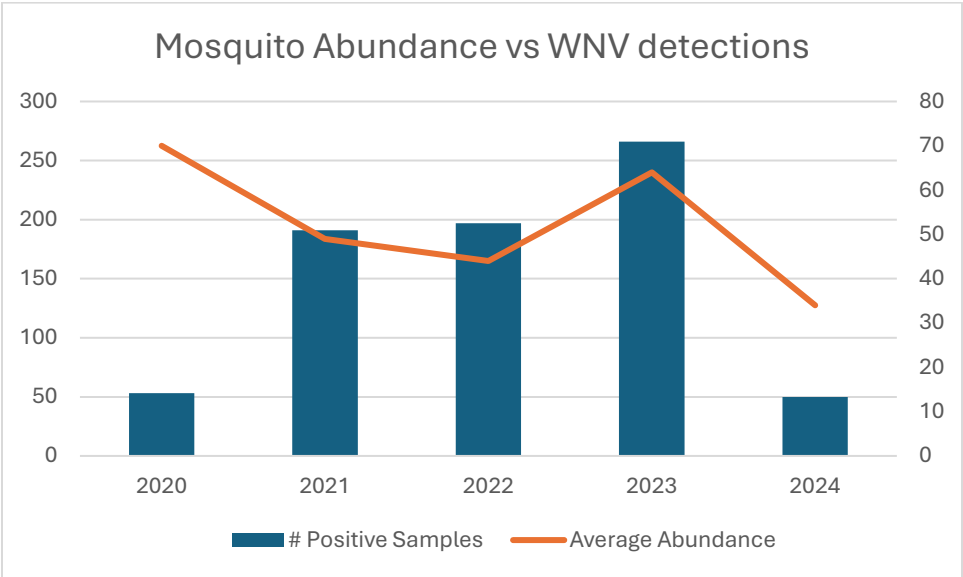

Figure 2. Year-by-year correlation between mosquito abundance and WNV detections from 2020–2024. As mosquito abundance increases, the number of virus-positive mosquito samples rises proportionally illustrating how increased mosquito breeding activity directly elevates human disease risk. This relationship underlines the urgency of controlling fire-induced mosquito sources before adult populations emerge.

