



California Department of Health Services

Operational Plan for Emergency Response to Mosquito-Borne Disease Outbreaks

Supplement to California Mosquito-Borne Virus Surveillance and Response Plan

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Purpose

This document identifies the coordination between the California Department of Health Services (DHS) and partner agencies in responding to a mosquito-borne disease emergency. It serves as a supplemental document to the *California Mosquito-Borne Virus Surveillance and Response Plan (Response Plan)* and is consistent with the DHS Emergency Plan, Departmental Administrative Order, and the State Emergency Plan. This document expands on the roles of the agencies mentioned in the *Response Plan* and provides the policy basis for mosquito-borne disease outbreak planning, response, recovery, and mitigation actions.

The document includes the following information:

- Description of how DHS and federal, state, and local agencies function together in a coordinated escalating emergency response.
- The progression from normal to emergency operations.
- The emergency management structure (Standardized Emergency Management System [SEMS] organization chart for DHS response), notification system, responsibilities for the various agencies involved in the response, and anticipated agency roles at each jurisdictional (federal, state, local) level.

Authority

The authorities of participating state and local agencies to respond to outbreaks of disease and to exercise emergency powers where necessary are as follows:

- The California Emergency Services Act (Government Code (GC), Title 2, Division 1, Chapter 7, Section 8550 *et seq*): Grants authority to the Governor and chief executives to provide for state assistance in organization and maintenance of emergency programs of counties, establishes the Office of Emergency Services (OES), and establishes mutual aid procedures.
- California Health and Safety (H&S) Code Sections Pertaining to the Authority of the State Department of Health Services:
 1. Article 1, Chapter 2, Part 1, Division 101 of the H&S Code, commencing with section 100150, particularly sections 100170, 100175, 100180, 100182, and 100185: Establishes authority of the Department to enforce the laws pertaining to public health and the regulations of the department.
 2. Chapter 2, Part 1, Division 105 of the H&S Code, commencing with section 120125: Establishes authority of the Department to investigate and control communicable diseases within the state, including actions against persons, animals or property, such as quarantine, isolation and inspection.
- California H&S Code Sections Pertaining to Local Governing Bodies and Health Officers:
 1. Article 1, Chapter 2, Part 3, Division 101 of the H&S Code, commencing with section 101025: Establishes authority of county board of supervisors to preserve and protect the public health, and requires the county health officer to enforce county orders, ordinances, and statutes pertaining to public health.

2. Chapter 4, Part 3, Division 101 of the H&S Code, particularly Articles 2, 3, and 4, commencing with sections 101375, 101400, and 101450, respectively: Authorizes cities to consent or contract with the county to perform public health functions, and requires city governing bodies to take actions to protect and preserve public health. In absence of consents or contracts with the county, authorizes cities to appoint a health officer to enforce and observe all orders, ordinances, quarantines, regulations, and statutes relating to public health.
- DHS, *Emergency Response Plan and Procedures*, January 1994, which is authorized by:
 1. Executive Order No. W-9-91: Establishes the Department's responsibility to prepare for and respond to emergencies. It mandates emergency preparedness and response assignments for all state agencies and departments under the coordination of OES.
 2. Administrative Order (December 10, 2002): Details the emergency preparedness and response functions of the Department. This Administrative Order guides OES and the Department in coordinating priority tasks and programs related to emergency preparedness, response, and recovery in accordance with the OES *State Emergency Plan*.
 3. Memorandum of Understanding, DHS and Emergency Medical Services Authority (EMSA), July 1988: Details the relationship between DHS and the EMSA in planning for and responding to a catastrophic disaster and describes the specific responsibilities of each department.
 - EMSA, *Disaster Medical Response Plan*, July 1992.
 - OES, *State Emergency Plan*, May 1998: Defines the emergency management system used for all emergencies in California. The plan describes the State's response to disasters, including the response of all levels of government and certain private sector organizations to all natural and man-made emergencies that threaten life, property, and the resources of California. It focuses on the basic requirements for disaster management and coordination under the SEMS. It is intended to be used in conjunction with city, county, operational areas (OA), and state agency plans and associated standard operating procedures.
 - Federal Emergency Management Agency, *Federal Response Plan*, April 1999: A signed agreement among 27 Federal departments and agencies, including the American Red Cross, that provides the mechanism for coordinating delivery of Federal assistance and resources to augment efforts of state and local governments overwhelmed by a major disaster or emergency. It supports implementation of the Robert T. Stafford Disaster Relief and Emergency Assistance Act plus individual agency statutory authorities. It provides for damage assessment teams, emergency communications, medical assistance, equipment and supplies, creation of facilities such as a Disaster Field Office and Recovery Mitigation Center.
 - Memorandum of Understanding between DHS, Department of Pesticide Regulation, and county agricultural commissioners provides that DHS will certify vector control technicians employed by public agencies for safe handling and application of pesticides for vector control to preserve the public health.
 1. Pursuant to H&S Code sections 116180 and 106925, agencies that have signed a cooperative agreement with DHS must employ technicians that are certified by DHS.

2. As described in Title 3 of the California Code of Regulations (CCR) and other statutory codes, signatories to the cooperative agreement with DHS also receive a number of exemptions and exclusions to state laws and regulations that would otherwise apply to any person or agency involved in the application of pesticides. Applicable codes and statutes include: Education Code, section 17613; Food and Agriculture Code, section 11408(e); H&S Code, section 25174.7(a)(3); 3CCR 6400(c)(2) and 6400(e), Restricted Materials; 3CCR 6620(a), Vector Control Exemption; 3CCR 6651, Vector Control Exemption; and 3CCR 6760, Employer Responsibility and Exceptions.
- Regional Disaster Medical/Health Coordinator (RDMHC) Emergency Plans: These plans are prepared by each Regional Disaster Medical/Health Coordinator to describe their local disaster response roles.

Scope

As noted previously, this document is intended to serve as an emergency-specific supplement to the *Response Plan*. This document is intended to address only the emergency response for mosquito-borne disease outbreaks.

The relationship of DHS to the State emergency response structure and the roles and responsibilities of DHS Executive Staff, and the various divisions, branches, and sections of the Department are described in the DHS *Emergency Response Plan and Procedures*, January 1994.

This section describes the emergency management structure that will be implemented in response to a mosquito-borne disease outbreak and the expected roles and responsibilities of organizations integral to a successful disease response. The most critical activity and response to an emergency will occur at the local level. General relationships between local, regional, state, and federal response agencies are described. However, details on local, state, and federal response will be developed separately in the form of Standard Operating Procedures (SOPs) by the respective jurisdictions involved. SOPs will be incorporated in this plan as appendices when completed. When local, area, and regional resources are exhausted, State and then Federal assets are mobilized.

This plan focuses on naturally occurring events, including novel introductions of virus or mosquito vectors. Incidents that are suspicious or confirmed as intentional bioterrorism acts will require coordination with appropriate federal and state law enforcement agencies with authority over the crisis and consequent management of potential crime scenes.

