MARIN COUNTY SHERIFF'S
OFFICE OF EMERGENCY SERVICES (OES)

MARIN OPERATIONAL AREA
EMERGENCY OPERATIONS PLAN



OCTOBER 2014

RESOLUTION NO. 2014-94
RESOLUTION OF THE MARIN COUNTY BOARD OF SUPERVISORS

WHEREAS, Marin County is subject to Earthquake, Fire, Flood, Terrorism and other serious hazards; and

WHEREAS, Marin County faces a major problem during an emergency of the possibility of being isolated from the surrounding communities and any subsequent resources; and

WHEREAS, the overall objective of emergency management for Marin County is to ensure the effective management of response forces and resources in preparing for and responding to situations associated with natural disasters, technological incidents and national security emergencies; and

WHEREAS, Marin County's emergency management is committed to providing effective life safety measures while reducing property loss and damage to the environment and provide for rapid resumption of impacted businesses and community services; and

WHEREAS, the Marin County Operational Area is primarily responsible for emergency actions and will commit all available resources to save lives, minimize injury to persons, and minimize damage to property and the environment; and

WHEREAS, the 2014 Marin County Operational Area Emergency Operations Plan serves as a basis for effective response to any hazard that threatens Marin County; and

WHEREAS, the 2014 Marin County Operational Area Emergency Operations Plan serves as a legal and conceptual framework for emergency management in the Marin County Operational Area.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of the County of Marin commits to continuing to support the actions identified in the 2014 Marin County Emergency Operations Plan and adopts the plan as presented to the Board and attached to this Resolution.

PASSED AND ADOPTED at a regular meeting of the Board of Supervisors of the County of Marin held on this 21st day of October, 2014 by the following vote:

AYES: SUPERVISORS Judy Arnold, Steve Kinsey, Katie Rice, Kathrin Sears

NOES: NONE
ABSENT: SUPERVISOR Susan L. Adams

PRESIDENT, BOARD OF SUPERVISORS

ATTEST:

DEPUTY CLERK

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In partnership with:

California Office of Emergency Services
Marin County's Local Jurisdictions
Marin County Disaster Citizens Corps Council
Marin County Disability Access Program
Marin Center for Independent Living
County Division of Aging and Adult Services

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PART ONE: GENERAL INFORMATION

THE PLAN

The Marin Operational Area (OA) Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with large-scale disasters affecting Marin County. The Marin OA consists of the cities/towns, special districts, and the unincorporated areas within the county. The plan also addresses integration and coordination with other governmental agencies when required. This plan is not intended to address the normal day-to-day emergency or well-established emergency procedures.

This plan accomplishes the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting the Marin OA
- Establishes the overall operational concepts associated with Marin County's Emergency Operations Center (EOC) activities and the recovery process

This plan is based on the functions and principles of the California Standardized Emergency Management System (SEMS), the National Incident Management System (NIMS), and the California Incident Command System (ICS). It identifies how the Marin County emergency operational system fits into the overall California and National risk-based, all-hazard emergency response and recovery operations plan.

This document serves as a planning reference and as a basis for effective response to any hazard that threatens Marin County. Departments within the county and other agencies that have roles and responsibilities identified by this plan are encouraged to develop EOPs, detailed Standard Operating Procedures (SOPs), and emergency response checklists based on the provisions of this plan.

This document serves as the legal and conceptual framework for emergency management in the Marin OA and is divided into the following parts:

- **Part 1 – General Information**

  The "basic plan" which describes the emergency management organization, its roles, responsibilities, and operational concepts

- **Part 2 – Threat Summaries and Assessments**

  A general description of the Marin OA and a brief analysis of how hazards might affect the county

- **Part 3 – Appendices**

  EOP Annexes, Authorities and References, Acronyms

EMERGENCY OPERATIONS PLAN REQUIREMENTS

The Marin EOP requires approval by the Marin County Board of Supervisors. The Marin Sheriff's Office of Emergency Services (OES) is responsible for periodic review, updates, re-publishing and re-distribution. Records of revision to this plan will be maintained by OES. The plan may be modified as a result of post-incident analyses and/or post-exercise critiques. It may be modified if responsibilities, procedures, laws, rules, or regulations pertaining to emergency management and operations change. Those agencies having assigned responsibilities under this plan are obligated to inform OES when changes need to be made.

OA agencies and organizations separately publish documents that support this EOP. These supporting references further describe the operation or functional response to specific threats or specific emergency response disciplines. Additionally, they contain checklists and other resource material designed to provide users with the basic considerations and actions necessary for effective emergency response for the specific hazard or function. OES is responsible for managing plans and documents that support and carry out the concepts and policies outlined in the EOP. This ensures compatibility with the EOP and supports enhanced coordination among the jurisdictions.[1] These documents fall into three categories:

- **Operational Area EOP Annexes**

  Functional annexes to the EOP which provide detailed guidance on managing response and recovery operations in relation to specific threats or critical activities, such as Care and Shelter, Post-Disaster Housing, Spontaneous Volunteers, Bioterrorism, and Medical Health

- **Supporting Plans**

  Other supporting plans addressing response procedures that may impact our county, such as the Local Hazard Mitigation Plan, Golden Gate Bridge Major Incident Plan, and Hazardous Material Response Plan

- **Strategic Guidance Documents**

  Additional supporting documents that outline specific procedures or serve as resources to individual agencies or organizations, such as the Animal Services Protocol and the Access and Functional Needs (AFN) Planning Guidance

EMERGENCY OPERATIONS PLANS AND SUPPORTING DOCUMENTS

Documents used to guide response to major emergencies and disasters are categorized by audience and scope.

