California Department of Public Health

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 Public Health (CDPH) 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 CDPH 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 CDPH 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 CDPH 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 California Emergency Management Agency (CalEMA), and establishes mutual aid procedures.
- California Health and Safety (H&S) Code Sections Pertaining to the Authority of the State Department of Public Health:
    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.

- CDPH, *Emergency Response Plan and Procedures*, January 1994, 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 CalEMA.
    2. Administrative Order (December 10, 2002): Details the emergency preparedness and response functions of the Department. This Administrative Order guides CalEMA and the Department in coordinating priority tasks and programs related to emergency preparedness, response, and recovery in accordance with the CalEMA *State Emergency Pla*n.
    3. Memorandum of Understanding, CDPH and Emergency Medical Services Authority (EMSA), July 1988: Details the relationship between CDPH 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.
- *State Emergency Pla*n, 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 CDPH, Department of Pesticide Regulation, and county agricultural commissioners provides that CDPH 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 CDPH must employ technicians that are certified by CDPH.

2. As described in Title 3 of the California Code of Regulations (CCR) and other statutory codes, signatories to the cooperative agreement with CDPH 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 CDPH to the State emergency response structure and the roles and responsibilities of CDPH Executive Staff, and the various divisions, branches, and sections of the Department are described in the CDPH *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 should be developed separately in the form of Standard Operating Procedures (SOPs) by the respective jurisdictions involved. 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 CDPH emergency response organization (shown in Appendix 3) will be activated. The CDPH response will be conducted in accordance with SEMS, as described in the CDPH 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 12 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 / quinquefasciatus*, 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. 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 ratites. 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 CDPH, CalEMA 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 for delineating a normal season, emergency planning, and epidemic conditions follow:

Normal Season

- Average or below average snowpack and rainfall; average seasonal temperatures
- *Culex* mosquito abundance at or below five year average (key indicator = adults of vector species)
- No virus infections detected in mosquitoes
- No seroconversions in sentinel chickens
- No WNV infected dead birds
- No human

cases Emergency

Planning

- Snowpack and rainfall and/or temperatures above average
- Adult *Culex* mosquito abundance greater than 5-year average (150% to 300% above normal)
- One or more virus infections detected in mosquitoes (MIR / 1000 is <5)
- One or more seroconversions in single flock or one to two seroconversions in multiple flocks in specific region
- One to five recently infected WNV positive dead birds in specific region
- One human case in broad or specific region
- WEE virus detected in small towns or suburban

areas Epidemic Conditions

- Snowpack, rainfall, and water release rates from flood control dams and/or temperature well above average
- Adult vector population extremely high (>300%)
- Virus infections detected in multiple pools of *Culex tarsalis* or *Culex pipiens* mosquitoes (MIR / 1000 > 5.0)
- More than two seroconversions per flock in multiple flocks in specific region
- More than five recently infected WNV positive dead birds and multiple reports of dead birds in specific region
- More than one human case in specific region
- WEE virus detected 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*.

CDPH 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 follows:

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
- Comply with National Pollutant Discharge Elimination System (NPDES) permit if applying pesticides to waters of the United States
- Conduct routine mosquito control, with emphasis on 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 or increase localized chemical control of adult mosquitoes as appropriate
- 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)

- 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 as appropriate by ground and / or air
- 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

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Notifications

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

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 CDPH, California Animal Health and Food Safety Laboratory, and University of California, Davis (UCD) Center for Vectorborne Diseases (CVEC), the results are interpreted by CDPH or locally and average risk ratings are calculated. 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 CDPH. When risk values reach "Alert Level," emergency planning conditions exist and the submitting agencies, local governments, and appropriate state agencies are notified by CDPH or the local vector control agency. The local regional and state emergency services offices, and the CDPH 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, Incident Command Posts (ICP) may be formed by local governments, and this may be followed by formation of Operational Area EOCs by CalEMA in counties, REOC, and the SOC in coordination with the DOC/JEOC.

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 2. 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 CalEMA 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 CalEMA 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 CalEMA Region.