It is anticipated that when a significant mosquito-borne disease outbreak in California is thought to be imminent, even prior to the proclamation of a local emergency or state of emergency, some aspects of the DHS emergency response organization (shown in appendix 4) will be activated. The DHS response will be conducted in accordance with SEMS, as described in the DHS emergency plan. The medical response of SEMS will only be activated should there be a human outbreak of mosquito borne disease resulting in a large numbers of patients impacting care delivery of the medical and health system (hospitals, clinics, ambulance providers).

Background

Mosquito-borne viruses belong to a group of arthropod-borne viruses referred to as arboviruses. Although 13 mosquito-borne viruses are known to occur in California, only western equine encephalomyelitis (WEE) virus, St. Louis encephalitis (SLE) virus, and West Nile virus (WNV) have caused or have the potential to cause significant outbreaks of human disease.

Consequently, the California Arbovirus Surveillance Program emphasizes forecasting and monitoring the temporal and spatial activity of SLE, WEE, and WNV. All of these viruses are maintained in nature in wild bird-mosquito cycles, and, therefore, are not dependent on infections of humans or domestic animals for their persistence. In California, surveillance and control activities focus on these cycles, which involve primarily (1) *Culex tarsalis* and birds, such as house finches and sparrows for SLE and WEE, and (2) *Culex tarsalis* and *Culex pipiens*, and birds such as crows, ravens, jays, house finches, and sparrows for WNV.

Mosquito control is the only practical method of protecting people and animals from SLE, WEE, and WNV infections. There are no known specific treatments, cures, or vaccines for human diseases caused by these viruses. Vaccines are not available for general public use. Infection by WEE virus tends to be most serious in very young children, whereas infection caused by SLE and WNV affects elderly people most seriously. WEE and WNV can be important diseases in horses and ruminants. There are effective WEE and WNV vaccines available to protect horses.

California has a comprehensive mosquito-borne disease surveillance program that has monitored mosquito abundance and mosquito-borne virus activity since 1969. The detection of WNV in New York, a virus never recognized prior to 1999 in the Western Hemisphere, prompted the review and enhancement of existing guidelines to ensure appropriate surveillance, prevention, and control activities for WNV (see *Response Plan*). In addition to WNV, California is at risk for introduction of other highly virulent mosquito-borne viruses, such as Japanese encephalitis, Rift Valley fever, and Venezuelan encephalitis viruses. If an existing or introduced virus is detected, it is critical that local and state agencies are prepared to respond in a concerted effort to protect people and animals from infection and disease.

Operating Assumptions

- SEMS will be utilized for the emergency response at all levels.
- Jurisdictional responsibilities will be maintained.
- Information and resource allocation and distribution will follow the SEMS model.
- Public health and vector control response will be coordinated with emergency management agencies.
- Public information releases and recommendations to the public for protective measures will be coordinated between DHS, the OES Joint Information Center (JIC), and local officials. Coordination at the county level will occur between county public health departments, impacted vector control districts, and county emergency management offices.

Local vs. State Level Emergencies

Response to a mosquito-borne virus would be initiated at the local government level. County and city health officers may take any preventive measure that may be necessary to protect and preserve the public health from any public health hazard during a local emergency within his or her jurisdiction. Preventive measure means abatement, correction, removal, or any other protective step that may be taken against any public health hazard that is caused by a disease outbreak that affects the public health (H&S Code sections 101040, 101475). The local governing body of a city and/or county, or local health officer (if he or she has been specifically designated to do so by ordinance adopted by the governing body of the jurisdiction), may proclaim a local emergency (GC 8630). Once a local emergency has been declared, the local health officer has the right to obtain all necessary information about the disease outbreak to abate the emergency and protect the public health. Health officials may provide this information to responding state or local agencies, or to medical and other professional personnel treating victims of the local emergency.

A “State of Emergency” may be proclaimed by the Governor when “conditions of disaster or extreme peril to the safety of persons and property within the state” exist and when the Governor is either requested to do so by the appropriate official of the governing body, or finds that local authorities cannot cope with the emergency (GC section 8625).

Transition to Degrees of Emergency

The thresholds that change the situation from a normal season to an emergency planning phase, and finally to epidemic conditions, potentially resulting in a public health emergency (requiring an emergency response pursuant to the Emergency Services Act, Section 8558(c), Chapter 7 of Division 1 of Title 2 of the Government Code), are described below.

In the *Response Plan* a model was developed to provide a semi-quantitative measure of risk that could be used by local agencies to plan and escalate mosquito risk reduction measures. Various risk factors, including ecological dynamics, are rated on a scale of 1 to 5, based on their average status over at least five non-epidemic years in a specific region. A value of 5 represents conditions indicative of a high risk of human infection with a mosquito-borne virus.

Table 1 in the *Response Plan* provides worksheets for assessing risk of WEE, SLE, and WNV transmission. Average risk values for a normal season range from 1.0 to 2.5, emergency planning from 2.6 to 4.0, and epidemic conditions from 4.1 to 5.0. The ratings given are benchmarks only, and may need to be adjusted relative to the conditions in each specific region or biome of the state.

Thresholds that are typical for normal season, emergency planning, and epidemic conditions for the various risk factors are listed below:

Normal Season

- Average or below average snowpack and rainfall; average seasonal temperatures
- Mosquito abundance at or below five year average (key indicator = adults of vector species)
- No virus isolations from mosquitoes
- No seroconversions in sentinel chickens
- No WNV infected dead birds
- No equine cases
- No human cases

Emergency Planning

- Snowpack and rainfall and/or temperatures above average
- Adult mosquito abundance greater than 5-year average (150% to 300%)
- One or more virus isolations from mosquitoes (MIR / 1000 is <5)
- One or more seroconversions in single flock or one or two seroconversions in multiple flocks in specific region
- One to five WNV positive dead birds in specific region
- One or two equine cases in region
- One human case in region
- Viral detection in small towns or suburban area

Epidemic Conditions

- Snowpack, rainfall, and water release rates from flood control dams and/or temperature well above average
- Adult vector populations extremely high (>300%)
- Virus isolates from multiple pools of mosquitoes (MIR / 1000 > 5.0)
- More than two seroconversions per flock in multiple flocks in specific region
- More than five WNV positive dead birds and multiple reports of dead birds in specific region
- More than two equine cases in specific region
- More than one human case in specific region
- Virus detection in urban or suburban areas

Action Associated with “Trigger Points”

The transition from Normal Season to Epidemic Conditions is based upon an average risk level, calculated from the factors listed above, and is related to specific response levels described in the *Response Plan*.

DHS will coordinate with key agencies that participate in the *Response Plan* to assure that appropriate actions associated with the three alert levels at normal season, emergency planning, and epidemic conditions are performed as listed below.

