THE CITY OF BURLESON TEXAS

2025 Mosquito Season Overview

Community Services Committee
November 5, 2025

Outline

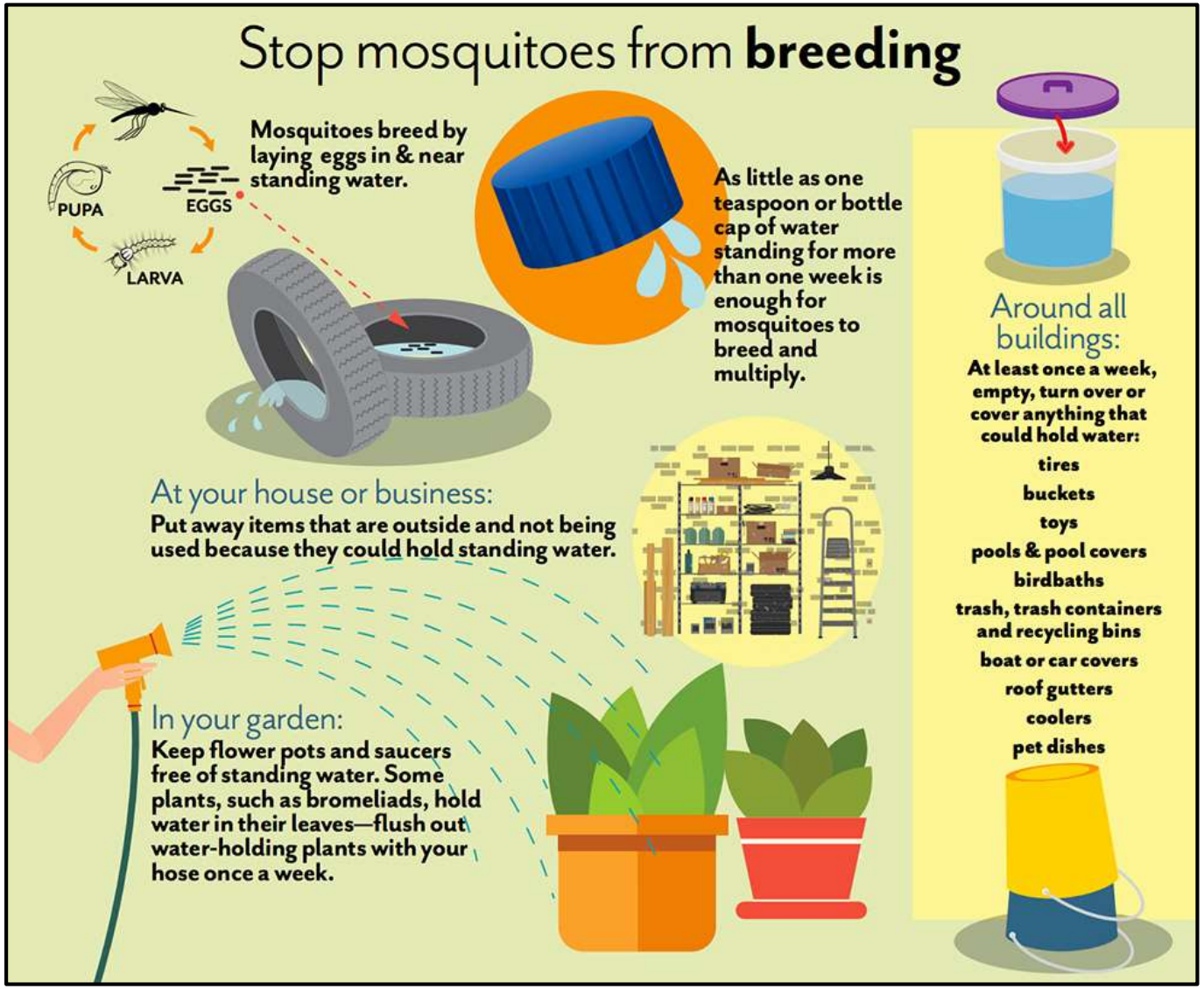
- Integrated Mosquito Management Overview
- 2025 Season Data
- Fogging Efficacy / Pesticide Resistance Testing
- Annual Expenditures
- Potential Adjustments for the 2026 Season for Feedback

Integrated Mosquito Management

1. Public Education
2. Source Removal (Standing Water)
3. Mosquito Larvae Treatment
4. Arboviral Disease Monitoring
5. Strategic Fogging

Integrated Mosquito Management:

1. Public Education



Integrated Mosquito Management:

2. Source Removal (Standing Water and Drainage Issues)

Clogged drainage along SW Murphy

Public Works removed sediment to restore drainage.