Region. In SEMS regulations, this level is the CalEMA Regional Office or, when activated, the REOC. Regional coordination of information and resources within the CalEMA region would include state agencies (and local government) that have resources within the boundaries of the CalEMA 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. CDPH is the lead agency but will be working closely with CalEMA 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 CalEMA by the SOC. The SOC is activated any time a REOC is activated or emergency conditions warrant. CalEMA 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 CalEMA and the Director of CDPH 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)
- CalEMA Regional Emergency Operations Centers (REOCS)
- State Emergency Operation Center (SOC)
- State Agency Department Operations Centers (DOCs)
- FEMA Region IX
- Other federal agencies

SEMS Functions

The CDPH DOC Organization Chart is shown in Appendix 3. This chart represents a SEMS structure that addresses the five SEMS functions for CDPH 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 CDPH DOC and in conjunction with the EMSA.

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

A. CDPH 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, CDPH will work with CDC, local agencies, and other stakeholders to contain the disease. CDPH will coordinate with CalEMA throughout all of the alert levels.

B. CDPH 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 CDPH and within other agencies. This group will primarily function in the Planning/Intelligence Section of the CDPH DOC (or in the JEOC if the medical and healthcare system is impacted by the outbreak) (see Appendix 3). The State response will reflect national policy as well as state public and private interests, and will include a communications/public relations component.

C. CDPH, in coordination with CalEMA, 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. CDPH, in coordination with CalEMA, will issue orders in accordance with CalEMA 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. CDPH 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. CDPH will determine the extent to which CDPH 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 CDPH, 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 CalEMA 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, CDPH 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 CDPH to take over and manage the response, CDPH will establish an ICP with a CDPH staff person designated as the Incident Commander. In a multi-jurisdictional situation, CDPH may set up an ICP in physical proximity to the affected area (or a VBDS field office) to direct CDPH 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 CDPH resources include contracts for emergency aerial insecticide applications. Local resources and capabilities must be exhausted prior to requests for additional state or federal resources.