Normal Season “No Alert Level” Risk rating: 1.0 - 2.5

- Conduct routine public education (eliminate standing water around homes, use personal protection measures)
- Conduct routine mosquito and virus surveillance activities
- Conduct routine mosquito larval control
- Inventory pesticides and equipment
- Evaluate pesticide resistance in vector species
- Ensure adequate emergency funding
- Release routine press notices
- Send routine notifications to physicians and veterinarians
- Establish and maintain routine communication with local office of emergency services personnel; obtain Standardized Emergency Management Systems (SEMS) training

Emergency Planning “Alert Level” Risk rating: 2.6-4.0

- Review epidemic response plan
- Enhance public education (include messages on the signs and symptoms of encephalitis; seek medical care if needed; inform public about pesticide applications if appropriate)
- Enhance information to public health providers
- Conduct epidemiological investigations of cases of equine or human disease
- Increase surveillance and control of mosquito larvae
- Increase adult mosquito surveillance
- Increase number of mosquito pools tested for virus
- Conduct localized chemical control of adult mosquitoes
- Contact commercial applicators in anticipation of large scale adulticiding
- Review candidate pesticides for availability and susceptibility of vector mosquito species
- Ensure notification of key agencies of presence of viral activity, including the local office of emergency services (Appendix 1)

Epidemic Conditions “Emergency Level” Risk rating: 4.1-5.0

- Conduct full scale media campaign
- Alert physicians and veterinarians
- Conduct active human case detection
- Conduct epidemiological investigations of cases of equine or human disease
- Continue enhanced larval surveillance and control of immature mosquitoes
- Broaden geographic coverage of adult mosquito surveillance
- Accelerate adult mosquito control if appropriate
- Coordinate the response with the local Office of Emergency Services or if activated, the Emergency Operations Center (EOC)
- Initiate mosquito surveillance and control in geographic regions without an organized vector control program

- Determine whether declaration of a local emergency should be considered by the County Board of Supervisors (or Local Health Officer)
 - Determine whether declaration of a “State of Emergency” should be considered by the Governor at the request of designated county or city officials
 - Ensure state funds and resources are available to assist local agencies at their request
 - Determine whether to activate a Standardized Emergency Management System (SEMS) plan at the local or state level
 - Continue mosquito education and control programs until mosquito abundance is substantially reduced and no additional human cases are detected
-

Notifications

For normal operations of the Emergency Response System, see Section on Scope above.

The notification system for a WNV or other mosquito-borne disease emergency event would be keyed to trigger points identified in the *Response Plan*. These trigger points include Normal Season, Emergency Planning, and Epidemic Conditions. Surveillance testing and notification algorithms are described in the Appendices of the *Response Plan*.

The emergency notification system for mosquito-borne virus emergency events is shown in Appendix 1. After surveillance samples are tested locally or submitted by local agencies and tested by appropriate laboratories at the DHS Viral and Rickettsial Disease Laboratory, California Animal Health and Food Safety Laboratory, and University of California, Davis (UCD) Center for Vectorborne Diseases (CVEC), the results are interpreted by DHS and average risk ratings are calculated by DHS in conjunction with local agencies. Notifications are based upon alert levels which include: (1) a “No Alert” normal season, with average risk values < 2.5 , with normal environmental conditions and no virus activity detected; (2) an “Alert Level” emergency planning, with average risk values from 2.6 to 4.0 and favorable environmental conditions and indications of virus transmission such as detection of virus in mosquitoes and/or sentinel and wild animals; and (3) an “Emergency Level” epidemic conditions, with average risk values from 4.1 to 5.0, highly favorable environmental conditions, and strong indications of a potential human epidemic such as multiple detections of virus in mosquitoes, sentinel and wild animals and humans, especially near urban populations.

During “No Alert,” normal season notification of results is between submitting agencies and DHS. When risk values reach “Alert Level,” emergency planning conditions exist and the submitting agencies, local governments, and appropriate state agencies are notified by DHS. The local regional and state OES offices, and the DHS Operations Center and Joint Emergency Operations Center (DOC/JEOC) for mosquito-borne viruses will also be notified. During an “Emergency Level,” when epidemic conditions exist, local governments are notified by DHS, Incident Command Posts (ICP) may be formed by local governments, and this may be followed by formation of Operational Area EOCs by OES in counties, REOC, and the SOC in coordination with the DOC/JEOC.

An emergency response roster of key contacts is shown in Appendix 2.

Roles and Responsibilities

Roles and responsibilities of key agencies involved in conducting mosquito-borne virus surveillance and response are outlined in “Key Agency Responsibilities” of the *Response Plan* and are included in the Emergency Response Matrix shown in Appendix 3. The matrix identifies emergency duties of each agency, and where they would fit in a SEMS emergency response organization.

Emergency response to mosquito-borne disease outbreaks includes the following SEMS response levels:

Local Government. This level includes cities, counties, and special districts. Local governments have legal and jurisdictional responsibility for specific areas or functions and are defined in the California Government Code Section 8680.2.

Operational Area (OA). When activated, the OA serves as a resource and information coordination point for all political subdivisions within the geographical boundaries of a county, and between the county jurisdictions and the OES Region. County agricultural commissioners, public and environmental health, and vector control would be coordinated at this level. An OA is the conduit between local governments and the state for coordinating emergency information and situations. The local government would forward emergency information and requests for emergency needs to the OA that would try to fill the resource needs from within the OA. In the event resources have been exhausted, the OA would forward the request to the OES REOC to fill the request with resources from within the region, with state agency resources, or with resources from other public or private entities. The OA EOC is considered the resource and information coordination point for all political subdivisions within the geographical boundaries of a county and between the county jurisdictions and the OES Region.

Region. In SEMS regulations, this level is the OES Regional Office or, when activated, the REOC. Regional coordination of information and resources within the OES region would include state agencies (and local government) that have resources within the boundaries of the OES regions and OAs. When the emergency planning level has been reached and before epidemic conditions exist, local governments will be notified and will establish EOCs followed by an ICP where necessary. Notification and requests for assistance will progress following SEMS from the local government to the OA to the REOC and then to the SOC. DHS is the lead agency but will be working closely with OES on public information and resource requests. Coordination of fire and law enforcement resources shall be accomplished through their respective mutual aid systems.

State. State agency assistance is coordinated through the OES by the SOC. The SOC is activated any time a REOC is activated or emergency conditions warrant. OES is authorized to task state agencies to provide state resources to mitigate the effects of emergencies or disasters.

When state resources have been depleted and federal assistance is required, federal assistance provision is coordinated through the SOC. The SOC is the primary federal contact.

Federal. Federal agencies can be involved in a number of ways. Some Federal agencies will operate at the field level with local governments due to their specific legal and jurisdictional authority. Other Federal agency assistance will be obtained by the submission of a “Request for Federal Assistance” by the SOC. One agency at this level (not a SEMS response level) would include the Federal Emergency Management Agency (FEMA) Region IX in Oakland within the emergency management system and prevention. The Centers for Disease Control and Prevention (CDC) is another Federal agency that might provide assistance. The CDC falls under the Federal Emergency Response Plan's Emergency Support Function 8 - Health and Medical Services Annex.

Each organization will maintain a Situation Report as needed that will be forwarded to OES and the Director of DHS through the Response Information Management System (RIMS) or by facsimile if RIMS is unavailable.

Standardized Emergency Management System

The Standardized Emergency Management System (SEMS) was developed statewide for responding to and managing all types of emergencies, including public health, that involve a multi-agency and/or multi-jurisdictional response. SEMS is required to be used by all state agencies and any local agency seeking reimbursement for response related personnel costs under disaster assistance programs. This could include overtime costs associated with the emergency response to a declared emergency or when approved by the Governor (see **Recovery Process** section).