Integrated Mosquito Management:

3. Mosquito Larvae Treatment

If we can't fix it, we treat it to prevent larvae from emerging as adults.

Drainage in TxDOT right-of-way along East Renfro

Integrated Mosquito Management:

4. Arboviral Disease Monitoring

Mosquito sample collected from a gravid trap

Tarrant County Public Health sorts each sample by species and tests female Culex mosquitoes for West Nile Virus and St. Louis Encephalitis.

Gravid trap for collecting mosquitoes

Integrated Mosquito Management:

5. Strategic Fogging

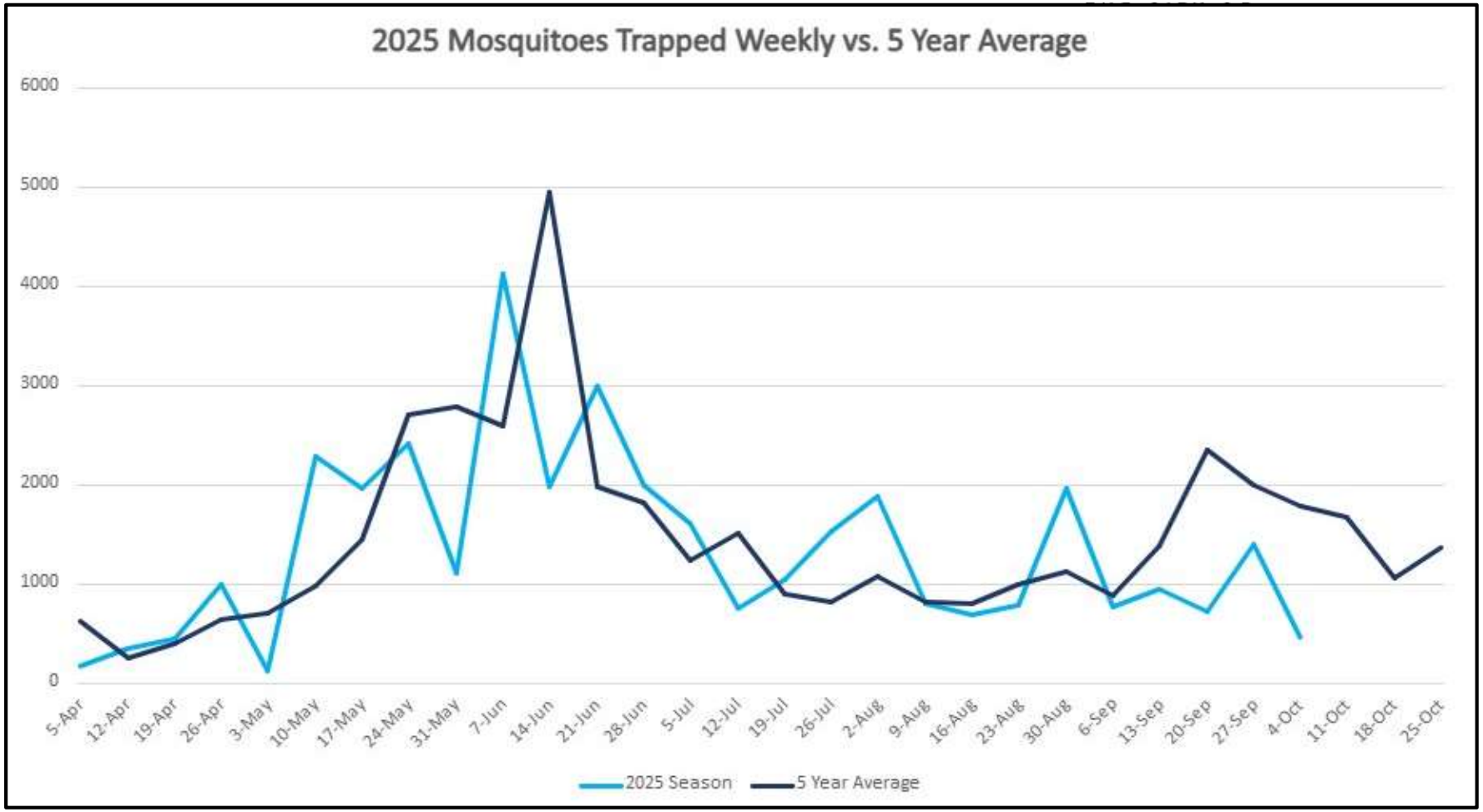
When a mosquito trap tests positive for an arbovirus, the City conducts Ultra Low Volume fogging in residential areas of the zone to reduce the risk of human transmission.

