

Guidance to local jurisdictions in high risk Zika areas on the development of a Zika Vector Management Plan

This guidance document for developing a local Zika Vector Management Plan has been created by the Texas Department of State Health Services (DSHS) due to the concern that certain areas of Texas are at high-risk for local mosquito transmission of Zika throughout the 2017 season and beyond. The high-risk areas are defined as those with previous history of local dengue transmission (Lower Rio Grande Valley), and large urban metropolitan areas with high numbers of travelers to/from areas experiencing local Zika outbreaks.

DSHS recognizes that jurisdictions across the state have varying levels of mosquito control capabilities and capacities. The guidance below describes recommendations for an ideal comprehensive vector control program. The document takes into account that communities must work within their current resources and that they may not have a comprehensive-level vector control program now or in the near future. It is within that context that the following guidance is provided to respond to Zika. As with its local partners, DSHS' capabilities and capacities will depend upon available resources.

General Overview of the Plan:

Operationally, DSHS will collaborate on these guidelines with the various jurisdictions having mosquito control capacity to prevent and control the Zika vectors *Aedes aegypti* and *Aedes albopictus*. In conjunction with these recommendations, local jurisdictions can also:

- Develop collaborative relationships to augment their capacity to prepare for and respond to Zika transmission,
- Use Community Health Workers, *promotores*, local service organizations, and others for conducting educational campaigns and providing source reduction activities, and
- Partner with local universities to establish an *Aedes* surveillance system for their jurisdiction.

These activities by local jurisdictions can aid them in focusing their resources on other areas of prevention and control. The activities also can provide smaller jurisdictions with information to guide their operational efforts and allow money and manpower to be focused on the prevention and control of Zika vector mosquitoes.

To fully implement this guidance, jurisdictions should ideally have a mosquito control program that has capability and capacity in administrative, operational, and educational components:

Administrative

The administrative component should include a full-time director of the mosquito control program that has a master's degree in entomology or environmental sciences. For a larger program, the administrative component should include an accountant or assistant director to help manage the business aspects of the program.

Operational

The operational component should include at least one licensed inspector to cover the basic operations of the program. They will be responsible for mosquito surveillance, source reduction, larviciding and adulticiding. For a larger program, the operational component should include an operational manager to oversee the operational team and have at least 1 FTE per 25 square miles of area covered by the jurisdiction.

Educational

The educational component should include an individual who is responsible for educating the community on prevention and control. For a larger program, at least 2 FTEs may be necessary.

Knowing that jurisdictions have diverse levels of Zika vector management capacity, different guidance plans have been developed for "Basic," "Moderate," and "Full Capacity" programs. Each capacity plan has three scenarios to assist with planning and response. The scenarios are:

1. Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).
2. Preparedness and response plan for responding to suspected case of local mosquito transmission.
3. Preparedness and response plan for responding to multiple clusters or sustained local mosquito transmission.

The guidelines for each describe the data the program must provide to DSHS when the jurisdiction requests that DSHS activate a vector control contract in support of local *Aedes* control operations.

Basic Capacity plan (Table 1 summarizes the Basic Capacity plan):

- **Education:** The jurisdiction should have dedicated Zika educational material to provide individuals, communities, and health care providers. This material could include information on the importance of wearing repellents, avoiding mosquito bites, information about Zika virus, how to perform source reduction in-and-around their homes, etc. (See www.texaszika.org for suitable printable materials.)
- **Larval Control:** The jurisdiction, with a trained inspector, conducts one or more weekly inspections in residential areas in-and-around the homes to identify larvae and pupae in high risk areas (urban, residential, low socioeconomic status (SES), service complaints). These inspectors will provide source reduction or larvicide applications to containers that cannot be tipped or drained. Larviciding for *Aedes* should be done when larvae have been identified in the area. Larviciding can be done by hand using a biological larvicide or can be applied via different application equipment, according to the larvicide product label. Larviciding can be directed at an individual container or a broad-cast application.

