
Butte County Mosquito and Vector Control District

POLICY MANUAL

POLICY TITLE: Newly Introduced Species
POLICY NUMBER: 4110

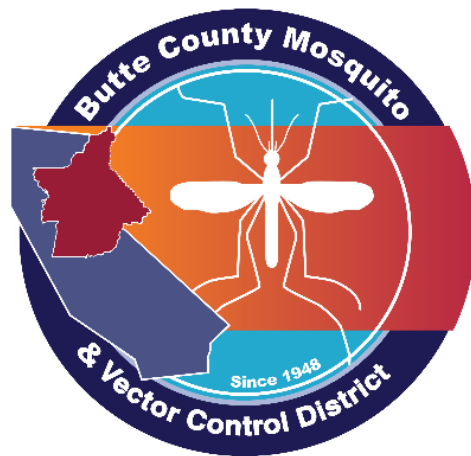
4110.1 Newly Introduced Species

4110.1.1 The District will take all appropriate actions to prevent the introduction and establishment of mosquito and other vector species which are not already present within the District's service area.

4110.1.2 If invasive Aedes mosquito species are detected, the District will follow the Invasive Aedes Response Plan approved and adopted at the October 14, 2020, Regular Meeting of the Board of Trustees (Appendix A).

RESPONSE PLAN FOR DETECTION OF INVASIVE MOSQUITOES

**BUTTE COUNTY MOSQUITO
AND VECTOR CONTROL DISTRICT**



BCMVC D Invasive Mosquito Response Plan

	New Detection of Invasive Mosquito	Travel-Related Disease Cases	Locally-Acquired Disease Cases
Supervisors	Regional Supervisor to receive case details from laboratory. Arrange and coordinate door-to-door teams. Consider treatment options, if warranted.	Regional Supervisor to receive case details from laboratory. Regional Supervisor and Zone Inspector will search index property for mosquito breeding sources and adulticide/larvicide with permission. Broaden scope as necessary. Arrange and coordinate door-to-door team inspection concurrently with inspection/adulticiding. Determine adulticide treatment area (truck, aerial), if warranted.	Regional Supervisor to meet w/Manager, Assistant Manager, and Entomologist to discuss specifics. Regional Supervisor and Zone Inspector will search index property for mosquito breeding sources and adulticide/larvicide with permission. Broaden scope as necessary. Arrange and coordinate door-to-door team inspection concurrently with inspection/adulticiding. Submit applicable reports to management and laboratory. Determine adulticide treatment area (truck, aerial), if warranted.
Door-to-Door Teams	Inspect index property and 100-300 feet outwards, broadening scope as necessary. Leave door hangers if no response from resident. Larval/adult sample collection and source reduction. Adulticide on first inspection and residual/larviciding with subsequent detections, if applicable.	Inspect index property and 100-300 feet outwards, broadening scope as necessary. Leave door hangers if no response from resident. Post appropriate signage. Larval/adult sample collection. Source reduction and larviciding/adulticiding, if applicable. Submit summary report to Regional Supervisor and laboratory.	Inspect index property and 100-300 feet outwards, broadening scope as necessary. Leave door hangers if no response from resident. Post appropriate signage. Larval/adult sample collection. Source reduction and larviciding/adulticiding, if applicable. Submit summary report to Regional Supervisor and laboratory.
Public Relations	Receive input from Lab and Operations. Targeted social media placement and direct mail notifications, if warranted. One press release per city per year upon detection, if warranted.	Receive general details from Lab and Operations. Notify trustee, city officials and community partners. Targeted social media placement. Direct mail notifications and press releases, if warranted. Coordinate w/local public health departments.	Receive input from Lab and Operations. Notify trustee, city and community partners. Targeted social media placement. Direct mail notifications. Press releases. Coordinate phone staffing for concerned citizen calls. Coordinate w/local public health departments.
Lab	Consult CDPH for identification confirmation of invasive mosquito in new areas. ID/Disease testing. Update all relevant maps. Field surveillance assistance. Set BG Sentinel traps, gravid traps, In2Care traps, if warranted.	Entomologist to forward vetted details to management. Phone interview of patient prior to inspection, if applicable. ID/Disease testing. Field surveillance assistance. Set BG Sentinel/gravid/In2Care traps encompassing index property, if warranted.	Entomologist to coordinate release of case details to all essential District staff. Entomologist to forward vetted details to management. ID/disease testing. Field surveillance assistance. Set BG Sentinel/gravid/In2Care traps encompassing index property, if warranted.

Invasive Mosquito Response Plan Detail

Mosquito Surveillance

Effective surveillance for invasive mosquitoes requires the careful selection and placement of adult traps, larval surveys in unconventional areas, and a much greater level of interaction with the public. Placement of traps should be carefully considered to maximize the likelihood of detection. Using more than one trap type and using as many as economically feasible should increase the chance of detecting invasive mosquitoes. Trap inspections and maintenance can be extended to approximately weekly intervals to optimize and make best use of resources.

The success of any, or all, of these traps depends on understanding the ecology and behavior of these invasive mosquitoes to maximize the potential for collection. Traps specifically designed for the detection of these invasive mosquitoes will be deployed in areas surrounding the index location (first site where invasive mosquitoes were discovered). Field and laboratory staff should be able to identify egg, larval, pupal, and adult stages of these mosquito species and always consider the possibility of specimens being collected during routine surveillance operations.

Assess Abundance and Distribution of Species

After initial detection, deploy areas surrounding the index location with BG-Sentinel traps, In2Care traps, gravid traps, and any other traps designed to target the invasive species. Surveillance traps will be dispersed throughout the rest of the area to determine the geographical range of the species.