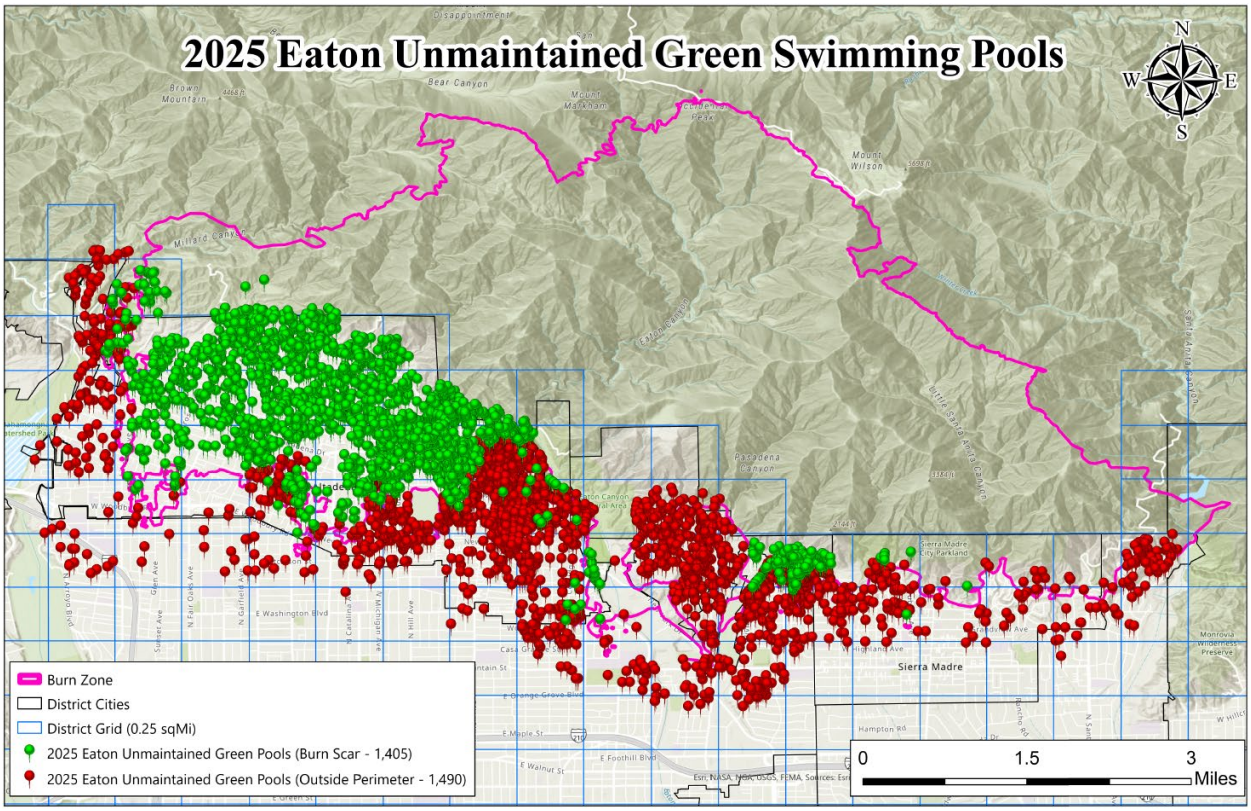

Figure 3. Aerial surveillance conducted post-Eaton Fire (2025) identified 2,895 unmaintained swimming pools, including 1,405 located within the official burn zone and 1,490 in adjacent areas. While only pools within the burn perimeter experienced structural fire damage, many adjacent pools were impacted by wind-driven ash, soot, and debris, resulting in catastrophic failure of filtration and chemical systems. These disaster-related impacts rendered the pools non-functional and biologically active, creating mosquito habitat directly attributable to the fire. This figure illustrates the full geographic extent of disaster-induced mosquito source development.

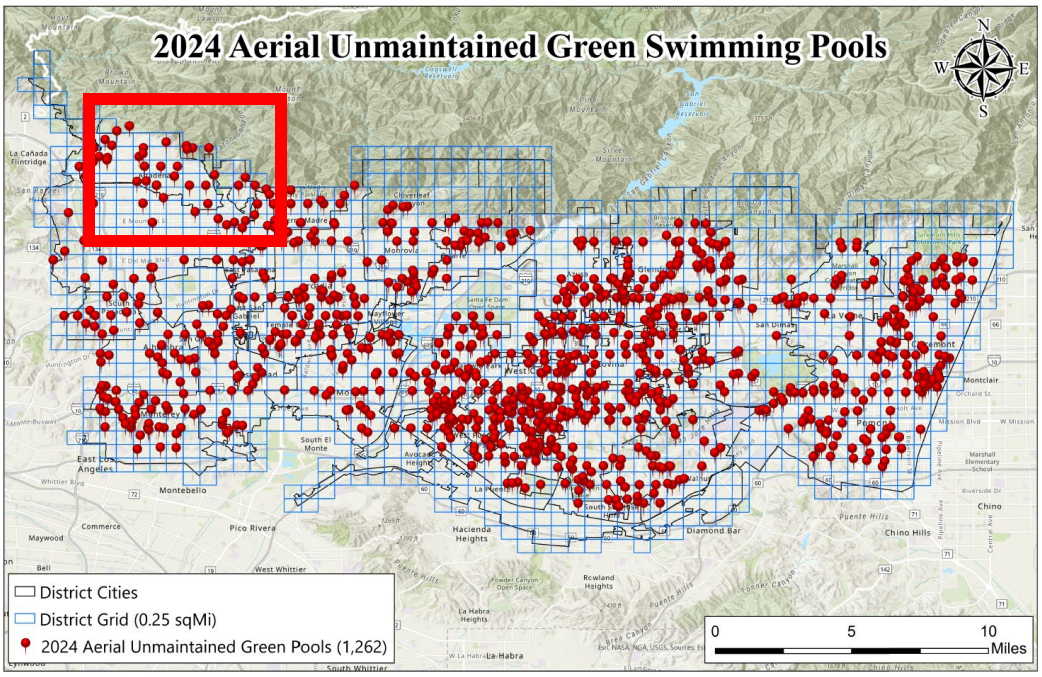

Figure 4. Aerial surveillance from 2024 (pre-disaster) identified 1,262 unmaintained swimming pools across SGVMVCD's full jurisdiction, which spans approximately 289 square miles. Each blue grid represents a quarter-square-mile unit, and each pin indicates an unmaintained swimming pool requiring monitoring or treatment.

The red-outlined square denotes the general location of the Eaton Fire burn scar, a zone covering just 10 square miles—less than 4% of the District's service area. This provides critical spatial context: the post-fire increase in unmaintained pools within the burn scar (Figure 3) represents a disproportionate concentration of new mosquito breeding sources relative to the size of the affected area.