In order for DSHS to activate the vector control contract, the jurisdiction must maintain detailed records of their activities. The vector control contract may be activated based on increasing larval numbers and/or service complaints in urban and/or residential areas for:

Scenario 1: Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).

In the case of no reported local mosquito transmission and a basic capacity plan program, the jurisdiction could request that DSHS activate a **ground** contract if they demonstrate a significant increase in larvae found on larval inspections and service requests throughout their residential and urban areas.

- This significant increase must occur throughout the entire urban and residential areas of the jurisdiction.
- A decision would be reached within the first week of the request to DSHS in collaboration with the DSHS Zoonosis Control Branch (ZCB) Medical Entomologist.
- Since the program is a basic program with no adult surveillance or adulticiding, activation of a ground contract to provide mosquito spraying may be considered.

Figure 1 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating the DSHS **ground** contract.

Scenario 2: Preparedness and response plan for responding to suspected case of local mosquito transmission.

In the case of a single suspected case of local mosquito transmission and a basic capacity plan program, the jurisdiction may request that DSHS activate a **ground** contract solely based on the suspected case since they have no capacity to monitor for adults or apply adulticide.

- Detailed data records of larval inspections and service complaints will be required in addition to detailed information on the environment where the suspected case resides.
- A decision would be reached within the first 48 hours of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.
- If the ground contract is activated and the responding group determines that an **aerial** application of an adulticide and/or larvicide is warranted, DSHS in collaboration with the DSHS ZCB Medical Entomologist will decide within 48 hours to activate that contract.

Figure 2 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** or **aerial** contracts.

Scenario 3: Preparedness and response plan for responding to multiple clusters or sustained local mosquito transmission.

In the case of multiple clusters or sustained local mosquito transmission and a basic capacity plan program, the jurisdiction can request the activation of both the **ground** and **aerial** contracts.

- Detailed data records of larval inspections and service complaints will be required in addition to detailed information on the environment where the locally transmitted cases reside.
- A decision would be reached within the first 48 hours of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.
- Given that the jurisdiction has no adult surveillance or adulticide capacity, priority would be given to initiating the contract in the event of multiple locally transmitted cases.

Figure 3 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** or **aerial** contracts.

For Zika vector control, larviciding with a power-generated back-pack or truck mounted buffalo turbine is preferred to allow penetration of the residential/urban habitat. For Scenarios 2 and 3, aerial larviciding can be done but should be a last resort and based on the ongoing adult and larval surveillance and whether there is local *Aedes*-borne virus transmission in the area.

Aerial adulticiding may be warranted but should be a last resort. Aerial applications will be initiated based on Zika adult vector surveillance and arboviral activity in the area.

- If adult traps average ≥ 5 female *Aedes aegypti* mosquitoes per trap per week, then hand-held foggers or ground ULV equipment should be used for application in the areas of interest.

If, following three hand-held and/or ground ULV application attempts, the mosquito populations have not dropped to < 5 female *Aedes aegypti* mosquitoes per trap, then activation of the aerial contract may be considered if there is suspected or local *Aedes* arbovirus transmission.

Moderate Capacity plan (Table 2 summarizes the Moderate Capacity plan):

Perform the activities outlined in the basic capacity plan and add:

- **Zika vector surveillance:** The jurisdiction should include *Aedes*-specific trapping methods (BG sentinel traps, AGO traps, oviposition traps). At a minimum, 1 trap should be placed per every 5-10 square miles to monitor *Aedes* populations in high risk areas (urban, residential, low SES, high number of service complaints). Weekly trap collections in fixed locations throughout the jurisdiction area will identify when control efforts should be made. The mosquitoes in the traps should be speciated and counted. If the jurisdiction cannot speciate their collections, collaborations should be developed with local universities or the DSHS laboratory to provide this service. In the face of specific, unusual circumstances, Universities and/or the DSHS laboratory may agree to provide Zika testing of the mosquito specimens.