<u>Mutual Aid Requests under SEMS</u>

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

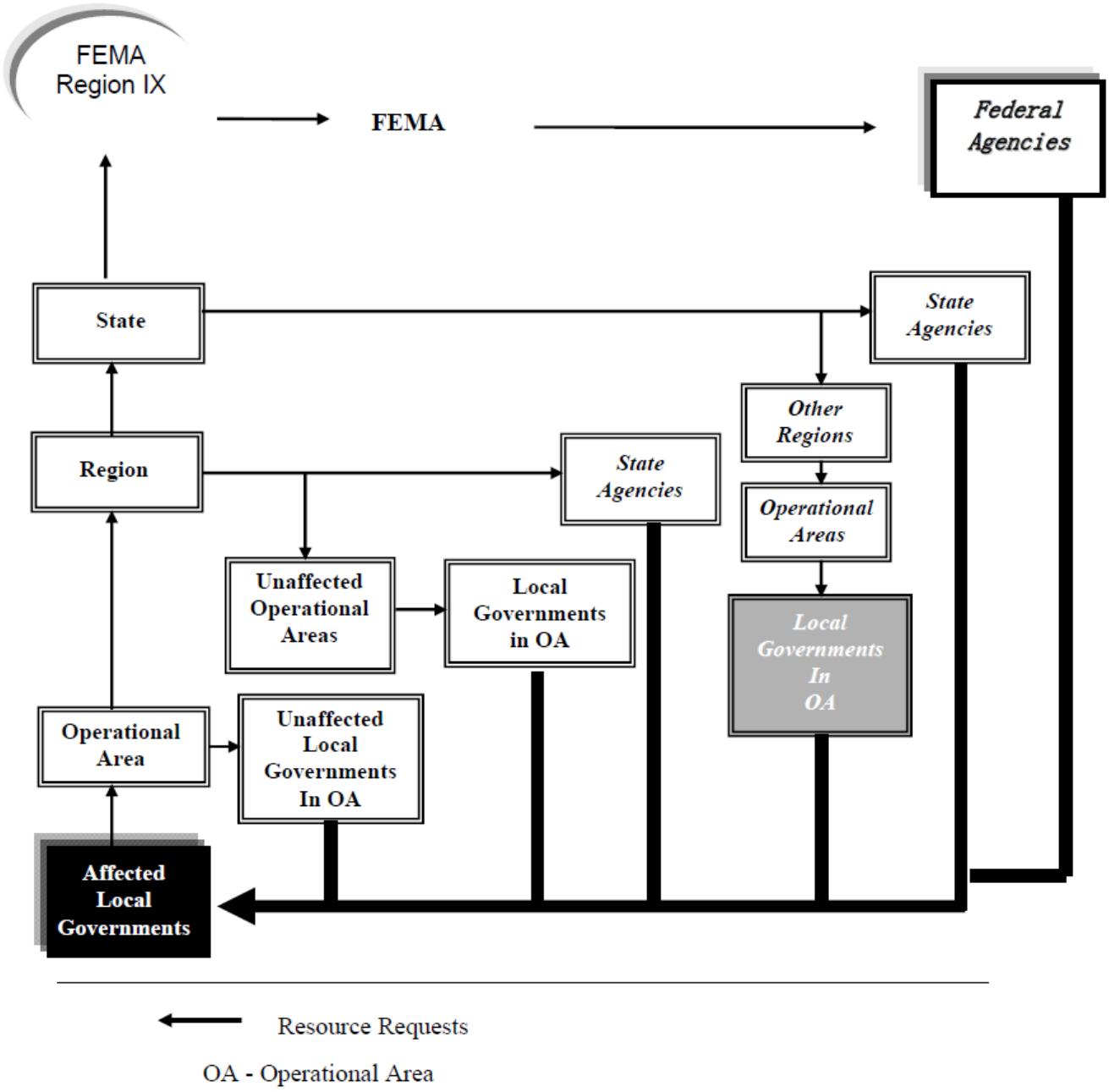
resources in a timely manner, thus compromising the health and safety of the district's residents. If there are existing agreements with neighboring districts, the vector control district could request assistance through them.

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 CDPH 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 CalEMA 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 CalEMA when the resources are not available except at the federal level.

Public Information / Risk Communication

Within CDPH, 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. CDPH informs local health departments (LHD) of important communicable disease information using the *CD Brie*f. *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. The OPA will link with the CalEMA/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, 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.

- CDPH will process and recognize the information and communication linkage between levels of emergency management consistent with principles outlined in SEMS
- CDPH 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@cdph.ca.gov, or by going to the website http://westnile.ca.gov.
- CDPH 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.
- CDPH and local agencies will coordinate with the CalEMA/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 CalEMA 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.