(Marin County Sheriff's OES Plans and Supporting Documents, page 3)

[1] This EOP and all newly revised plans integrate and reference the Marin Operational Area Access and Functional Needs Planning Guidance to ensure that functional needs are addressed during disasters and that equal access to services are provided to all Marin County residents.

EMERGENCY OPERATIONS PLAN (EOP)

This is the document that provides the overall concept, organizational framework, and policies for responding to a major emergency or disaster within the Operational Area.

EMERGENCY RECOVERY PLAN (ERP)

This is the document that provides the overall concept of the organizational framework of operations during the recovery phase following a major emergency or disaster within the Operational Area for both long term and short term recovery

EOP and ERP

Audience: Operational Area
Scope: Operations Concepts and Policies

ANNEXES

These documents provide information or additional operational detail for hazards or response functions that cannot be included in the Emergency Operatons Plan or the Emergency Recovery Plan.

Post-Disaster Housing
Spontaneous Volunteers
Tsunami
Medical/Health
HHS Bioterrorism
Oil Spill
Extreme Temperature
Mass Fatality
Mass Care and Shelter

ANNEXES

Audience: Operational Area
Scope: Concepts and Policies

SUPPORTING PLANS

These documents are responsible for supporting overall activities described in the EOP and ERP at the Marin Operational Area (OA) government level and specific to their related Concept of Operations.

Local Hazard Mitigation Plan

Emergency Operations Center (EOC) Manual

Golden Gate Bridge Major Incident Plan

Hazardous Materials Response Plan

Local Assistance Center (LAC)

Mutual Threat Zone Response

Weapons of Mass Destruction(WMD) Response

SUPPORTING PLANS

Audience: Operational Area
Scope: Multi-jurisdiction and multi-discipline procedures

STRATEGIC GUIDANCE DOCUMENTS

These documents provide strategic guidance for a coordinated response for effective management to a major incident or incidents and to manage response and recovery at the local level as it relates to regional, state, or national level functions and policies.

Access and Functional Needs Planning Guidance

Animal Services Response Protocol

Damage Assessment Concept of Operations

Japan Tsunami Marine Debris Concept of Operations

STRATEGIC GUIDANCE DOCUMENTS

Audience: Stakeholders, Public
Scope: Multi-jurisdiction and local communities guidance procedures

Marin County Sheriff's Office of Emergency Services (OES) Plans and Supporting Documents

PURPOSE, OBJECTIVES, GOALS, ASSUMPTIONS

PURPOSE

This EOP establishes policies and procedures and assigns responsibilities to ensure the effective management of emergency operations within the Marin OA. It provides information on the county emergency management structure and how and when the EOC staff is activated.

OBJECTIVES

The overall objective of emergency management is to ensure the effective management of response forces and resources in preparing for and responding to situations associated with natural disasters, technological incidents and national security emergencies. To carry out its responsibilities, the emergency management organization will accomplish the following objectives during a disaster/emergency using the Whole Community Approach: [2]

- Maintain overall coordination of emergency response and recovery operations, including on-scene incident management as required
- Coordinate and liaise with appropriate federal, state, and other local government agencies, as well as applicable segments of private sector entities and volunteer agencies
- Establish priorities and resolve conflicting demands for support
- Prepare and disseminate emergency public information to alert, warn, and inform the public
- Disseminate damage information and other essential data

The EOP establishes policies and procedures to guide the effective management of emergency operations within Marin.

GOALS

- Provide effective life safety measures and reduce property loss and damage to the environment
- Provide for the rapid resumption of impacted businesses and community services
- Provide accurate documentation and records required for cost recovery efforts

ASSUMPTIONS

- Cities/towns and special districts will participate in the Marin OA coordination of emergency management activities
- The Marin OA is primarily responsible for emergency actions and will commit all available resources to save lives, minimize injury to persons, and minimize damage to property and the environment
- The Marin OA will utilize SEMS and NIMS in emergency response and management operations
- The Director of Emergency Services will coordinate the County's disaster response in conformance with its Emergency Organization and Functions Ordinance[3]
- The resources of the Marin OA will be available to local agencies and citizens to cope with disasters affecting this area

[2] Whole Community Approach (FEMA) meeting needs, regardless of demographics such as age, economics, or accessibility requirements
[3] Marin County Ordinance Number 3429, Chapter 2.99

- The Marin OA will commit its resources to a reasonable degree before requesting mutual aid assistance
- Mutual aid assistance will be requested when disaster relief requirements exceed the Marin OA's ability to meet them

CONCEPT OF OPERATIONS

The emergency management organization in Marin County will identify potential threats to life, property and the environment, and develop plans and procedures to protect those assets. Local leadership must ensure an inclusive planning process that instills confidence that well-planned emergency response includes special consideration of Access and Functional Needs (AFN) populations[4]. These plans and procedures will direct emergency response and recovery activities and will be validated by the conduct of actual response or exercising. The goal is to maintain a robust emergency management organization with strong collaborative ties among local government, community-based organizations and volunteers, public service agencies, and the private sector under SEMS/NIMS.

Actions are often categorized by four emergency management phases indicated below. However, not every disaster necessarily includes all indicated phases

1. PREPAREDNESS PHASE

The preparedness phase involves activities taken in advance of an emergency. These activities develop operational capabilities and effective responses to a disaster. Preventative actions might include mitigation activities, emergency/disaster planning, training, exercises and public education. Members of the emergency management organization should prepare Standard Operating Procedures (SOPs), Emergency Operating Procedures (EOPs), and checklists detailing personnel assignments, policies, notification rosters, and resource lists. Personnel should be acquainted with these SOPs, EOPs and checklists through periodic training in the activation and execution procedures.