Fogging is conducted on two sequential nights between 9 p.m. and 5 a.m., when *Culex* mosquitoes are active. This also minimizes off-target impacts to beneficial day-flying insects.

Truck conducting ground-based Ultra Low Volume fogging

2025 Season Data:

Mosquito Abundance



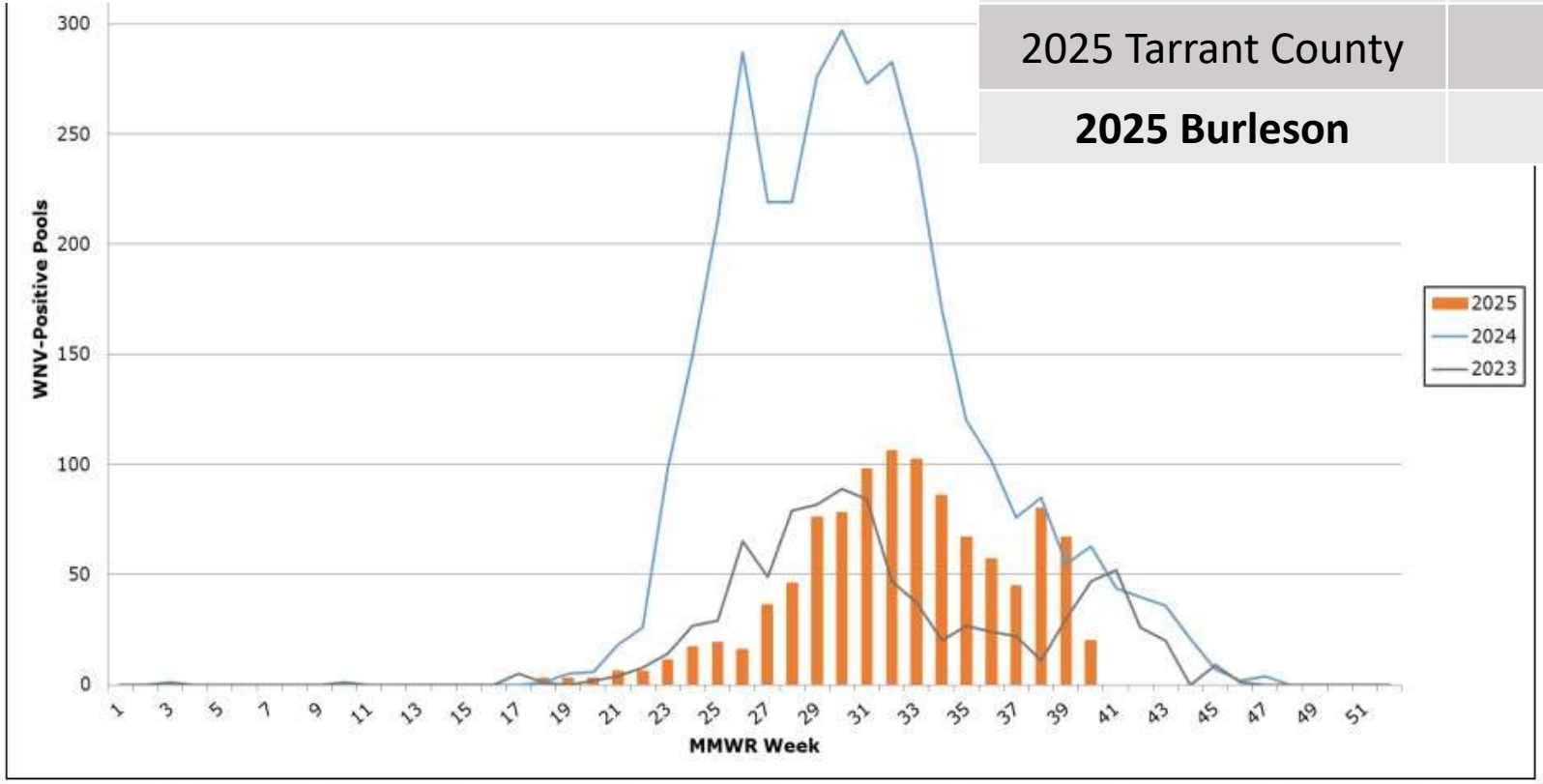
Culex

Aedes

Psorophora

2025 Season Data:
West Nile Virus