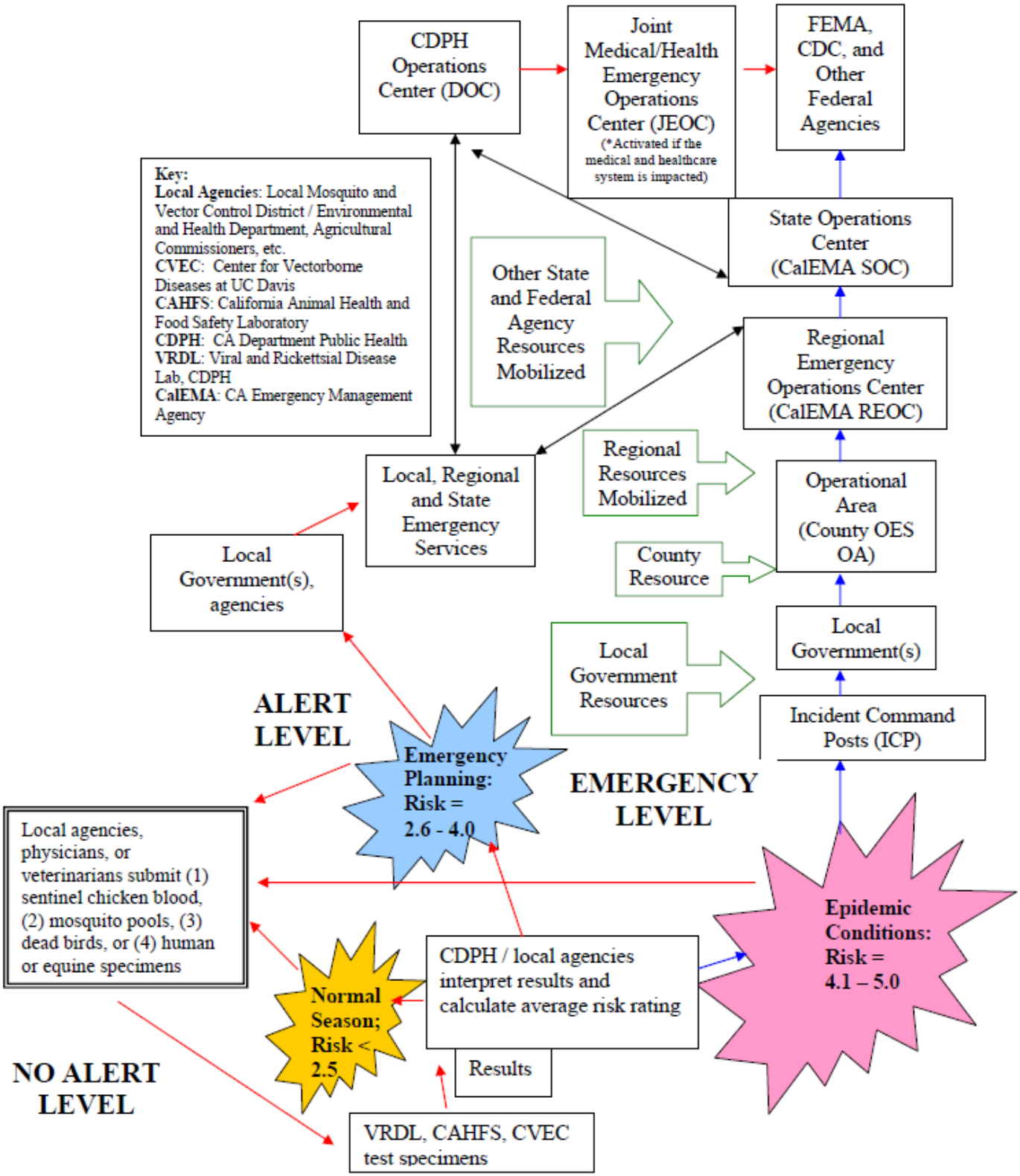
Under a Presidential Proclamation, local government may receive 75% federal reimbursement. The state can reimburse local government 75% of the remaining 25% non-federal share, which equates to 18.75% share for the state and 6.25% for local government. State agencies are only eligible for the 75% federal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

Appendices

1. Emergency Event Notification System Flowchart
2. Roles and Responsibilities of Public Agencies
3. CDPH Operations Center/Joint Emergency Operations Center Organizational Chart
4. Abbreviations
5. References

Appendix 1. Emergency Event Notification System Flowchart



Appendix 2
Mosquito-Borne Disease Emergency
Roles and Responsibilities of Public Agencies