The preparedness phase involves activities taken in advance of an emergency.

Training and Exercising

The Marin County Sheriff's Office of Emergency Services (OES) will inform county departments and cities/towns and special districts of training opportunities associated with emergency management. Those with responsibilities under this plan must ensure their personnel are properly trained to carry out these responsibilities.[5]

The best method of training emergency responders is through conducting a range of exercises. **(Figure 1, page 6).** Exercises allow emergency responders to become familiar with the procedures, facilities and systems that they will actually use in emergency situations. Training and Exercise Programs for the OA are established with consistent consideration for people with Disabilities and Access and Functional Needs (AFN). [6]

Exercises will be conducted on a regular basis to maintain readiness. Exercises should include as many OA member jurisdictions as possible. OES will document OA exercises by conducting a critique, and using the information obtained from the critique to complete an After Action Report (AAR) and to develop a Corrective Action Plan (CAP) plan, revising standard operating procedures as necessary**.**

[4] Marin County Operational Area Access and Functional Needs Planning Guidance, August 2011
[5] OES Training is based on SEMS and integrated with FEMA's Multi - Year and Exercise Planning approach. All training documentation is maintained by Marin OES
[6] Section 12132 of the Americans with Disabilities Act

Emergency Management Exercise Continuum

Exercises are focused practice activities that places participants in a simulated situation requiring them to function in the capacity that would be expected of them in a real event. They are conducted to evaluate an organization's capability to execute one or more portions of its response plan or contingency plan.

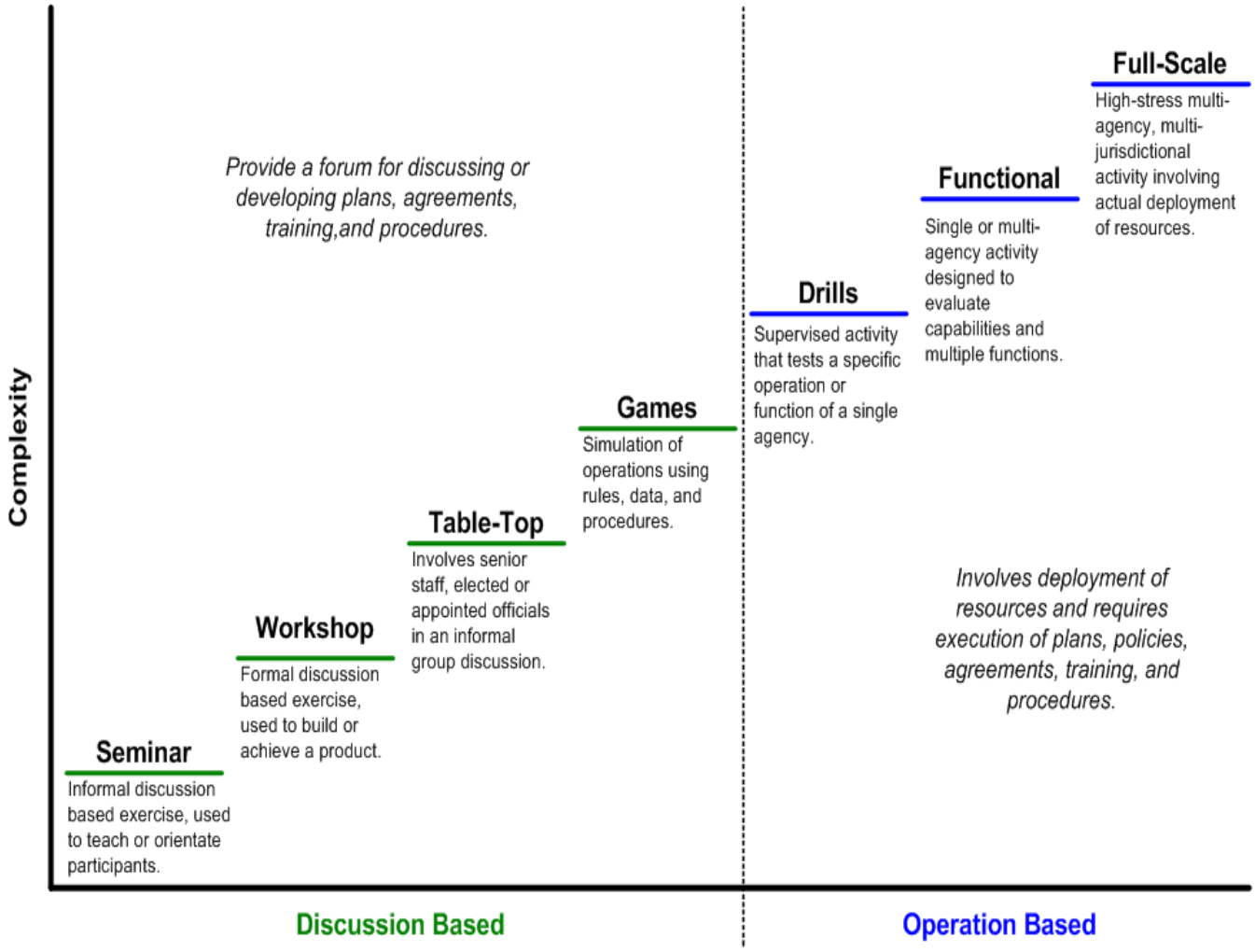


FIGURE 1: RANGE OF EXERCISES

2. RESPONSE PHASE

Pre-Emergency
When a disaster is inevitable, actions are precautionary and emphasize protection of life. Typical responses might be:

- Alerting necessary agencies, placing critical resources and personnel on stand-by
- Evacuating threatened populations to safe areas
- Advising threatened populations of the emergency and apprising them of safety measures to be implemented
- Identifying the need for mutual aid
- Proclaiming a Local Emergency by local authorities

During the response phase, emphasis is placed on saving lives and property.