From the vector control field operations response level to the state level response, SEMS facilitates priority setting, interagency cooperation, and the efficient flow of resources and information. SEMS also includes mutual aid through the California Master Mutual Aid Agreement and associated discipline-specific mutual aid systems.

The use of the internet-based RIMS links the following to ensure a rapid flow of information and resource support:

- Local governments
- Operational Areas (OA)
- OES Regional Emergency Operations Centers (REOCS)
- State OES Emergency Operation Center (SOC)
- State Agency Department Operations Centers (DOCs)
- FEMA Region IX
- Other federal agencies

SEMS Functions

The DHS DOC Organization Chart is shown in Appendix 4. This chart represents a SEMS structure that addresses the five SEMS functions for DHS to respond to a mosquito-borne disease emergency. Should there be a large number of human cases that impact the medical and health care delivery system requiring state level response, the JEOC would be activated as the DHS DOC and in conjunction with the EMSA.

DHS will support field operations and coordinate information from the OA to the State as briefly described below:

- A. DHS is identified as the lead State agency for coordinating mosquito-borne disease outbreak surveillance and response. In the event of a suspected or confirmed mosquito-borne disease outbreak, DHS will work with CDC, local agencies, and other stakeholders to contain the disease. DHS will coordinate with OES throughout all of the alert levels.
 - B. DHS will establish and work within a Technical Specialist Group to develop, evaluate, refine, and implement disease control policy. The Technical Specialist Group will be comprised of technical and advisory personnel from several programs within DHS and within other agencies. This group will primarily function in the Planning/Intelligence Section of the DHS DOC (or in the JEOC if the medical and healthcare system is impacted by the outbreak) (see Appendix 4). The State response will reflect national policy as well as state public and private interests, and will include a communications/public relations component.
 - C. DHS, in coordination with OES, will utilize the SEMS response structure to communicate strategic and tactical vector control decisions between the local identifying person(s), county and local government, the State of California, and the Federal Government.
 - D. DHS, in coordination with OES, will issue orders in accordance with OES mission tasks in the incident action plan, and oversee the implementation and enforcement of such orders with the assistance of other local, state, and federal agencies. These orders may include expanded vector control operations, aerial insecticide operations for control of adult vectors, efforts to modify the environment to reduce vector mosquito populations, and public outreach and education.
 - E. DHS will work with California Department of Food and Agriculture (CDFA) to determine the extent to which CDFA personnel will respond to an animal health emergency.
 - F. DHS will determine the extent to which DHS personnel will respond to a public health emergency. Duties in support of this emergency plan will take priority over all other duties of the Department.
-

Resource Request

Resource requests must involve close coordination between DHS, its client base, and the statewide emergency management system. Under SEMS, when local resources are exhausted, additional resources will be mobilized through the OA and the OES REOC. Local authorities maintain local control over mutual aid resources brought to address the disaster within their jurisdictional authority.

Field operations and coordination with local agencies and stakeholders will vary depending on the situation. The incident commander will be the person with legal and jurisdictional authority for the response actions. The incident will follow unified command principles with the appropriate local authority, directing response personnel and resources to carry out tactical decisions and activities within their jurisdiction. In some cases, DHS may send staff to participate in the ICP or EOC of an OA as Technical Assistants or as part of a unified command. In the case of a local jurisdiction that requests DHS to take over and manage the response, DHS will establish an ICP with a DHS staff person designated as the Incident Commander. In a multi-jurisdictional situation, DHS may set up an ICP in physical proximity to the affected area (or a VBDS field office) to direct DHS operational activities in coordination with the affected OAs (and REOC, JEOC, and SOC if activated).

Typical resources are identified in the notification system shown in Appendix 1, including local, county, regional, state, and federal agency resources.

Existing DHS resources include contracts for emergency aerial insecticide applications. Local resources and capabilities must be exhausted prior to requests for additional state or federal resources.

Mutual Aid Requests under SEMS

The following is presented as an example of how the Mutual Aid request under SEMS works:

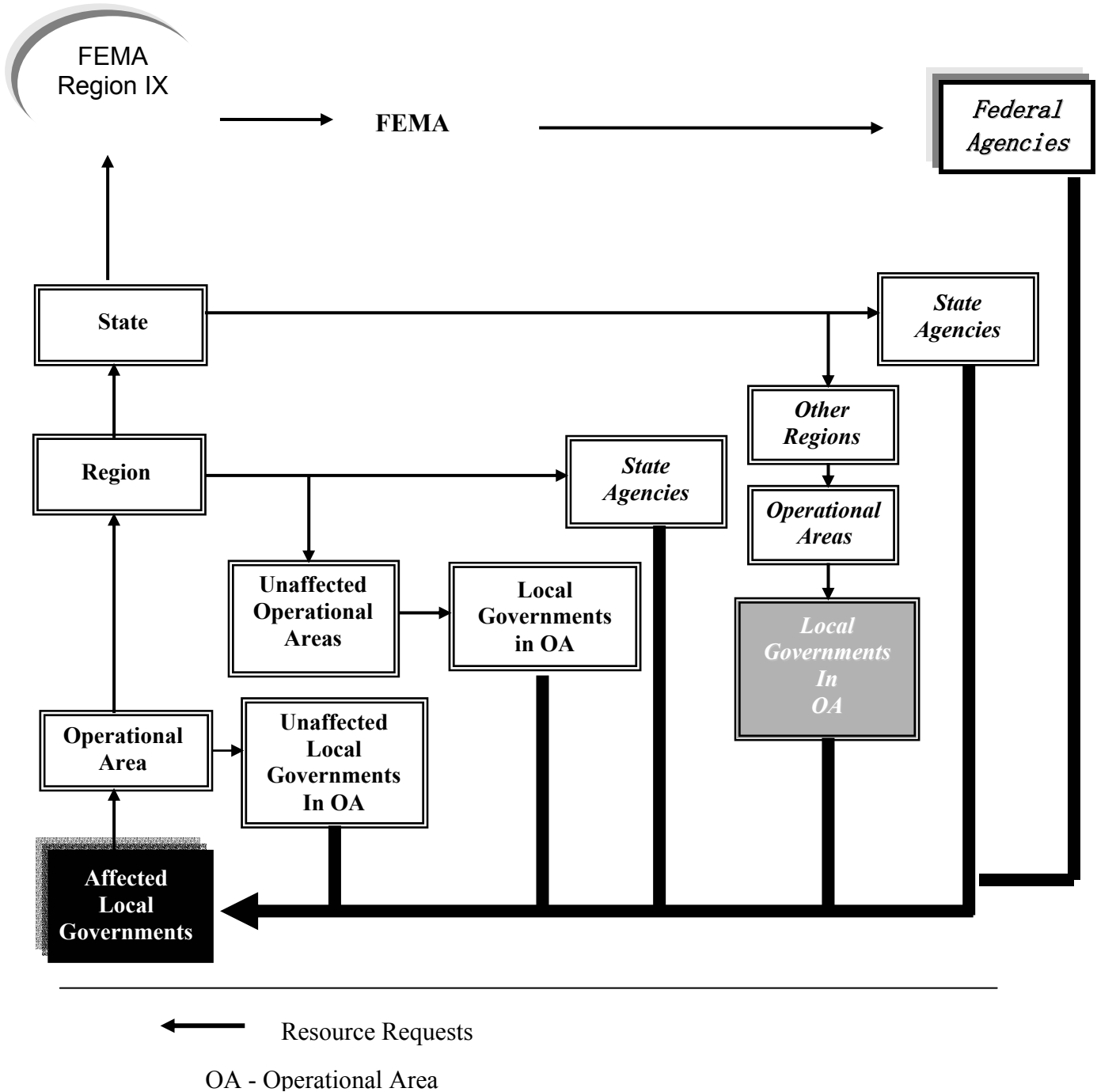
A vector control field operator requests additional resources through his district headquarters. The district headquarters cannot provide the resources or cannot purchase the resources in a timely manner, thus compromising the health and safety of the district's residents. If there are existing agreements with neighboring districts, the vector control district could request assistance through them.