For DSHS to activate the vector control contract, the jurisdiction must maintain detailed records of these activities. The vector control contract may be activated based on increasing larval and/or adult populations and/or service complaints in urban and/or residential areas for:

Scenario 1: Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).

In the case of no reported local mosquito transmission and a moderate capacity plan program, the jurisdiction may request DSHS activate a **ground** contract if data demonstrates a significant increase in larvae found on larval inspections, ≥ 10 *Aedes aegypti* adults per trap per week in high risk areas of the jurisdiction (number based on the fact that no local or suspected transmission is occurring), and/or increases in the service requests throughout their residential and urban areas.

- A decision would be reached within the first week of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.

Figure 1 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating the DSHS **ground** contract.

Scenario 2: Preparedness and response plan for responding to suspected case of local mosquito transmission.

In the case of a single suspected case of local mosquito transmission and a moderate capacity plan program, the jurisdiction may request that DSHS activate a **ground** contract based on the presence of Zika vectors in the area(s) associated with the suspected case.

- Detailed data records of larval inspections, adult mosquito surveillance, and service complaints will be required in addition to detailed information on the environment where the suspected case resides.
- A decision would be reached within the first 48 hours of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.
- Since no adulticiding measures are available in a moderate capacity plan, such a contract will be considered a priority for controlling Zika transmission.
- If the ground contract is activated and the responding group determines that an **aerial** application of an adulticide and/or larvicide is warranted, DSHS, in collaboration with the DSHS ZCB Medical Entomologist, will decide within 48 hours whether to activate that contract.

Figure 2 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** or **aerial** contracts.

Scenario 3: Preparedness and Response Plan for responding to multiple clusters or sustained local mosquito transmission.

In the case of multiple clusters or sustained local mosquito transmission and a moderate capacity plan program, the jurisdiction may request the activation of both the **ground** and **aerial** contracts.

- Detailed data records of larval inspections, adult mosquito surveillance, and service complaints will be required in addition to detailed information on the environment where the locally transmitted cases reside.
- A decision would be reached within the first 48 hours of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.
- Since no adulticiding measures are available in a moderate capacity plan, these contracts would be considered a priority for controlling Zika transmission.

Figure 3 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** or **aerial** contracts.

For Zika vector control, larviciding with a power-generated back-pack or truck mounted buffalo turbine is preferred to allow penetration of the residential/urban habitat. For Scenarios 2 and 3, aerial larviciding can be done but should be a last resort and based on the ongoing adult and larval surveillance and whether there is local *Aedes*-borne virus transmission in the area.

Aerial adulticiding may be warranted but should be a last resort. Aerial applications will be initiated based on Zika adult vector surveillance and arboviral activity in the area.

- If adult traps average ≥ 5 female *Aedes aegypti* mosquitoes per trap per week, then hand-held foggers or ground ULV equipment should be used for application in the areas of interest.
- If, following three hand-held and/or ground ULV application attempts, the mosquito populations have not dropped to < 5 female *Aedes aegypti* mosquitoes

per trap in high risk areas of the jurisdiction then activation of the aerial contract may be considered if there is suspected or local *Aedes* arbovirus transmission.

Full Capacity plan (Table 3 summarizes the Full Capacity plan):

Perform the activities outlined in the moderate capacity plan and **add**:

- **Zika adult vector control:** The jurisdiction should adulticide when the adult vector surveillance data indicates an increase in mosquito populations. Adulticiding can be done by hand-held foggers, by ground-ULV equipment, or by air (last resort unless the aerial program is established) as the product label states. Adulticiding can be a spot treatment (a home, a street block) or can be an entire city. Adult trapping increases may vary by trap location, and that information should be considered when determining the area to treat.

For DSHS to activate the vector control contract, the jurisdiction must maintain detailed records of these activities. The vector control contract may be activated based on increasing larval and/or adult populations, and/or service complaints, and the inability to suppress adult populations with adulticides in urban and/or residential areas for:

Scenario 1: Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).