Emergency Response
During this phase, emphasis is placed on saving lives and property, control of the situation and minimizing effects of the disaster. Immediate response is accomplished within the affected area by local government agencies and segments of the private sector.

Sustained Emergency
In addition to continuing life and property protection operations, mass care, relocation, public information, situation analysis, status and damage assessment operations will be initiated.

3. RECOVERY PHASE

At the onset of an emergency, actions are taken to enhance the effectiveness of recovery operations. Recovery is both short-term activities intended to return vital life-support systems to operation, and long-term activities designed to return infrastructure systems to pre-disaster conditions.[7] Recovery also includes cost recovery activities.

The recovery period has major objectives which may overlap, including:

- Reinstatement of family and individuals' autonomy
- Provision of essential public services
- Permanent restoration of private and public property
- Identification of residual hazards
- Plans to mitigate future hazards
- Recovery of costs associated with response and recovery efforts
- Coordination of state and federal, private and public assistance

Recovery is intended to return vital life-support systems to operation.

[7] The Marin OA Emergency Recovery Plan (ERP) 2012 establishes procedures for effective management of emergency recovery operations for county-wide restoration concepts

When the immediate threat to life, property and the environment subsides, the rebuilding of Marin County will begin through various recovery activities. Recovery activities involve the restoration of services to the public and rebuilding the affected area(s). Examples of recovery activities include:

- Restoring all utilities
- Establishing and staffing Local Assistance Centers and Disaster Assistance Centers
- Applying for state and federal assistance programs
- Conducting hazard mitigation analysis
- Identifying residual hazards
- Determining recovery costs associated with response and recovery

4. PREVENTION/MITIGATION PHASE

Preventing damage and loss from disaster includes those efforts known as mitigation activities. Mitigation efforts occur both before and following disastrous events. Post-disaster mitigation is part of the recovery process. Preventing, eliminating or reducing the impact of hazards that exist within the OA which are a threat to life and property, are part of mitigation. Mitigation tools include:

- Local ordinances and statutes (zoning ordinances, building codes and enforcement, etc.)
- Structural measures
- Tax levies or abatements
- Public information and community relations
- Land use planning

Mitigation efforts occur before and following disastrous events.

The Marin County Local Hazard Mitigation Plan [8] describes strategies for sustaining and building on current mitigation activities to ensure the future safety of lives, preservation of property, and protection of the environment during times of disaster. Mitigation planning improves the ability to recover after disaster.

[8] Marin County local Hazard Mitigation Plan 2012 Update meets the requirements of the Disaster Mitigation Act of 2000 (DMA)- Public Law 106-3900 - FEMA

EMERGENCY MANAGEMENT ORGANIZATION

DIRECTOR OF EMERGENCY SERVICES

A Marin County Board of Supervisor (BOS) member is selected annually by a majority vote of the BOS to the position of the County's Director of Emergency Services. The Director of Emergency Services assumes the ultimate responsibility and authority for directing the Marin OA's emergency management organization (including emergency response and recovery). The Director of Emergency Services is responsible for implementing the Marin EOP.

The Director of Emergency Services is supported by the Marin County Sheriff's OES and has overall responsibility for the following:

- Organizing, staffing, and operating the EOC
- Operating communications and warning systems
- Providing information and guidance to the public and elected officials
- Maintaining information on the status of resources, services, and operations
- Directing overall operations
- Obtaining support for the Marin OA and providing support to other jurisdictions as needed
- Identifying and analyzing potential hazards and recommending appropriate counter-measures
- Collecting, evaluating, and disseminating damage assessment and other essential information

DISASTER & CITIZEN CORPS COUNCIL

The Marin OA Disaster & Citizen Corps Council, referred to as the "DC3,"[9] serves as an official Advisory Council to the Marin County Board of Supervisors (BOS). As an advisory body, the DC3's purpose is to lead ongoing efforts to improve disaster preparedness countywide, as authorized by Marin County Code, Title 2, Chap. #2.99, Emergency Organization and Functions. The Council's duties are outlined as follows:

- Review and evaluate disaster preparedness progress in the public and private sectors and report these findings to the BOS for its annual report
- Promote disaster preparedness through communication and education
- Harness the power of every resident through education and outreach, training, and volunteer service to make their families, homes and communities safer from natural and/or man-made disasters or emergencies
- Report annually to the BOS as a scheduled agenda item during a weekly BOS meeting. A written document with the Council's mission statement and an outline of its one to five year goals shall be presented by the DC3 Chair and/or Vice-Chair, along with an oral presentation

[9] The DC3 reviews and approves the Marin County Sheriff's Emergency Plans and related Annexes before they are presented to the Marin County BOS

The Director of Emergency Services, as provided for by Marin County Code 2.99.30, serves as the Chair. An Alternate Director of Emergency Services is an assigned member of the BOS and serves as Vice-Chair.

The DC3 consists of nineteen (19) voting members appointed by the BOS as provided by Marin County Code 2.99.020. Each member of the Council is appointed by the BOS to serve for a two (2) year term and may be appointed to unlimited consecutive terms.