Master Mutual Aid Agreement (MMAA)

If there are no identified agreements, the vector control district could go to their local emergency manager in the OA and request that resources be obtained from other vector control districts through the MMAA. Mutual aid provided under this agreement is available by public agencies without the expectation of reimbursement by the provider.

The local emergency manager in the OA would respond to the resource request. The request would be routed until filled following the illustration on the next page.

Mutual Aid System Concept: General Flow of Requests and Resources



Notes: Local governments may request mutual aid directly from other local governments where local agreements exist.
Discipline-specific mutual aid systems may have procedures

Request for Federal Resources

There are agreements, although limited in scope, between DHS and the CDC for resource support. These contracts are currently in place for resources to provide mosquito-borne disease surveillance for WNV activity, including testing of sentinel chickens, mosquito pools, and dead birds. No additional funds from CDC for surveillance or control are anticipated.

The OES is the channel for initiating requests for federal assistance (RFA) that are beyond any existing agreements or contracts and beyond the capabilities of the state. The process may require conditions such as local declarations, and there may be costs associated with the resources. This process is activated by OES when the resources are not available except at the federal level.

Public Information / Risk Communication

Within DHS, the Office of Public Affairs (OPA) has primary responsibility for dissemination of public health information relative to disease outbreaks. All state level press releases are channeled through OPA. DHS informs local health departments (LHD) of important communicable disease information using the *CD Brief*. *CD Brief* is sent by fax and by e-mail to health officers, communicable disease controllers, laboratory directors, and to a limited number of private physicians on a weekly basis. All of the State's 62 LHDs are connected to the Internet; about 500 contacts are reached by e-mail, and an additional 100 are reached by fax. The OPA will link with the OES/JIC to ensure coordinated outreach and information dissemination. The California Alert Health Network (CAHAN) will be used to automatically notify local health officers, laboratories, and others in the operational Area, and in the region affected by the emergency by various means to include: e-mail, cell phone, pagers and faxes. CAHAN will be used to disseminate emergency notifications, health updates, advisories, routine information, and it has the capability to update, on a real time basis, planning or operational documents.

The best time to prepare the public for potential consequences is through risk communication prior to an incident.

- DHS will process and recognize the information and communication linkage between levels of emergency management consistent with principles outlined in SEMS
- DHS will provide timely and accurate information about mosquito-borne disease outbreaks in order to convey a realistic understanding of risks and measures the public can take to reduce risk
- The public can obtain current and timely information on mosquito-borne diseases by calling 1-877-WNV-BIRD, sending an e-mail to arbovirus@dhs.ca.gov, or by going to the website <http://westnile.ca.gov>.
- DHS and local agencies will produce press releases and public information messages through various media, including radio and television, well in advance of an outbreak. These messages detail personal preventative measures that are focused on the current situation.
- DHS and local agencies will coordinate with the OES/JIC starting at the Alert Level, which can support the statewide distribution of public health notices.

Recovery Process

It is important that the recovery plans are initiated early in the response phase to ensure a smooth transition back to normal day-to-day operations. Emergency response and recovery activities are conducted at the request and under the direction of the affected local government. The recovery process requires documentation of all expenses, including application for disaster assistance through OES and FEMA.

Most disaster assistance programs for this type of disaster would be oriented toward local governments. However, the state Department of Finance will require documentation of expenses for the state-agency emergency response to obtain any fund deficiency requests. Under a State of Emergency, local agencies may be reimbursed for up to 75% of eligible costs under the California Disaster Assistance Act. In a state-only disaster where a federal declaration has not been received, state agencies receive no reimbursement.

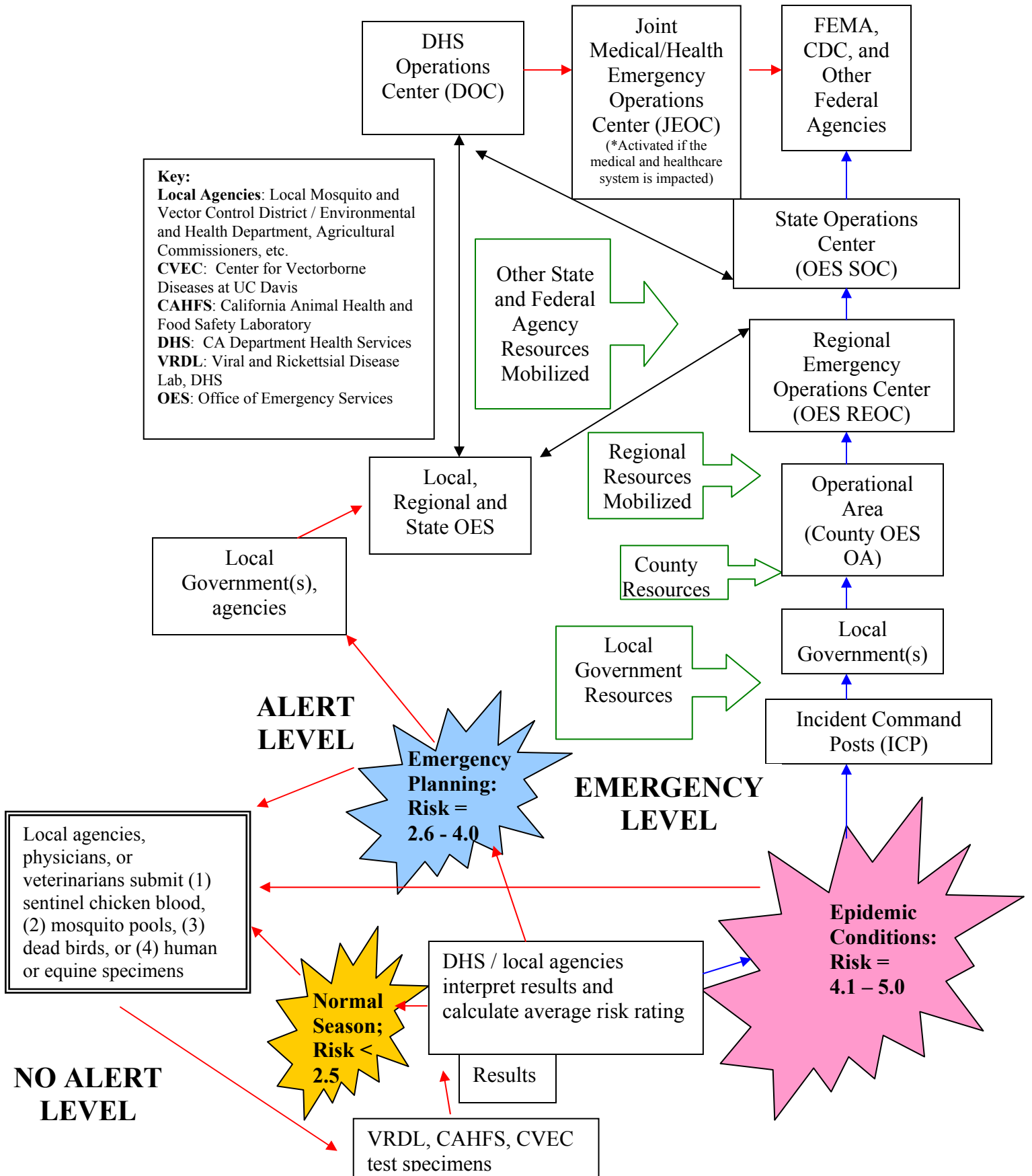
Under a Presidential Proclamation, local government may receive 75% federal reimbursement. The state can reimburse local government 75% of the remaining 25% non-federal share, which equates to 18.75% share for the state and 6.25% for local government. State agencies are only eligible for the 75% federal reimbursement.