	WNV Trap Positives	WNV Human Cases
2023 Tarrant County	244	9
2023 Burleson	**11**	**0**
2024 Tarrant County	809	45
2024 Burleson	**81**	**1**
2025 Tarrant County	283	10
2025 Burleson	**24**	**0**



Statewide data for WNV positives comparing 2023, 2024, & 2025.

2025 Season Data: Encephalitis

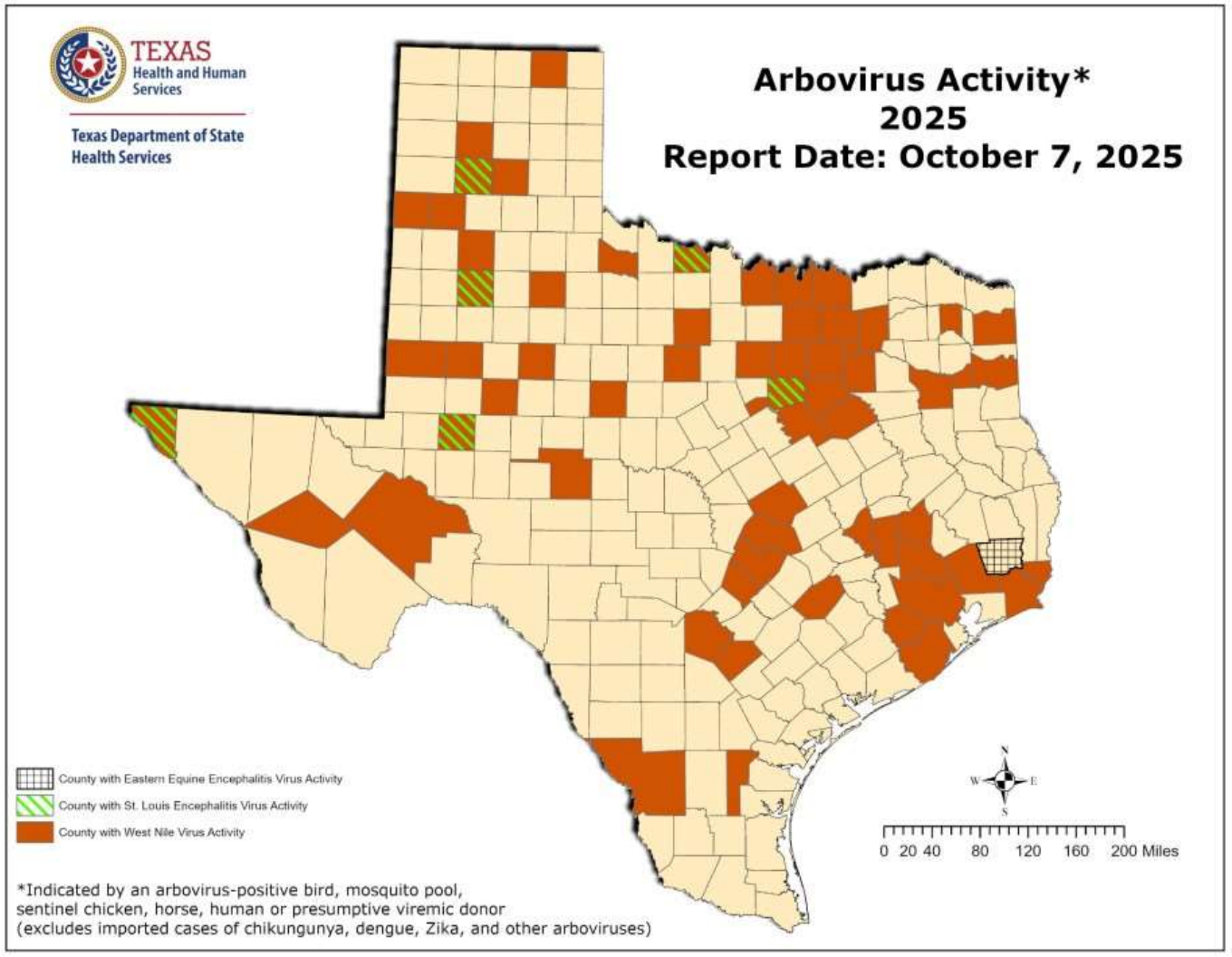
St. Louis Encephalitis (SLEV):