The regular meetings of the DC3 are held quarterly. The Chair may call special, unscheduled meetings. The Emergency Services Manager of the Sheriff's Office of Emergency Services, as provided for by Marin County Code 2.99.035, serves as staff to the DC3 and provides administrative support to the Council.

EMERGENCY MANAGEMENT

When a disaster occurs and two or more of the county's local jurisdictions' EOCs are activated, the OA will serve as the focal point for information transfer and supports requests by cities/towns. The Marin County OA EOC may be activated (**Figure 5, page 27**). The OA EOC administers mutual aid requests for all fire, law, public works, emergency managers or other mutual aid through OES Mutual Aid Region II.

MUTUAL AID REGION EMERGENCY MANAGEMENT

The Marin OA is part of OES Mutual Aid Region II and the OES Coastal Administrative Region. The primary mission of Coastal Region's emergency management organization is to support Operational Area response and recovery operations and to coordinate non-law and non-fire Mutual Aid Regional response and recovery operations through the Regional EOC (REOC).

STATE EMERGENCY MANAGEMENT

The Governor, through State OES and its Mutual Aid Regions, will coordinate statewide operations to include the provision of mutual aid and other support to local jurisdictions and the redirection of essential supplies and other resources as required. The State OES Director, assisted by State agency directors, their staff, and volunteer agency staff, will constitute the State emergency management staff.

CITY/TOWN EMERGENCY MANAGERS

Emergency managers from each of the cities/towns within the Marin OA formally meet several times each year with OES liaison staff to ensure that the scope of emergency management functions that are coordinated and provided by the county meet the expectations of cities/towns.

SEMS AND NIMS

STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)

After the 1991 Oakland East Bay Hills Fire, State Senator Petris passed the Senate Bill 1841 (SB1841) introducing the Standardized Emergency Management System (SEMS). Since 1994 SEMS has been required by Government Code Section 8607(a) for managing response to multi-agency and multi-jurisdiction emergencies in California. SEMS consists of five organizational levels that are activated as necessary: field response, local government, operational area, regional, and state.

SEMS was created after the 1991 Oakland East Bay Hills Fire to help multiple agencies better coordinate their response efforts.

SEMS has been used throughout the State of California to manage and coordinate any emergency response involving more than one agency or jurisdiction. Local governments must use SEMS to be eligible for reimbursement of their personnel-related costs under state disaster assistance programs.

A local government under SEMS is a county, city/town, or special district. Special districts under SEMS are units of local government with authority or responsibility to own, operate or maintain a project (as defined in California Code of Regulations 2900(s) for purposes of natural disaster assistance). This may include joint powers authority established under Section 6500 et seq. of the Code.

Cities/towns are responsible for emergency response within their boundaries, although some cities contract for some municipal services from other agencies.

Special districts are primarily responsible during emergencies for restoration of services that they normally provide. They may also be responsible for safety of people at their facilities or on their property and for warning of hazards from their facilities or operations.

All local governments are responsible for coordinating with other local governments, the field response level, and the operational area. Local governments are also responsible for providing mutual aid within their capabilities.

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

In response to the September 11th 2001 attacks on the World Trade Center in New York City, the Pentagon, and Flight 93, President Bush issued Homeland Security Presidential Directive-5 (HSPD-5). Released on February 28, 2003, HSPD-5 directed the Secretary of the Office of Homeland Security (OHS) to develop and administer a National Incident Management System (NIMS). NIMS includes the following components:

- Command and Management, including the Incident Command System (ICS)
- Communications and Information Management
- Preparedness
- Resource Management
- Supporting Technologies
- Joint Information System (JIS)
- NIMS Management and Maintenance

RELATIONSHIP TO SEMS AND NIMS:

The Marin OA is responsible for emergency response within its geographical boundaries. The California Emergency Services Act requires OAs to manage and coordinate emergency operations within its jurisdiction. During disasters, the Marin OA is required to coordinate emergency operations with OES Coastal Region, and, in some instances, other OA local governments.

Under SEMS and NIMS, the county has responsibilities at two levels: The Field Response and the Local Government levels:

- At the field response level, all agencies will use the Incident Command System (ICS) to standardize the emergency response.

- At the Marin County level, the designated EOC is used as the central location for gathering and disseminating information, coordinating all jurisdictional emergency operations, and coordinating with the Coastal Region and the Governor's OES.