Reimbursement of eligible expenses will be in accordance with governing state and/or federal laws and regulations. Reimbursement is contingent upon accurate and thorough record keeping. All participating local government and state agencies will be responsible for maintaining a log of time, events, and expenses in accordance with procedures established by their own agency. This log and record of expenses will be required by OES if state and/or FEMA funding is made available.

Appendices

1. Emergency Event Notification System Flowchart
2. Emergency Response Roster of Key Contacts
3. Roles and Responsibilities of Public Agencies
4. DHS Operations Center/Joint Emergency Operations Center Organizational Chart
5. Abbreviations
6. References

Appendix 1. CA Notification System for Mosquito-borne Disease Emergency Event



Appendix 2

Emergency Response Roster of Key Contacts

In the event of an emergency contact the OES Warning Center (24 hours a day, 7 days a week) at (916) 845-8911. They will connect you with the Executive Duty Officer.

Organization

Name (Title)	E-mail	Phone	Fax
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Appendix 3
Mosquito-Borne Disease Emergency
Roles and Responsibilities of Public Agencies

Jurisdictional Level	Department/Agency Role
Local Government	<p style="text-align: center;">Mosquito and Vector Control Agencies</p> <ul style="list-style-type: none"> • Gather, collate, and interpret regional climate and weather data • Monitor abundance of immature and adult mosquitoes • Collect and submit mosquito pools for virus detection • Maintain sentinel chicken flocks, obtain blood samples for testing • Pickup and ship dead birds for WNV testing • Conduct exhaustive control of immature mosquitoes • Conduct control of adult mosquitoes, targeting vector species • Educate public on mosquito avoidance and source reduction • Coordinate with local OES personnel and other agencies
	<p style="text-align: center;">Local Health Departments</p> <ul style="list-style-type: none"> • Track and mitigate the effects of infections on humans • Refer human specimens to DHS for further testing • Conduct epidemiological investigations of human cases • Notify local medical community, including hospitals and laboratories • Participate in emergency response • Assist in public education
	<p style="text-align: center;">Environmental Health Departments</p> <ul style="list-style-type: none"> • Refer to bullets under mosquito and vector control if the Environmental Health Department has a vector control program
	<p style="text-align: center;">Animal Control Agencies</p> <ul style="list-style-type: none"> • Monitor and report suspect veterinary cases • Assist in collection of dead bird specimens • Assist in public education

	<p style="text-align: center;">Local Offices of Emergency Services</p> <ul style="list-style-type: none"> • Assist in logistical support and public information release • Process disaster declarations as necessary and participate in the local response plan to mobilize local resources • Coordinate with the OA, county, and local government to provide assistance as needed
	<p style="text-align: center;">County Agriculture Commissioners (CAC)</p> <ul style="list-style-type: none"> • Provide consultation regarding pesticide use • Single representative from the affected counties participate in the Technical Specialist Group • Coordinate with DHS and make personnel and facilities available to assist with mosquito control within county • Assist local OES with disaster declarations and other administrative tasks; participate in the local response plan to mobilize local resources • Coordinate with DHS and CDFA as a participating local response agency. Assistance may include: activating local emergency response, managing affected animals, humanely destroying animals, and assisting with carcass disposal • Assist in providing information to the media; conduct early outreach to impacted industry and the county general public; communicate with neighboring CAC
<p style="text-align: center;">State Government</p>	<p style="text-align: center;">Department of Health Services (Director)</p> <ul style="list-style-type: none"> • In coordination with the Emergency Preparedness Office, activate the DHS emergency system as appropriate • Ensure close coordination and communication of DHS activities with the Health and Human Services Agency, OES, and the Governor to ensure appropriate utilization of public health, medical, security, transportation, and communication resources • Provide policy direction to the emergency response organization • Ensure that all necessary DHS resources are directed to respond to the emergency • Ensure that continuity of DHS management and operations is maintained through a clear command authority and identification of staff to assume higher-level responsibilities in the event of the absence or incapacity of key DHS leadership

<p>State Government (Continued)</p>	<p>Department of Health Services (Executive Staff)</p> <ul style="list-style-type: none"> • Staff the Disaster Policy Council at the request of the Director to ensure consensus on policy decisions and carry out these decisions within assigned programs • Provide staff for the Joint Medical/Emergency Operations Center (JEOC) if activated in the event of medical and healthcare system impacts from large numbers of human disease cases • Respond to DHS, state, or local agency mutual aid needs upon request
	<p>Department of Health Services (Chief, Division of Communicable Disease Control)</p> <ul style="list-style-type: none"> • Implement and staff a Department Operations Center (DOC) or Joint Emergency Operations Center (JEOC) if necessary to accomplish all program responsibilities defined in the concept of operations • Ensure that all primary SEMS functions (management, operations, planning, logistics, and finance) are addressed within the DOC and JEOC • Manage the DOC or JEOC to ensure the development of an Incident Action Plan and implementation of the action plan by the Department and various DCDC programs • Provide a DCDC liaison to ensure coordination of Department activities with the DOC or JEOC in Sacramento • Serve as the primary “field” operations location to coordinate State-level disease surveillance, prevention, and control activities to support local government and to fulfill DHS statutory responsibilities • Ensure close coordination and communication with the JEOC as required for resource assistance and to maintain information flow to the DHS Director and Executive Staff, EMSA, OES, and other agencies as appropriate
	<p>Department of Health Services (DOC or JEOC)</p> <ul style="list-style-type: none"> • Coordinate State-level medical and health information and resources by: <ul style="list-style-type: none"> ○ Developing Department action plans ○ Acquiring public health and medical personnel upon request of an affected region ○ Coordinating resource acquisition and support for DHS field emergency response activities ○ Ensuring coordination with the OES SOC or REOC as appropriate ○ Ensuring information flow to DHS and EMSA management and executive staff, OES, and other agencies ○ Ensuring coordination and information flow with health management organizations and other providers of medical care, facilities, and supplies