If the population is considered widespread, the District will continue to maintain a surveillance program intended to assess the population growth and continue control measures. Population growth will be determined with the use of target-specific traps.

Educational Materials to Residents

Distribute public education and outreach materials (e.g., fact sheets, flyers, door hangers, mailers) urging the public to empty or discard small containers of standing water, take personal prevention measures to reduce mosquito bites, and to notify the District of possible invasive mosquito sightings. Post informational signs in the affected areas (if available).

Door-to-Door Campaign

Door-to-door campaigns should be initiated immediately to inform and educate individual property owners and their on-site residents about the invading mosquitoes. Door-to-door shall involve:

- Providing information on invasive mosquitoes.
- Educating property owners on habitat and bite reduction.
- Conducting larval/adult surveillance on the residential and/or commercial premises and reducing larval habitat.
- Encouraging people to report daytime-biting mosquitoes.

- Applying chemical products to control larvae/adult mosquitoes on the property, if necessary.

Send Collected Eggs/Adults to DART Lab

Eggs that are in good condition (i.e., not collapsed, desiccated, or otherwise damaged) may be sent to the Davis Arbovirus Research and Training (DART) Lab at UC Davis to be tested for species identification. In addition, send pools of female mosquitoes to the DART Lab at UC Davis for arboviral testing.

Source Reduction

- Dump all sources/water holding containers and instruct resident to perform weekly checks for standing water.
- If sources cannot be dumped or drained, use of larvicides and/or mosquitofish is permitted.
- If eggs or adults are detected, backpack applications of Vectobac WDG or other available products will be used in yards in order to target and achieve control in cryptic sources.

Adulticide/Larvicide Application(s)

Hand-held or backpack Ultra Low Volume (ULV) adulticides or microbial larvicide applications may commence on problematic properties where invasive mosquitoes are detected.

RESPONSE TO INVASIVE MOSQUITOES: SCENARIOS 1-3

1. Response to New Detection of Invasive Mosquito

If a potential invasive mosquito is discovered in a new area in the District, immediately notify CDPH Vector-Borne Disease Section to confirm identification. In collaboration with Butte County Public Health, release a public service announcement, if warranted, describing the discovery of invasive mosquitoes in the area and the disease risks they present.

- BCMVCD will evaluate and inspect the index property and surrounding properties 100-300 feet outwards, broadening scope as necessary.
 - Door-to-door campaigns and public education will be initiated surrounding the index property. Door hangers will be left at properties with no response from the resident or business owner.
 - If invasive mosquitoes are detected on the property or surrounding areas by the presence of eggs, larvae, pupae, or adults, then a broader investigation will occur.
- Storm drains and other underground infrastructures will also be examined as necessary.
- Larvicide/adulticide treatments may be conducted with permission from property owner.
- Control measures such as source reduction, larvicides, and adulticide applications will take place.

- Adulticide/larvicide applications and/or residuals may also be utilized on residential properties with permission.
- Set BG-Sentinel traps, gravid traps, In2Care traps, and any other traps designed to target the invasive species if warranted.

2. Response to Travel-Related Disease Case

If a travel-related disease case is reported within the District boundaries, utilize Response Plan #1 in addition to:

Request the case's residential address from Butte County Public Health and verify the areas visited while potentially viremic. The key goals will be to decrease the invasive mosquito population, increase surveillance, and limit person-mosquito contact. Any viremic traveler returning to an area with established populations of this invasive mosquito species has the potential of initiating local disease transmission.

- Collection and submission of all female invasive mosquito specimens will be sent to the DART lab for arboviral testing.
- Regional Supervisor and Zone Inspector will search index property for mosquito breeding sources and adulticide/larvicide with permission.
- Door-to-door campaigns and public education will be initiated surrounding the case's residence.
- Control measures such as source reduction, larvicides, and adulticide applications will take place.
- Enhance mosquito surveillance.
- Consider a more aggressive adulticide control approach.

3. Response to Detection of Invasive Mosquito Disease in Mosquito Sample or Locally Acquired Disease Case

If a mosquito sample tests positive for an invasive mosquito disease or a locally-acquired disease case is detected, utilize Response Plan #1 in addition to:

BCMVCDC will respond aggressively to a positive invasive disease sample or a single human case in the County with evidence of local transmission. A locally-acquired disease case will be determined by the BCMVCDC. The District may declare a disease case to be locally acquired if the patient has not travelled outside of the county or into other areas where transmission is active. We will verify whether or not the patient has traveled out of Butte County within the estimated incubation period or has been infected through sexual transmission or other routes. If local transmission is verified, a joint emergency response will be conducted by the BCMVCDC, Butte County Public Health, and City Jurisdictions while coordinating with State and Federal agencies. Adult mosquitoes, especially invasive mosquito samples, will be sent to the UC DART for testing on a bi-weekly basis and may result in positive virus detections. Given the transmission cycle of these diseases, unexpected virus positive mosquito detections would indicate that an unreported human case is present within the area. In this situation, CDPH and the local health department will be notified immediately of the positive findings.

BCM/VCD shall prioritize actions based on the severity of the public health threat, which may require concentrating resources on responses to imported disease cases or local disease transmission.

- Collection and submission of all female invasive mosquito specimens will be sent to the DART lab for arboviral testing.
- Regional Supervisor and Zone Inspector will search index property for mosquito breeding sources and adulticide/larvicide with permission.
- Control of adult mosquitoes is necessary to minimize or halt active transmission.
- Door-to-door campaigns and public education will be initiated surrounding the case's residence.
- Control measures such as source reduction, larvicides, and adulticide applications will take place.
- Enhance mosquito surveillance.
- Consider a more aggressive adulticide control approach.