Jurisdictional Level	Department/Agency Role
Local Government	Mosquito and Vector Control Agencies • Gather, collate, and interpret regional climate and weather data • Monitor abundance of immature and adult mosquitoes • Collect and submit mosquito pools to CVEC for virus detection • Maintain sentinel chicken flocks, obtain blood samples and send samples to VBDS • Pickup and ship dead birds for necropsy and WNV testing, or test oral swabs from American crows locally via rapid antigen screening assays • Update CDPH weekly of all birds that are independently reported and/or tested by VecTest, RAMP or immunohistochemistry (email: arvobirus@dhs.ca.gov) • Conduct routine control of immature mosquitoes • Comply with NPDES permit requirements if applying pesticides to waters of the United States • Conduct control of adult mosquitoes when needed • Educate public on mosquito avoidance and reduction of mosquito breeding sites • Coordinate with local Office of Emergency Services personnel • Communicate regularly with neighboring agencies
	Local Health Departments • Test human specimens for WNV • Refer human specimens to CDPH for further testing • Conduct epidemiological investigations of human cases • Notify local medical community, including hospitals and laboratories if evidence of viral activity present • Collect dead birds and ship carcasses to testing laboratories when needed • Test American crows via rapid assay or RT-PCR as resources allow • Participate in emergency response • Conduct epidemiological investigations of cases of human disease • Report WNV cases to CDPH • Conduct public education

Local Government (Continued)	Environmental Health Departments • Refer to bullets under mosquito and vector control if the Environmental Health Department has a vector control program
	Animal Control Agencies • Monitor and report suspect veterinary cases • Assist in collection of dead bird specimens • Assist in public education
	Local Offices of Emergency Services • 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
	County Agriculture Commissioners (CAC) • Provide consultation regarding pesticide use • Single representative from the affected counties participate in the Technical Specialist Group • Coordinate with CDPH and make personnel and facilities available to assist with mosquito control within county • Assist local office of emergency services with disaster declarations and other administrative tasks; participate in the local response plan to mobilize local resources • Coordinate with CDPH 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

State Government	Department of Public Health (Director) • In coordination with the Emergency Preparedness Office, activate the CDPH emergency system as appropriate • Ensure close coordination and communication of CDPH activities with the Health and Human Services Agency, CalEMA, 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 CDPH resources are directed to respond to the emergency • Ensure that continuity of CDPH 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 CDPH leadership
	Department of Public Health (Executive Staff) • 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 CDPH, state, or local agency mutual aid needs upon request

State Government (Continued)	Department of Public Health (Chief, Division of Communicable Disease Control) • 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 CDPH statutory responsibilities • Ensure close coordination and communication with the JEOC as required for resource assistance and to maintain information flow to the CDPH Director and Executive Staff, EMSA, CalEMA, and other agencies as appropriate
	Department of Public Health (DOC or JEOC) • Coordinate State-level medical and health information and resources by: o Developing Department action plans o Acquiring public health and medical personnel upon request of an affected region o Coordinating resource acquisition and support for CDPH field emergency response activities o Ensuring coordination with the CalEMA SOC or REOC as appropriate o Ensuring information flow to CDPH and EMSA management and executive staff, CalEMA, and other agencies Ensuring coordination and information flow with health management organizations and other providers of medical care, facilities, and supplies

State Government (Continued)	Department of Public Health (Infectious Diseases Branch) • Assist with coordination of epidemiological investigations human cases with local health departments as needed • Conduct active surveillance for human WNV cases • 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
	Department of Public Health (Vector-Borne Disease Section) • Collate adult mosquito abundance data submitted by local agencies; provide summary of data to local agencies • Maintain a WNV information and dead bird reporting hotline (877- WNV-BIRD) and a WNV website (http://westnile.ca.gov) • Coordinate submission of specimens for virus testing • Provide supplies for processing mosquito pool and sentinel chicken diagnostic specimens • Test sentinel chicken sera for viral antibodies • 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 • Conduct epidemiological investigations of cases of human disease • Coordinate and participate in a regional emergency response in conjunction with California Emergency Management Agency • Provide oversight to local jurisdictions without defined vector-borne disease programs • Provide media interviews as needed in coordination with CDPH OPA

State Government (Continued)	Department of Public Health (Veterinary Public Health Section) • 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
	Department of Public Health (Viral and Rickettsial Diseases Lab) • 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 encephalitidies • Maintain and transmit surveillance data on all WNV surveillance components to CDC • 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
	California Environmental Protection Agency (Department of Pesticide Regulation) • 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