<p>State Government (Continued)</p>	<p>Department of Health Services (Infectious Diseases Branch)</p> <ul style="list-style-type: none"> • Assist with coordination of epidemiological investigations human cases with local health departments as needed • Maintain statewide database of human cases • Evaluate human case data • Develop disease control strategies • Provide information and consultation to the public health and medical community • Provide technical assistance for press releases and other guidance related to personal protective measures • Provide media interviews as needed in coordination with OPA
	<p>Department of Health Services (Vector-Borne Disease Section)</p> <ul style="list-style-type: none"> • Coordinate vector control aspects of statewide response to mosquito-borne disease outbreaks • Collate adult mosquito abundance data submitted by local agencies; provide summary of data to local agencies • Coordinate submission of specimens for virus testing • Maintain database of all specimens tested in conjunction with UCD • Distribute a weekly bulletin summarizing surveillance test results • Send weekly surveillance results to the UCD interactive website • Immediately notify local vector control agency and public health officials when evidence of viral activity is found • Coordinate and participate in a regional emergency response in conjunction with OES • Coordinate “dead bird” surveillance program for WNV • Provide oversight to local jurisdictions without defined vector-borne disease control program • Provide technical assistance for press releases and other informational materials • Provide media interviews as needed in coordination with DHS OPA

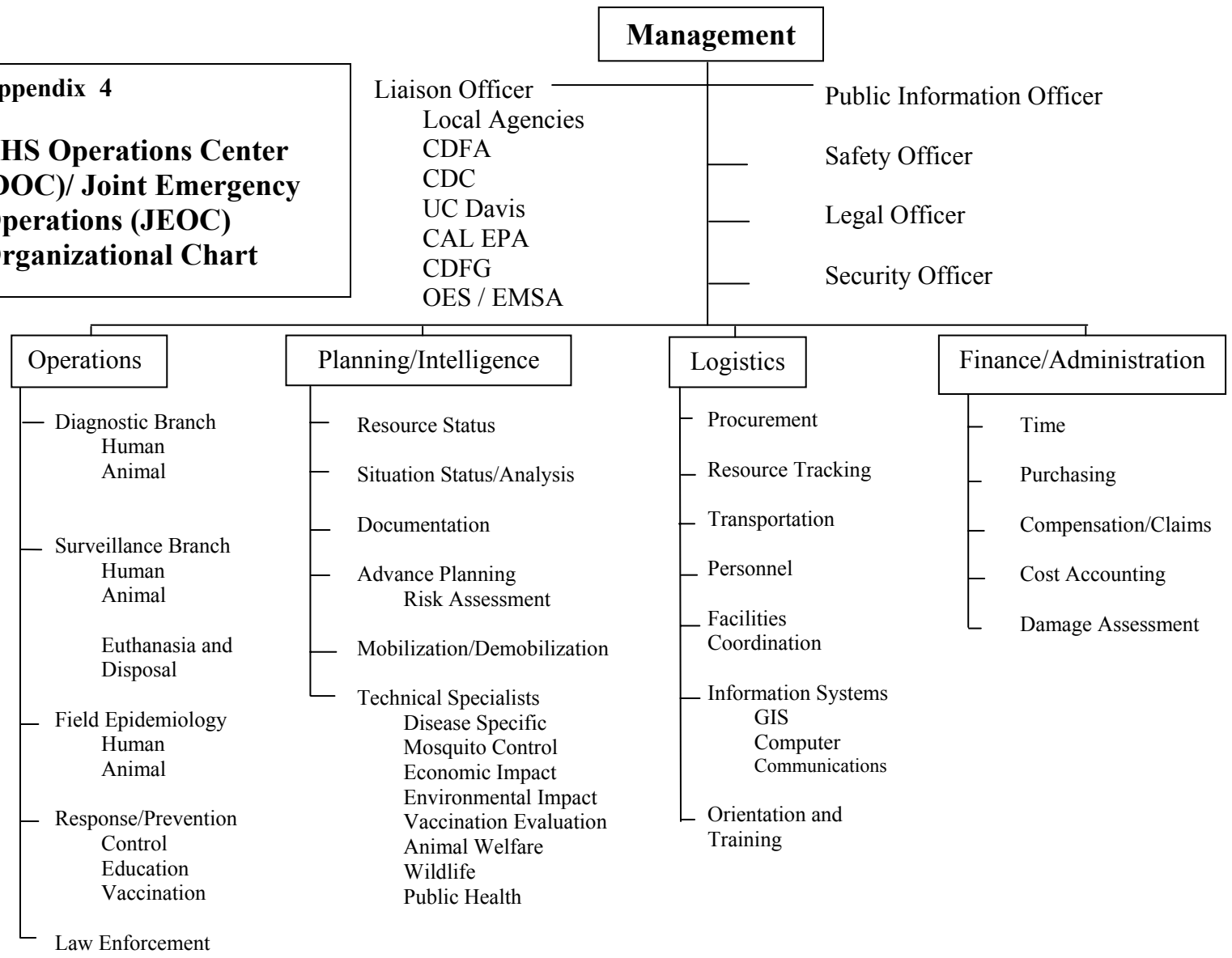
<p>State Government (Continued)</p>	<p style="text-align: center;">Department of Health Services (Veterinary Public Health Section)</p> <ul style="list-style-type: none"> • Coordinate with CDFA for the surveillance and epidemiological investigation of equine and veterinary cases • Coordinate preventive measures to protect zoological collections • Coordinate with CDFA to provide outreach to the veterinary community and other animal health professionals on the surveillance and reporting of suspect veterinary cases
	<p style="text-align: center;">Department of Health Services (Viral and Rickettsial Diseases Lab)</p> <ul style="list-style-type: none"> • Coordinate active human case surveillance for WNV including encephalitis, aseptic meningitis, and Acute Flaccid Paralysis cases • Develop and coordinate WNV screening program in public health laboratories within the State to screen high volumes of suspect WNV cases • Perform screening and confirmatory testing for possible WNV cases • Perform comprehensive testing (besides WNV) for encephalitis cases including other arboviruses, herpesviruses, enteroviruses, rabies, and other causes of encephalitides • Maintain and transmit surveillance data on all WNV surveillance components to CDC • Perform screening and confirmatory testing for sentinel chicken flocks • Provide confirmatory testing for commercial laboratories for WNV • Provide information and consultation to local public health departments including local health officers, communicable disease officers and public health laboratorians • Provide media interviews as needed in coordination with DHS OPA
	<p style="text-align: center;">California Environmental Protection Agency (Department of Pesticide Regulation)</p> <ul style="list-style-type: none"> • Coordinate with local jurisdictions to identify and secure the issuance of any necessary permits and/or record any decisions of exemptions from permitting requirements • Assist in securing exemptions from U.S. Environmental Protection Agency for emergency use of insecticides