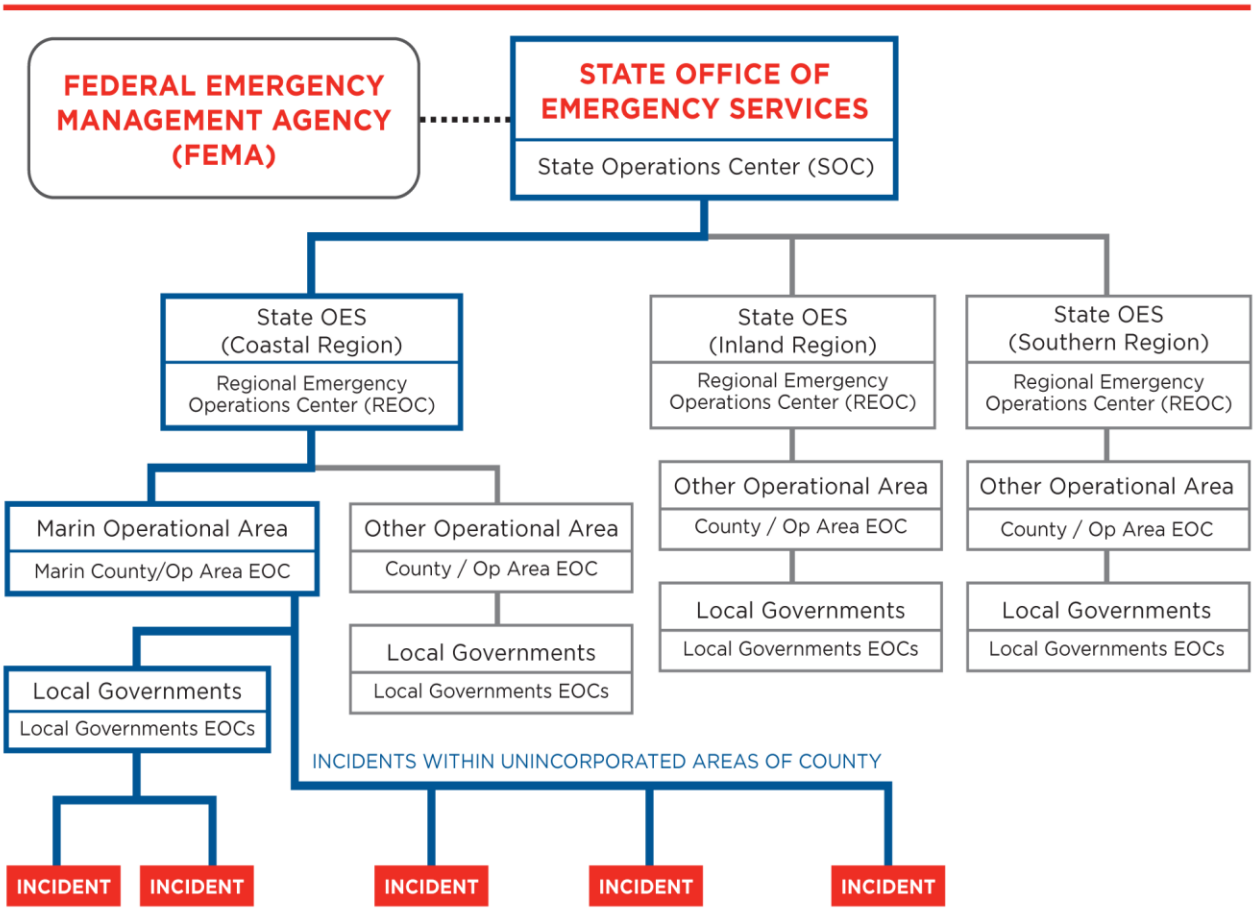


FIGURE 2: Multi-Agency Coordination

ORGANIZATION FLEXIBILITY – MODULAR ORGANIZATION

The five essential ICS functions in SEMS and NIMS are identified as "sections" in the EOC. All other functions are organized as branches, groups, or units within these sections. Only functional elements that are required to meet current objectives will be activated.

MANAGEMENT OF PERSONNEL - HIERARCHY OF COMMAND AND SPAN-OF-CONTROL

Management of personnel within the EOC will be accomplished through the assignment of Section Chiefs for Operations, Planning/Intelligence, Logistics, and Finance/Administration functions. Section Chiefs will report to the EOC Director. (See page 34 for EOC Organizational Chart).

MULTI-AGENCY OR INTER-AGENCY COORDINATION/MAC AND MACC

- The Multi Agency Coordination (MAC) concept is compatible with the Incident Command System (ICS) whereby agency representatives working together address a common goal. A MAC can take place at several levels of an incident (Scene of Incident, Area or Unified Area Command, EOC, Regional, State and Federal).

- A Mutual Aid Coordinating Center (MACC) is established for large-scale disasters and will represent the local affected area while working with the Region, State and Federal government to line up needed assistance with the incident.

Multi-agency or inter-agency coordination (MAC) (IMAC) is important for establishing priorities for response and allocating critical resources. Strategies for handling multi-agency response problems need to be developed while jurisdictional and agencies' objectives are not compromised. County departments, agencies and possibly affiliated special districts, volunteer agencies, and private organizations coordinate emergency response at the EOC.

EOC ACTION PLANS

At local, operational area, regional and state levels, the use of EOC action plans provide designated personnel with knowledge of the objectives to be attained and the steps required for achievement. Action plans give direction and provide a basis for measuring achievement of objectives and overall system performance.

SPECIAL DISTRICT INVOLVEMENT

Special districts are defined as local governments in SEMS/NIMS. The emergency response role of special districts is generally focused on the return to normal services. During disasters, some types of special districts will be more extensively involved in the emergency response by assisting other local governments.

Coordination and communications should be established among special districts that are involved in emergency response, other local governments, and the operational area. This may be accomplished in various ways depending on the local situation. Relationships among special districts, cities/towns, county government and the OA are complicated by overlapping boundaries and by the multiplicity of special districts. Special districts need to work with the local governments in their service areas to determine how best to establish coordination and communication in emergencies.

When a special district is wholly contained within the city/town, the special district should have a liaison at the city/town EOC to provide direct support. An exception may occur when there are many special districts within the city/town.

When there are many special districts within a city/town, it may not be feasible for their local EOC to accommodate representatives from all special districts during area-wide disasters. In such cases, the city/town should work with the special districts to develop alternate ways of establishing coordination and communication.

Typically, special district boundaries cross municipal boundary lines. A special district may serve several cities/towns and county unincorporated areas. Some special districts serve more than one county. In such a situation, the special district may wish to provide a liaison representative to the OA EOC to facilitate coordination and communication with the various entities it serves.