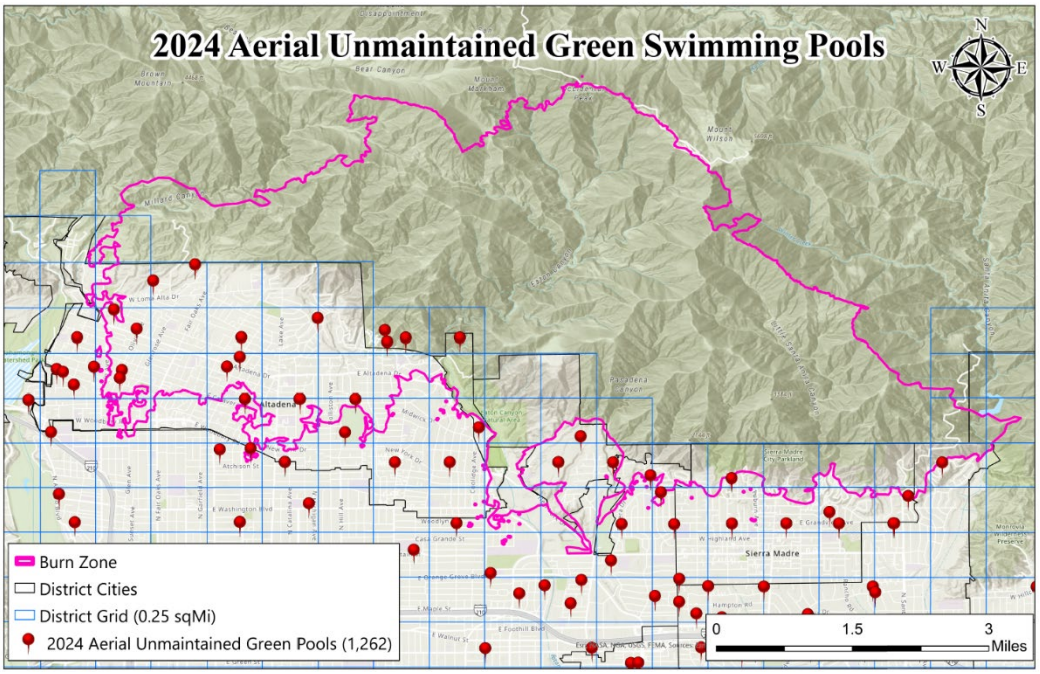

Figure 5. Aerial surveillance from 2024 (pre-fire) shows only 18 unmaintained swimming pools within the Eaton Fire burn scar — the same 10-square-mile zone identified in red in Figure 4. This figure illustrates the baseline condition of the area prior to the disaster and highlights the extreme deviation caused by the fire.

When compared with Figure 3 (2025 post-fire survey), which shows 1,405 fire-damaged or unmaintained pools in this same area, the result is a 155-fold increase in unmanaged mosquito sources. This shift is not seasonal or operational, it is a direct, measurable consequence of the disaster.