<p>State Government (Continued)</p>	<p style="text-align: center;">Emergency Medical Services Authority (EMSA)</p> <ul style="list-style-type: none"> • Ensure communication with and education of the local EMSA and emergency departments regarding the disease outbreak and the importance of reporting cases immediately to local public health • Provide staff for the DHS DOC as requested if the JEOC is not activated <p>EMSA would be activated to respond to the emergency in the event that there are a large number of human outbreak cases that impact the medical and healthcare (hospital, clinics, EMS providers) and would respond when the JEOC is activated</p> <ul style="list-style-type: none"> • If the JEOC is activated, EMSA will: <ol style="list-style-type: none"> 1. Staff the JEOC and operate in assigned positions 2. Provide EMS and medical resources as requested by the OAs 3. Alert emergency responders to work with their OAs and REOCs to inventory critical supplies and solve problems 4. Conduct inventory of critical equipment, supplies and personnel, including statewide availability of hospital beds
	<p style="text-align: center;">California Department of Fish and Game (CDFG)</p> <ul style="list-style-type: none"> • Coordinate with DHS/CDFG/U.S. Department of Agriculture and local government and participate as a responding agency if the mosquito-borne virus impacts wildlife, or if tasked by OES • Provide advice on risks to wildlife and methods to respond to and mitigate these risks • If the mosquito-borne virus has a history of affecting wild animals, initiate a surveillance program in the immediate vicinity of the outbreak and determine if the disease has spread to wildlife. Initiate steps to prevent the spread of the disease to susceptible wildlife. • Act as a liaison with the U.S. Fish and Wildlife Service • CDFG Office of Spill Prevention and Response can assist by providing veterinarians and response personnel, and by conducting natural resource damage assessment when requested by OES • Monitor wildlife health relative to mosquito-borne disease • Assist in obtaining dead bird collection permits for disease monitoring • Assist in obtaining wild bird collection permits for disease monitoring

<p>State Government (Continued)</p>	<p>California Department of Food and Agriculture (CDFA)</p> <ul style="list-style-type: none"> • Notify veterinarians and veterinary diagnostic laboratories about WEE and WNV and the laboratories available at UCD Center for Vectorborne Diseases • Provide outreach to the general public and livestock producers on the monitoring, reporting, and prevention of equine and ratite encephalitides • Facilitate equine and ratite sample submission from the field • Serve as lead agency for the epidemiological investigation of equine cases
	<p>Mosquito and Vector Control Association of California (MVCAC)</p> <ul style="list-style-type: none"> • Coordinate purchase of sentinel chickens • Receive, track, and disperse payment for surveillance expenses • Coordinate surveillance and response activities among member agencies • Serve as spokesperson for member agencies • Establish liaisons with press and government officials
	<p>California Department of Mental Health (CADMH)</p> <ul style="list-style-type: none"> • Assess, at the request of OES, mental health needs resulting from a serious mosquito-borne disease outbreak, and through input and decision-making at the local level, activate appropriate interventions to assist persons affected by the outbreak
	<p>California Division of Occupational Safety and Health (CalOSHA)</p> <ul style="list-style-type: none"> • Provide, as requested by OES, comprehensive on-site safety and health guidance for all personnel • Provide, as requested by OES, guidance for personnel using insecticides that require the wearing of protective clothing and respiratory devices • Provide, as requested by OES, monitoring of on-site personnel to measure exposure levels to insecticides to ensure worker safety is maintained

<p>State Government (Continued)</p>	<p>California Animal Health and Food Safety Laboratory (CAHFS)</p> <ul style="list-style-type: none"> • Identify and screen dead birds for WNV testing • Conduct necropsies and testing on dead birds, equines, and other veterinary cases • Submit avian and equine tissues to UCD for testing
	<p>Governor’s Office of Emergency Services (OES)</p> <ul style="list-style-type: none"> • Coordinate the local, regional, or statewide emergency response under epidemic conditions in conjunction with DHS via the SEMS • Operate the SOC in Sacramento • Operate REOC in Sacramento, Oakland, and Los Alamitos • Coordinate the SEMS state level of emergency response • Serve as liaison with the FEMA
<p>Federal Government</p>	<p>Centers for Disease Control and Prevention (CDC)</p> <ul style="list-style-type: none"> • Provide consultation to California if epidemic conditions exist • Provide informational materials for the public, physicians, and public health agencies • Provide national surveillance data to state health departments
	<p>Federal Emergency Management Agency (FEMA) – Region IX in Oakland</p> <ul style="list-style-type: none"> • Coordinate with CDC emergency operations (ESF 8)

Appendix 4
DHS Operations Center (DOC)/ Joint Emergency Operations (JEOC) Organizational Chart



Appendix 5

Abbreviations

CAG	Attorney General
CADMH	California Department of Mental Health
CAHFS	California Animal Health and Food Safety Laboratory
Cal/EPA	California Environmental Protection Agency
CalOSHA	California Division of Occupational Safety and Health Administration
CCR	California Code of Regulations
CDC	Centers for Disease Control and Prevention, US Department of Health and Human Services
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CHP	California Highway Patrol
CNG	California National Guard
DCDC	Division of Communicable Disease Control
DHS	Department of Health Services (California)
DOC	DHS Operations Center
EMSA	Emergency Medical Services Authority, Health and Human Services Agency
FEMA	Federal Emergency Management Agency
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
GC	Government Code
H&S	Health and Safety Code
ICP	Incident Command Post
IDB	Infectious Diseases Branch
JEOC	Joint Emergency Operations Center, DHS and EMSA
JIC	Joint Information Center
LHDs	Local health departments
MIR/1000	Minimum Infection Rate = number of infected mosquitoes/1000 tested
MMAA	Master Mutual Aid Agreement
MVCAC	Mosquito and Vector Control Association of California
OA	Operational Area
OES	Office of Emergency Services, Office of the Governor
OPA	Office of Public Affairs
REOC	Regional Emergency Operations Center
RIMS	Response Information Management System
SEMS	Standardized Emergency Management System
SLE	St. Louis encephalitis virus
SOC	State Operations Center
UC	University of California
VBDS	Vector-Borne Disease Section
VPHS	Veterinary Public Health Section
WEE	Western equine encephalomyelitis virus
WNV	West Nile virus

Appendix 6: References

Administrative Order (12/10/02)

California Code of Regulations

California Education Code

California Emergency Services Act

California Food and Agriculture Code

California Government Code

California Health and Safety Code

DHS *California Mosquito-Borne Virus Surveillance & Response Plan (2003)*:
<http://www.westnile.ca.gov>

Department of Health Services Emergency Operations Plan

Department of Health Services, *Emergency Response Plan and Procedures*, January 1994

Emergency Medical Services Authority, *Disaster Medical Response Plan*, July 1992

Executive Order No. W-9-91

Federal Emergency Management Agency, *Federal Response Plan*, April 1999

Federal Insecticide, Fungicide, and Rodenticide Act

Memorandum of Understanding, Department of Health Services and Emergency Medical Services Authority, July 1988

Memorandum of Understanding between DHS, Department of Pesticide Regulation, and County Agricultural Commissioners

Office of Emergency Services, *State Emergency Plan*, May 1998

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