In the case of no reported local mosquito transmission and a full capacity plan program, the jurisdiction may request that DSHS activate a **ground** contract if they demonstrate a significant increase in larvae found on larval inspections, service requests, Zika adult vectors identified in fixed trapping surveillance, and/or they have not reduced adult *Aedes aegypti* to <10 per trap in high risk areas of the jurisdiction after three attempts at control either with hand-held foggers or ground ULV equipment.

- A decision will be reached within the first week of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.

Figure 1 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** contract.

Scenario 2: Preparedness and response plan for responding to suspected case of local mosquito transmission.

In the case of a single suspected case of local mosquito transmission and a full capacity plan program, the jurisdiction may request that DSHS activate a **ground** contract based on the presence of Zika adult vectors in the area(s) associated with the suspected case.

- Detailed data records of larval inspections, adult mosquito surveillance, adulticide application data, and service complaints would be required in addition to detailed information on the environment where the suspected case resides.
- A decision will be reached within the first 48 hours of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.
- Since adulticiding measures are available in a full capacity plan, these contracts would be considered after the jurisdiction has provided detailed adulticide application data and the correlating adult mosquito surveillance data. Additionally, the jurisdiction should continue to adulticide as appropriate during the 48-hour decision window.
- If the ground contract is activated and the responding group determines that an **aerial** application of an adulticide and/or larvicide is warranted, DSHS in

collaboration with the DSHS ZCB Medical Entomologist will decide within 48 hours whether to activate that contract.

Figure 2 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** or **aerial** contracts.

Scenario 3: Preparedness and response plan for responding to multiple clusters or sustained local mosquito transmission.

In the case of multiple clusters or sustained local mosquito transmission and a full capacity plan program, the jurisdiction may request the activation of both the **ground** and **aerial** contracts.

- Detailed data records of larval inspections, adult mosquito surveillance, adulticide application data, and service complaints will be required in addition to detailed information on the environment where the locally transmitted cases reside.
- A decision would be reached within the first 48 hours of the request to DSHS in collaboration with the DSHS ZCB Medical Entomologist.
- Since adulticiding measures are available in a full capacity plan, activation of these contracts will be considered after the jurisdiction has provided detailed adulticide application data and the correlating mosquito adult data. Additionally, the jurisdiction should continue to adulticide as appropriate during the 48-hour decision window.

Figure 3 provides the framework that DSHS will consider with the jurisdictions seeking guidance on activating DSHS **ground** or **aerial** contracts.

For Zika vector control, larviciding with a power-generated back-pack or truck mounted buffalo turbine is preferred to allow penetration of the residential/urban habitat. For Scenarios 2 and 3, aerial larviciding can be done but should be a last resort and based on the ongoing adult and larval surveillance and whether there is local *Aedes*-borne virus transmission in the area.

Aerial application can be done but should be a last resort and based on the ongoing adult and larval surveillance and whether there is local *Aedes*-borne virus transmission in the area.

- In the case of sustained transmission, if adult traps average ≥ 5 female *Aedes aegypti* mosquitoes per trap per week, and ground applications of adulticides have not dropped the average to < 5 per trap per week, then aerial adulticiding and/or larviciding may be warranted.

Table 1. Basic Capacity: The jurisdiction should have dedicated Zika educational material to provide individuals, communities, and health care providers. The jurisdiction, with a trained inspector, conducts one or more weekly inspections in residential areas in-and-around the homes to identify larvae and pupae in high risk areas (urban, residential, low socioeconomic status (SES), service complaints).