The City of Burleson had one positive for SLEV (week of 9/18/2025). In response, seven supplemental traps were set, collected, and tested. **All** supplemental traps tested negative for SLEV.

No human cases have been reported in Texas this year.

Eastern Equine Encephalitis (EEE):

One veterinary positive detected in Hardin County (Beaumont area).

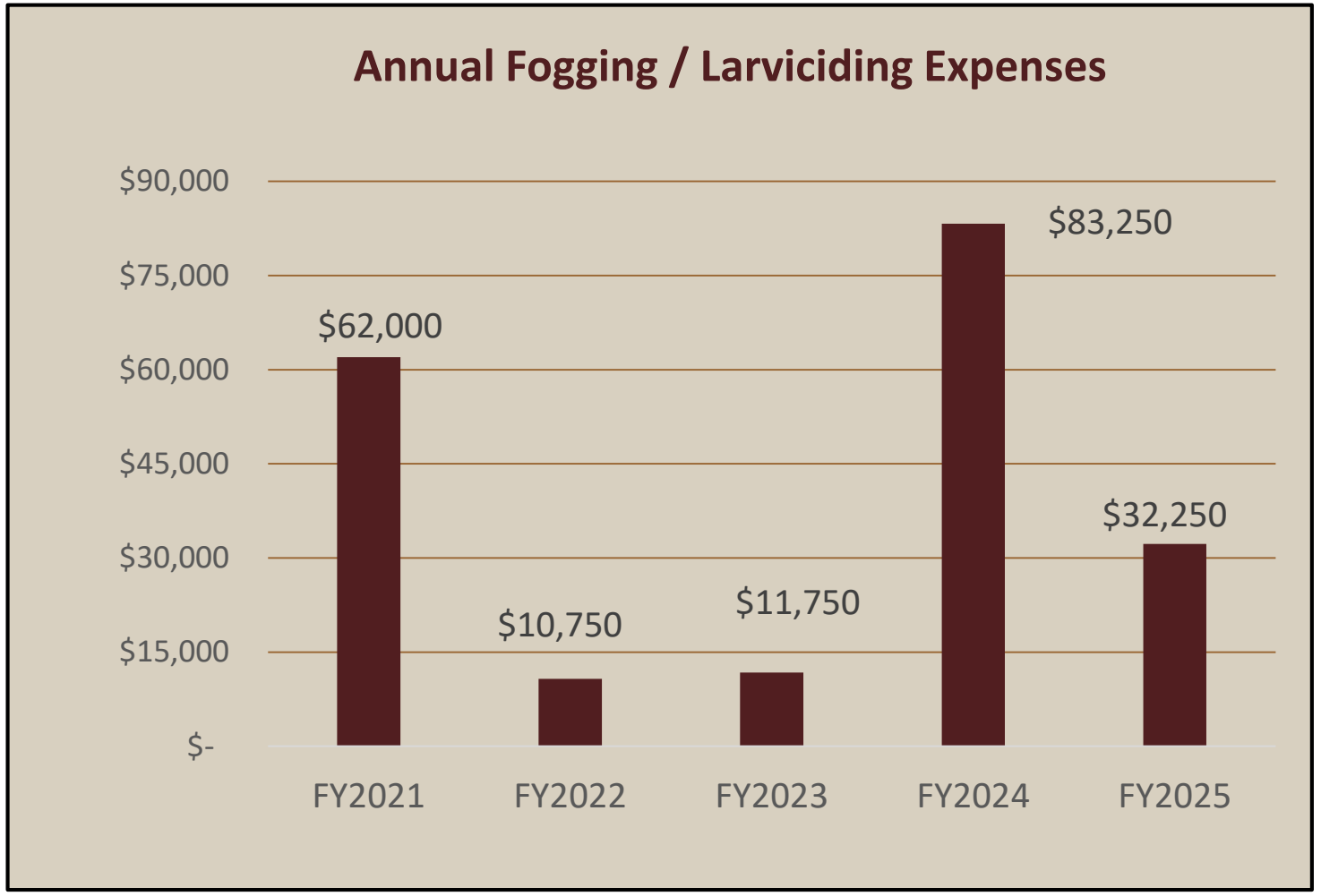


Fogging Efficacy / Resistance Testing

- **In March 2025, Tarrant County Public Health reported suspected permethrin resistance in portions of unincorporated Tarrant County.**
- **Burleson City staff have been monitoring pre- and post- fogging numbers when a Zone is treated to evaluate efficacy of the treatment.**
- **In an abundance of caution, mosquito samples from Burleson were collected and sent to a state lab for pesticide resistance testing. Results showed permethrin was still very effective on our local mosquito population. (No signs of resistance in Burleson)**

Tarrant County Public Health announced that they will only conduct fogging after three consecutive WNV positives at a single trap site. **This allows time for their staff to conduct focused larviciding and trapping within the impacted zone(s) before conducting fogging.**

Recent Expenditures



2021 and 2024 were West Nile Virus outbreak years in Burleson.

Looking Ahead to the 2026 Season - Options

1. **Continue with current procedures:**

   Conduct ground-based fogging following all WNV/SLEV positives to **minimize risk of human transmission**. Based on 2025 data, our current SOP resulted in **24 zones fogged**.

2. **Create phased response with action thresholds based on risk:**

   - **Low Risk Level (sporadic detection of WNV/SLEV):** Focus on source removal and larvicide application. Conduct fogging following a WNV/SLEV positive only if trap contains >50 female *Culex quinquefasciatus*.