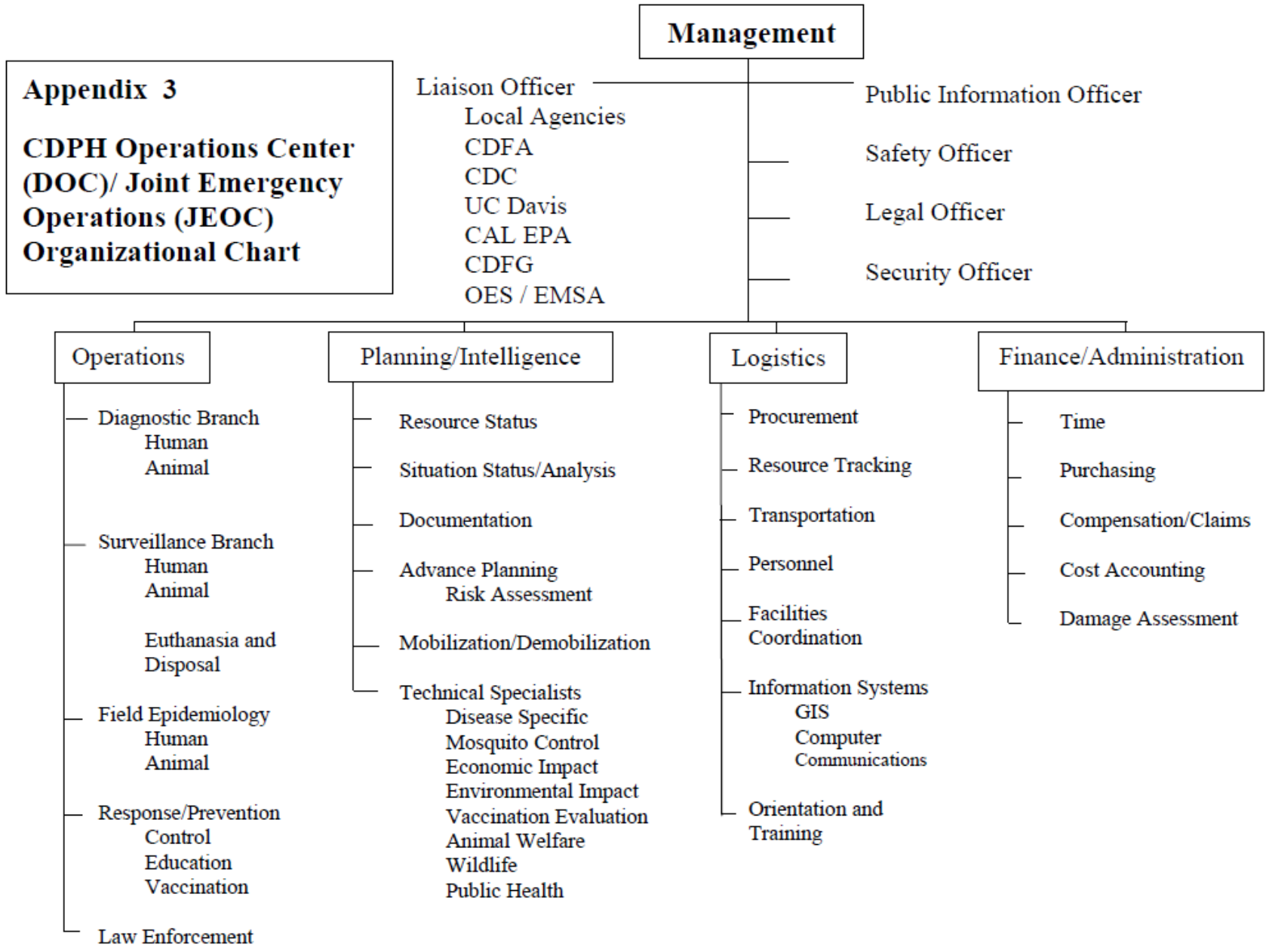
State Government (Continued)	Emergency Medical Services Authority (EMSA) • Ensure communication with and education of the local EMSA and emergency departments regarding the disease outbreak and the importance of reporting cases immediately to local public health • Provide staff for the CDPH DOC as requested if the JEOC is not activated 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 • If the JEOC is activated, EMSA will: 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
	California Department of Fish and Wildlife (CDFW) • Coordinate with CDPH/CDFA/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 CalEMA • 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 • CDFW Office of Spill Prevention and Response can assist by providing veterinarians and response personnel, and by conducting natural resource damage assessment when requested by CalEMA • Monitor wildlife health relative to mosquito-borne disease • Assist in maintaining dead bird collection permits for disease monitoring • Assist in maintaining wild bird collection permits for disease monitoring