Type of Scenario	Data Needed	Response
<p>Scenario 1 Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).</p>	<p>Demonstrate a significant increase in: 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas</p>	<p>In a Basic Capacity plan the jurisdiction could request that DSHS activate a ground contract in consultation with the DSHS ZCB entomologist based on the data that supports the request.</p>
<p>Scenario 2 Preparedness and response plan for responding to suspected case of local mosquito transmission.</p>	<p>Must provide detailed records on: 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, and 3) the environment where the suspected case resides.</p>	<ul style="list-style-type: none"> • In the case of a single suspected case of local mosquito transmission and a Basic Capacity plan program, the jurisdiction could request that DSHS activate a ground contract solely based on the suspected case since they have no capacity to monitor for adults or apply adulticide. • If the ground contract is activated and the responding group determines that an aerial application of an adulticide and/or larvicide is warranted, DSHS in collaboration with the DSHS ZCB Medical Entomologist will decide within 48 hours to activate that contract.
<p>Scenario 3 Preparedness and response plan for responding to multiple clusters or sustained local mosquito transmission.</p>	<p>Must provide detailed records on: 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, 3) adult mosquito surveillance, and 4) the environment where the suspected case resides.</p>	<ul style="list-style-type: none"> • In the case of multiple clusters or sustained local mosquito transmission and a Basic Capacity plan program, the jurisdiction can request the activation of both the ground and the aerial contract. • For the aerial contract to be initiated traps need to average ≥ 5 female <i>Aedes aegypti</i> mosquitoes per trap per week, following three failed attempts by ground using either hand-held foggers or ground ULV equipment.

Table 2. Moderate Capacity: The jurisdiction should perform the activities outlined in the Basic Capacity plan and add Zika vector surveillance. The jurisdiction should include *Aedes*-specific trapping methods (BG sentinel traps, AGO traps, oviposition traps). At a minimum, 1 trap should be placed per every 5-10 square miles to monitor *Aedes* populations in high risk areas (urban, residential, low SES, high number of service complaints).

Type of Scenario	Data Needed	Response
<p>Scenario 1 Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).</p>	<p>Demonstrate a significant increase in:</p> <ol style="list-style-type: none"> 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, and/or 3) ≥ 10 female <i>Aedes aegypti</i> adults per trap per week throughout 90% of the jurisdiction. 	<p>In a Moderate Capacity plan the jurisdiction could request that DSHS activate a ground contract in consultation with the DSHS ZCB entomologist based on the data that supports the request.</p>
<p>Scenario 2 Preparedness and response plan for responding to suspected case of local mosquito transmission.</p>	<p>Must provide detailed records on:</p> <ol style="list-style-type: none"> 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, 3) adult mosquito surveillance, and 4) the environment where the suspected case resides. 	<ul style="list-style-type: none"> • In the case of a single suspected case of local mosquito transmission and a Moderate Capacity plan program, the jurisdiction could request that DSHS activate a ground contract based on the presence of Zika vectors in the area associated with the suspected case. • If the ground contract is activated and the responding group determines that an aerial application of an adulticide and/or larvicide is warranted, DSHS, in collaboration with the DSHS ZCB Medical Entomologist, will decide within 48 hours whether to activate that contract.
<p>Scenario 3 Preparedness and response plan for responding to multiple clusters or sustained local mosquito transmission.</p>	<p>Must provide detailed records on:</p> <ol style="list-style-type: none"> 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, 3) adult mosquito surveillance, and 4) the environment where the suspected case resides. 	<ul style="list-style-type: none"> • In the case of multiple clusters or sustained local mosquito transmission and a Moderate Capacity plan program, the jurisdiction can request the activation of both the ground and aerial contract. • For the aerial contract to be initiated traps need to average ≥ 5 female <i>Aedes aegypti</i> mosquitoes per trap per week, following three failed attempts by ground using either hand-held foggers or ground ULV equipment.

Table 3. Full Capacity: The jurisdiction should perform the activities outlined in the Basic and Moderate Capacity plan and add Zika vector control. The jurisdiction should include an adulticide program to mitigate Zika adult vector populations. Adulticiding can be done by hand-held foggers, by ground-ULV equipment, or by air (last resort unless the aerial program is established) as the product label states. Adulticiding can be a spot treatment (a home, a street block) or can be an entire city. Adult trapping increases may vary by trap location, and that information should be considered when determining the area to treat.