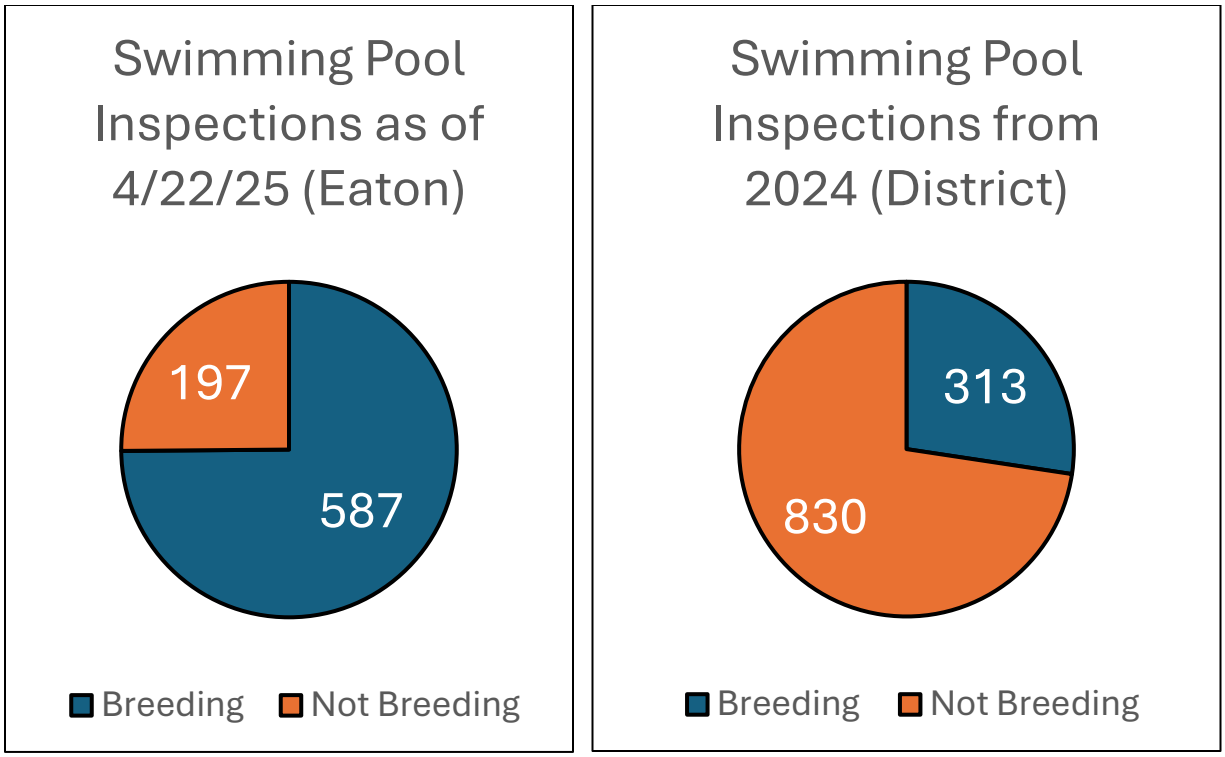

Figure 6. Comparison of mosquito breeding activity in swimming pools inspected within the Eaton Fire burn scar (2025) versus baseline pool inspections District-wide in 2024. In the burn zone, 75% of pools were actively breeding mosquitoes, compared to 37% during normal operational conditions.

This dramatic increase highlights the effect of widespread infrastructure failure and the absence of resident maintenance in the post-disaster environment. This is not a seasonal spike—it is a function of disaster conditions and a clear marker of escalating public health risk.

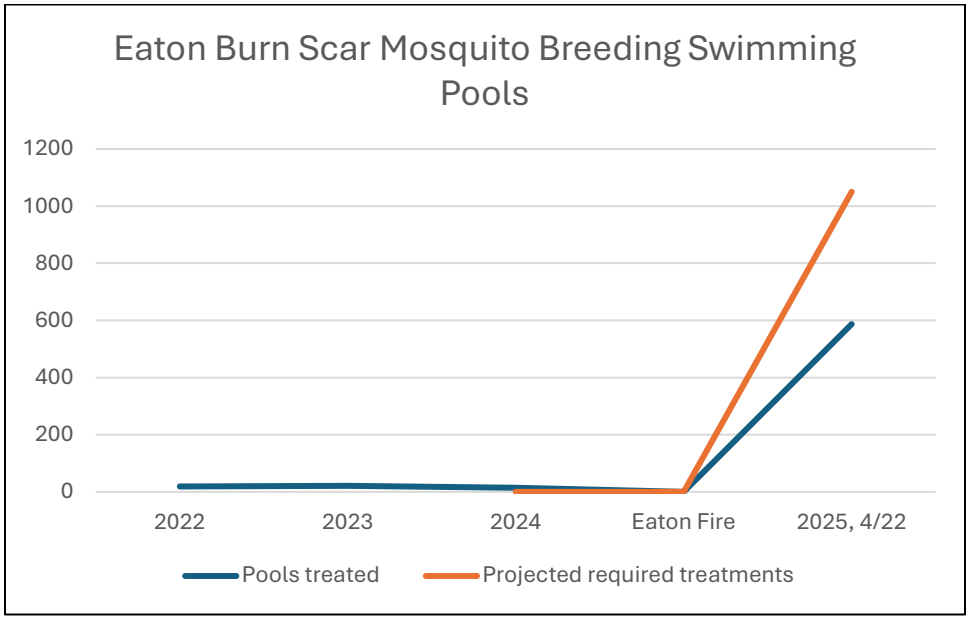

Figure 7. Annual count of mosquito-positive swimming pools within the Eaton Fire burn scar from 2022 to 2024, compared to the number of pools actively and projected to be breeding mosquitoes during post-fire inspections in 2025. In each pre-disaster year, the burn scar contained fewer than 20 breeding pools. By April 22, 2025, that number had surged to 587 breeding confirmed pools while based on figure 6 projections, 1,050 mosquito breeding pools exist.

For further perspective: in 2024, only 313 breeding pools were recorded across SGVMVCD's entire 289-square-mile jurisdiction. In contrast, the 2025 figure represents 587 breeding pools in just 10 square miles. This level of concentrated mosquito production is unprecedented in the District's history and reflects a direct, measurable public health consequence of the Eaton Fire.