State Government (Continued)	California Department of Food and Agriculture (CDFA) • Notify veterinarians and veterinary diagnostic laboratories about WEE and WNV and testing facilities available at UCD Center for Vectorborne Disease Research • Provide outreach to the general public and livestock and poultry producers on the monitoring and reporting of equine and ratite encephalitides and promote equine vaccine usage • Facilitate equine and ratite sample submission from the field • Conduct epidemiological investigation of equine cases
	Mosquito and Vector Control Association of California (MVCAC) • 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
	California Department of Mental Health (CADMH) • Assess, at the request of CalEMA, 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
	California Division of Occupational Safety and Health (CalOSHA) • Provide, as requested by CalEMA, comprehensive on-site safety and health guidance for all personnel • Provide, as requested by CalEMA, guidance for personnel using insecticides that require the wearing of protective clothing and respiratory devices • Provide, as requested by CalEMA, monitoring of on-site personnel to measure exposure levels to insecticides to ensure worker safety is maintained

State Government (Continued)	California Animal Health and Food Safety Laboratory (CAHFS) • Identify and screen dead birds for WNV testing • Conduct necropsies and testing on dead birds • Submit bird tissues to CVEC for testing • Test equine specimens for WNV
	University of California at Davis • Conduct research on arbovirus surveillance, transmission of mosquito- borne diseases, and mosquito ecology and control. • Test mosquito pools and dead birds for endemic and introduced viruses • Provide a proficiency panel of tests for identification of viruses from human, equine, bird, or arthropod vectors to local agencies to ensure quality control • Maintain an interactive website (**http://gateway.calsurv.org**) for dissemination of mosquito-borne virus information and data. • Maintain inventory of antigens, antisera, and viruses to detect the introduction of exotic viruses. • Provide confirmation of tests done by local or state agencies
	California Emergency Management Agency (CalEMA) • Coordinate the local, regional, or statewide emergency response under epidemic conditions in conjunction with CDPH via the Standardized Emergency Management System (SEMS) • Serve as liaison with the Federal Emergency Management Agency (FEMA) in the event a federal disaster has been declared
Federal Government	Centers for Disease Control and Prevention (CDC) • Provide consultation to state and local agencies in California if epidemic conditions exist • Provide national surveillance data to state health departments
	Federal Emergency Management Agency (FEMA) – Region IX in Oakland • Coordinate with CDC emergency operations (ESF 8)

Appendix 3

CDPH Operations Center (DOC)/ Joint Emergency Operations (JEOC) Organizational Chart



Appendix 4: Abbreviations

CAG	Attorney General
CADMH	California Department of Mental Health
CAHFS	California Animal Health and Food Safety Laboratory
CalEMA	California Emergency Management Agency
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
CDPH	Department of Public Health (California)
DOC	CDPH 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, CDPH 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 NPDES	National Pollutant Discharge Elimination System
OA	Operational Area
OES	Office of Emergency Services
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 5: 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

CDPH *California Mosquito-Borne Virus Surveillance & Response Plan* (http://westnile.ca.gov)

Department of Public Health Emergency Operations Plan

Department of Public Health, *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 Pla*n, April 1999

Federal Insecticide, Fungicide, and Rodenticide Act

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

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

Office of Emergency Service*s, State Emergency Pla*n, May 1998

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Walsh, J.D. 1987. California's mosquito-borne encephalitis virus surveillance and control program. California Department of Health Services, Sacramento