Type of Scenario	Data Needed	Response
<p>Scenario 1 Preparedness and response plan prior to local mosquito transmission (and responding to travel-related cases).</p>	<p>Demonstrate a significant increase in:</p> <ol style="list-style-type: none"> 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, and/or 3) adult female <i>Aedes aegypti</i> populations where populations are ≥ 10 per trap per week throughout 90% of the jurisdiction following three adulticide events. 	<p>In a Full Capacity plan, the jurisdiction could request that DSHS activate a ground contract in consultation with the DSHS ZCB entomologist based on the data that supports the request.</p>
<p>Scenario 2 Preparedness and response plan for responding to suspected case of local mosquito transmission.</p>	<p>Must provide detailed records on:</p> <ol style="list-style-type: none"> 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, 3) adult mosquito surveillance, 4) adulticide mission attempts, and 5) the environment where the suspected case resides. 	<ul style="list-style-type: none"> • In the case of a single suspected case of local mosquito transmission and a Full Capacity plan program, the jurisdiction could request that DSHS activate a ground contract based on the presence of Zika vectors in the area associated with the suspected case. • Since adulticiding measures are available in a Full Capacity plan, these contracts would be considered after the jurisdiction has provided detailed adulticide application failure data. • If the ground contract is activated and the responding group determines that an aerial application of an adulticide and/or larvicide is warranted, DSHS, in collaboration with the DSHS ZCB Medical Entomologist, will decide within 48 hours whether to activate that contract.

Table 3: Full Capacity (continued)

Type of Scenario	Data Needed	Response
<p>Scenario 3 Preparedness and response plan for responding to multiple clusters or sustained local mosquito transmission.</p>	<p>Must provide detailed records on:</p> <ol style="list-style-type: none"> 1) larvae found on larval inspections, 2) service requests throughout their residential and urban areas, 3) adult mosquito surveillance, 4) adulticide mission attempts, and 5) the environment where the suspected case resides. 	<ul style="list-style-type: none"> • In the case of multiple clusters or sustained local mosquito transmission and a Full Capacity plan program, the jurisdiction can request the activation of both the ground and the aerial contract. • For the aerial contract to be initiated traps need to average ≥ 5 female <i>Aedes aegypti</i> mosquitoes per trap per week, following three failed attempts by ground using either hand-held foggers or ground ULV equipment.

Figure 1. DSHS Zika Preparedness and Response Plan prior to local mosquito transmission (and responding to travel-related cases)

**INTEGRATED VECTOR MANAGEMENT
(MOSQUITO SURVEILLANCE AND CONTROL)**

Actions	Coordinating Programs
<ul style="list-style-type: none"> <input type="checkbox"/> DSHS Medical Entomologist will confer with mosquito control personnel on Integrated Vector Management and develop recommendations based on these consultations <input type="checkbox"/> Determine vector surveillance strategies <input type="checkbox"/> Recommend appropriate vector control activities <input type="checkbox"/> In consultation with the DSHS Medical Entomologist, develop criteria for specialized vector surveillance and control activities 	ZCB, Disease Control and Prevention (DCP)
<ul style="list-style-type: none"> <input type="checkbox"/> Identify statewide vector control capabilities <input type="checkbox"/> Develop vector control coordination strategy 	Regional and Local Health (RLH)
<ul style="list-style-type: none"> <input type="checkbox"/> In consultation with ZCB and Medical Entomologists, evaluate all available information to assist local jurisdictions in planning for appropriate vector control activities <input type="checkbox"/> Promote mosquito control efforts through community interactions 	Health Service Regional (HSR) Offices, RLH
<ul style="list-style-type: none"> <input type="checkbox"/> Conduct mosquito identification and lab testing when established criteria are met 	Laboratory Services Section
<ul style="list-style-type: none"> <input type="checkbox"/> Ensure state-level vector control contracts are in place <input type="checkbox"/> Coordinate the development of Zika Environmental Assessment Strike Teams and protocols 	Health Emergency Preparedness and Response Section (HEPRS)