   - **High Risk Level (two consecutive WNV/SLEV positives detected, or human case reported):** Conduct ground-based fogging following all WNV positives. Based on 2025 data, this approach would have resulted in **20 zones fogged**.

3. **Adopt guidance from Tarrant County Public Health:**

   Conduct ground-based fogging in a zone following **three consecutive** WNV/SLEV positives. Based on 2025 data, this approach would have resulted in **zero zones fogged**.

Additional Considerations: Bat Boxes

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Benefits

- Low initial cost (<$500 for one box and mounting)
- Provides educational opportunity
- Creates momentum for conservation projects

Challenges

- Often inhabited by wasps instead of bats
- Limited mosquito impact (<20% of bat diet)
- Requires cleaning and monitoring

Other Cities

- Irving (2015) and Corinth (2025)
- No inhabitants reported to date

Additional Considerations: Bat Boxes, continued

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Site Criteria

- Position for morning sun / afternoon shade
- Mount 15 feet high, away from heavy activity
- Use poles, not trees (for airflow & predator protection)

Potential Locations

- Chisenhall Hike & Bike Trail (back loop)
- Coyote Loop Trail

Design & Maintenance

- Paint/seal exterior with non-toxic coatings
- Annual inspection and maintenance required
- Estimated Cost: $400-$500 (one box + mounting)
- Timeline: Install Winter 2025 → Monitor Spring 2026

Additional Considerations: Habitat Enhancement

(Texas Parks & Wildlife Department recommended)

Benefits:

- Supports bats, pollinators, and native biodiversity
- Adds visual appeal, low-maintenance landscaping
- Successful with or without bat colonization

Ideal Locations: Community Park (Alsbury/Hulen) & Coyote Loop

Recommended Plants: Pale Purple Coneflower, Texas Kidneywood, Blackfoot Daisy, etc.

Estimated Cost: $1,500 - $2,500 (plants, soil prep, mulch, signage)

Timeline: Spring 2026 (Feb—April) installation window

Questions / Discussion

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