Mosquito Control Matters

FIGHT THE BITE
Current Issues and Challenges Related to Mosquito Control

Gary Goodman
District Manager
Mission: Protect Public Health

• To provide safe, effective and economical mosquito and vector control. To accomplish this, we provide ongoing surveillance of mosquitoes and other vectors to determine the threat of disease transmission and lower annoyance levels.

• District operates under the California Health and Safety Code
Different Mosquito Breeding Sources
Integrated Mosquito Management Approach

- Public Information
- Surveillance
- Biological Control
- Ecological Management
- Chemical Control
## WNV Activity in California

### Table: WNV Activity in California

<table>
<thead>
<tr>
<th>Year</th>
<th>Mosquito Samples</th>
<th>Human Cases</th>
<th>Potential Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>2,263</td>
<td>128</td>
<td>3,000-8,000</td>
</tr>
<tr>
<td>2020</td>
<td>2,628</td>
<td>231</td>
<td>6,000-15,000</td>
</tr>
<tr>
<td>2019</td>
<td>3,288</td>
<td>225</td>
<td>6,000-15,000</td>
</tr>
<tr>
<td>2018</td>
<td>1,963</td>
<td>218</td>
<td>6,000-15,000</td>
</tr>
<tr>
<td>2017</td>
<td>3,371</td>
<td>536</td>
<td>16,000-37,000</td>
</tr>
</tbody>
</table>

**WNV is extremely under reported. The Centers for Disease Control estimates that for every neuroinvasive case confirmed, there are approximately 30-70 cases that are not reported**
West Nile Virus Activity in Folsom

City of Folsom
2021 West Nile Virus Activity
within city boundaries

Positive WNV Mosquito Samples: 0
Positive WNV Dead Birds: 1
New Concern: Invasive Mosquitoes

*Aedes aegypti*  
(Yellow Fever Mosquito)

- An aggressive day biting mosquito that prefers to bite humans.
- Small dark mosquito with a violin shaped marking on its back and banded legs.
- Prefers to live in urban areas both indoors and outdoors.
- Can breed in as little as 1 teaspoon of water and can complete life cycle in 7-10 days.
- Eggs are laid on the side of containers and are resistant to drying out. They can survive without water for many months.
- Capable of transmitting several debilitating diseases including Zika, dengue and chikungunya.
- Once established in a location it can be very difficult to control.
Detections of Invasive Mosquitoes

- No invasive mosquitoes have been detected in Folsom.

- Initially discovered in Citrus Heights in 2019 and have been rapidly spreading throughout the District.

- In 2021 invasive mosquitoes were detected in various new areas and known infestations became larger.

- Invasive mosquitoes have not been detected to date in 2022.
Common Invasive Mosquito Breeding Sources
Outreach by District

• Ongoing email to elected officials to inform of detections and District activities
• Door to door inspections in new detection areas
• Targeted social media to affected communities
• Post cards sent to residents in detection areas
• Work with city staff to disseminate information to residents
Tick Surveillance

• *Ixodes pacificus*, known as the blacklegged tick is found in areas of high humidity mainly between November and April.

• Staff conducts tick flagging: flannel sheets are dragged along sides of trails to collect tick specimens and brought back to the lab for testing.
Lyme disease

- Lyme disease is caused by a bacteria called *Borrelia burgdorferi* that can spread from the bite of an infected western blacklegged tick.

- An infected western blacklegged tick must be attached to a person and feed for at least 24 hours before it can transmit the bacteria.

- Lyme disease may start as a mild illness that begins 3 to 30 days after a tick bite and might easily be mistaken for other common illnesses like a cold or flu. Symptoms include: fever, chills, headache, fatigue, muscle and joint aches, and swollen lymph nodes may occur in the absence of rash.

- Erythema migrans (EM) rash occurs in approximately 70 to 80 percent of infected persons. Begins at the site of a tick bite expands gradually over several days reaching up to 12 inches or more across. May feel warm to the touch but is rarely itchy or painful. Sometimes clears as it enlarges, resulting in a target or “bull’s-eye” appearance.
2021 Tick Surveillance Results

Sacramento County
2021 Tick Lyme Disease Surveillance

- Lyme Disease Detected: 16 Positive Samples
- Lyme Disease Not Detected: 360 Negative Samples
Thank you!

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