Figure 2. DSHS Zika Preparedness and Response Plan for responding to suspected case of local mosquito transmission

**INTEGRATED VECTOR MANAGEMENT
(MOSQUITO SURVEILLANCE AND CONTROL)**

Actions	Coordinating Programs
<ul style="list-style-type: none"> <input type="checkbox"/> Consult with HEPRS on activation of vector control contracts (aerial, ground) <input type="checkbox"/> The DSHS Medical Entomologist will evaluate all available information to assist HSRs and local jurisdictions in making a determination if: <ul style="list-style-type: none"> a. The facts surrounding the case warrant implementation of vector control activities around the residence and/or other locations b. The facts surrounding the case do not warrant implementation of vector control activities around the residence and/or other locations 	ZCB, DCP
<ul style="list-style-type: none"> <input type="checkbox"/> In consultation with ZCB and DSHS Medical Entomologist, evaluate all available information to assist local jurisdictions in making a determination <input type="checkbox"/> Determine whether or not the facts surrounding the case warrant implementation of vector control activities around the residence and/or other locations <input type="checkbox"/> Conduct enhanced surveillance for clinical cases for an area around the location of concern, using a radius deemed appropriate for the local conditions and situation, to include communication with local and possibly regional medical care providers (e.g., via the Health Alert Network) <input type="checkbox"/> In areas without a Local Health Department (LHD) or as requested by a LHD, conduct an environmental assessment and, if appropriate, vector control activities around the residence and/or other appropriate locations within a 150-meter radius of the location in a manner that preserves patient privacy and medical confidentiality. 	HSR Offices, RLH
<ul style="list-style-type: none"> <input type="checkbox"/> Conduct mosquito identification and virus detection, as indicated 	Laboratory Services Section
<ul style="list-style-type: none"> <input type="checkbox"/> Conduct emergency activities as necessary <input type="checkbox"/> Upon request, deploy a Zika Environmental Strike Team to affected HSR(s) <input type="checkbox"/> Upon request, activate appropriate vector management contract(s) in support of affected jurisdiction(s) 	HEPRS

Figure 3. DSHS Zika Preparedness and Response Plan for responding to multiple clusters or sustained local mosquito transmission

**INTEGRATED VECTOR MANAGEMENT
(MOSQUITO SURVEILLANCE AND CONTROL)**

Actions	Coordinating Programs
<ul style="list-style-type: none"> <input type="checkbox"/> DSHS Medical Entomologist will consult with local jurisdictions as necessary for vector management <input type="checkbox"/> Consult with HEPRS on activation of vector control contracts 	ZCB, DCP
<ul style="list-style-type: none"> <input type="checkbox"/> Recommend vector control activities around the residence and/or other appropriate locations within a 150-meter radius of the location in a manner that preserves patient privacy and medical confidentiality <input type="checkbox"/> Conduct enhanced surveillance for clinical cases for an area around the location of concern, using a radius deemed appropriate for the local conditions and situation, to include communication with local and possibly regional medical care providers (e.g., via the Health Alert Network) <input type="checkbox"/> Continue to conduct environmental assessments and, if appropriate, vector control activities around the residence and/or other appropriate locations within a 150-meter radius of the location in a manner that preserves patient privacy and medical confidentiality (Per Section II- Integrated Vector Management- Zoonosis Control Branch) 	HSR Offices, RLH
<ul style="list-style-type: none"> <input type="checkbox"/> Test, as appropriate, to determine possible areas of sustained transmission 	Laboratory Services Section
<ul style="list-style-type: none"> <input type="checkbox"/> Consult with ZCB, the HSR, and the jurisdiction impacted on activation of state resources to support vector management 	HEPRS, RLH