MUTUAL AID

INTRODUCTION

The foundation of California's emergency planning and response is a statewide mutual aid system which is designed to ensure that adequate resources, facilities and other support are provided to jurisdictions whenever their own resources prove to be inadequate to cope with given situation(s). The basis for this system is the California Disaster and Civil Defense Master Mutual Aid Agreement, as provided in the *California Emergency Services Act*. This Agreement was developed in 1950 and has been adopted by the state, all 58 counties, and most incorporated cities in the State of California. The Master Mutual Aid Agreement creates a formal structure wherein each jurisdiction retains control of its own facilities, personnel and resources, but may also receive or render assistance to other jurisdictions within the state. State government is obligated to provide available resources to assist local jurisdictions in emergencies. It is the responsibility of the local jurisdiction to negotiate, coordinate and prepare mutual aid agreements.

Mutual aid agreements exist in:

- Law Enforcement /Coroners
- Medical
- Emergency Management
- Public Utilities
- Fire Services
- Public Health
- Hazardous Materials
- Engineers

The Mutual Aid system exists in California to help jurisdictions ensure they have adequate resources to respond to an event.

MUTUAL AID SYSTEM

A statewide mutual aid system, operating within the framework of the Master Mutual Aid Agreement, allows for the progressive mobilization of resources to and from emergency response agencies, local governments, operational areas, regions and the state with the intent to provide requesting agencies with adequate resources.

The statewide mutual aid system includes several discipline-specific mutual aid systems, such as fire and rescue, law, medical and public works. The adoption of SEMS does not alter existing mutual aid systems. These systems work through local government, operational area, regional and state levels consistent with SEMS/NIMS and the Incident Command System (ICS) (**Figure 3, page 16**). Mutual aid may also be obtained from other states. Interstate mutual aid may be obtained through direct state-to-state contacts, pursuant to interstate agreements and compacts, or may be coordinated through federal agencies.

MUTUAL AID REGIONS

Mutual aid regions are established under the Emergency Services Act. Six mutual aid regions numbered I-VI have been established within California. The Marin Op Area is located within Region II. Each mutual aid region consists of designated counties. Region II is located in the OES Coastal Administrative Region (**Figure 4, page 17).**

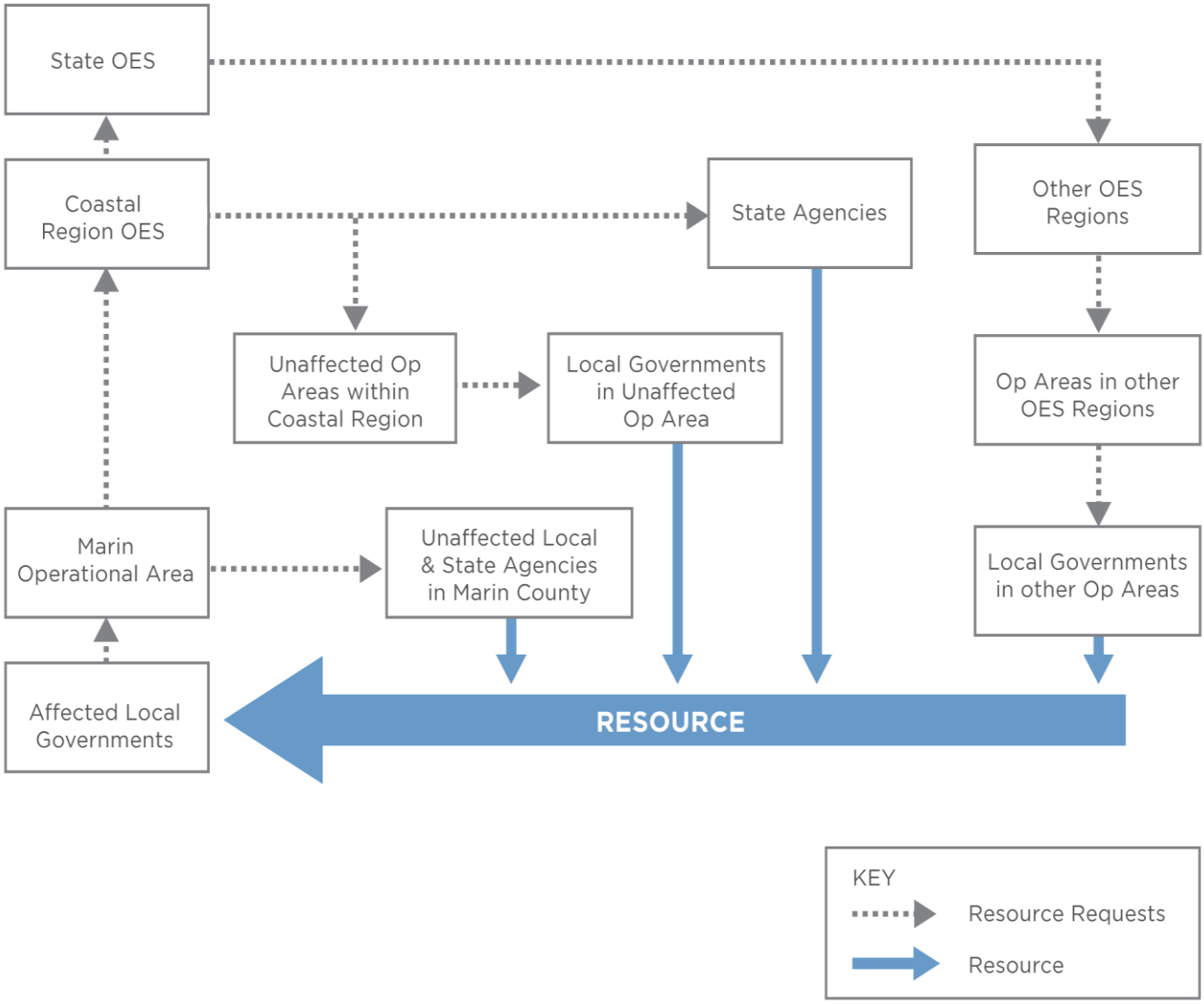


FIGURE 3: Mutual Aid/Flow of Resource Requests (SEMS/NIMS/ICS)

OES ADMINISTRATIVE REGIONS

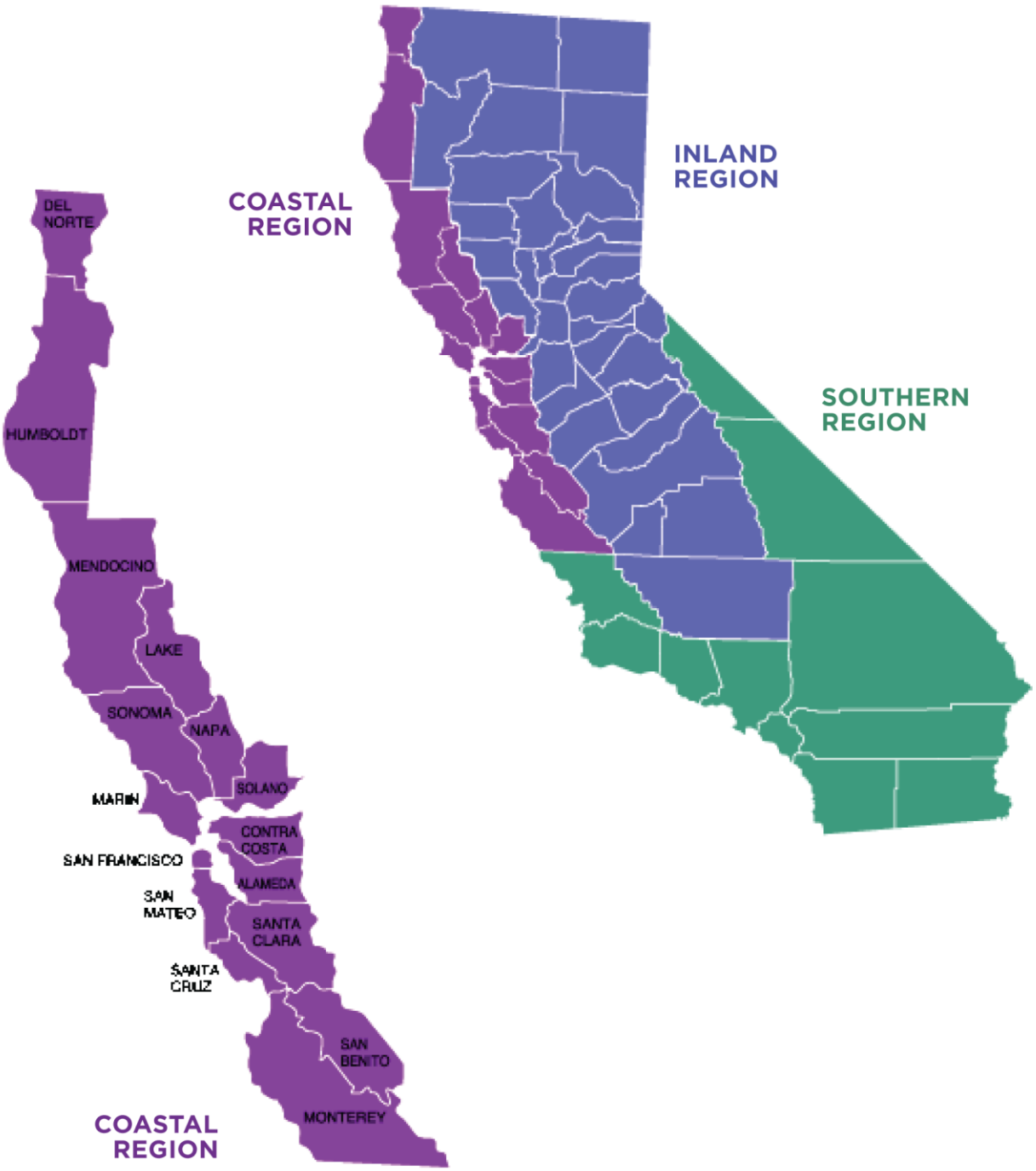


FIGURE 4: State OES Administrative Regions

MUTUAL AID COORDINATORS

To facilitate mutual aid, discipline-specific mutual aid systems work through their designated mutual aid coordinators at the operational area, regional, and state levels. The basic role of a mutual aid coordinator is to receive mutual aid requests, to coordinate the provision of resources from within the coordinator's geographic area of responsibility, and to pass on to unfilled requests to the next level.

Mutual aid requests that do not fall into one of the discipline-specific mutual aid systems are handled through the emergency services mutual aid system by emergency management staff at the local government, operational area, regional, and state levels.

A mutual aid coordinator receives mutual aid requests, coordinates the provision of resources, and passes on unfilled requests to the next level.

Mutual aid coordinators may function from an EOC, their normal departmental location or other locations depending on the circumstances. Some incidents require mutual aid but do not necessitate activation of the affected local government or operational area EOCs because of the incident's limited impacts. In such cases, mutual aid coordinators typically handle requests from their normal work location. When EOCs are activated, all activated discipline-specific mutual aid systems should establish coordination and communications with the EOCs as follows:

- When an OA EOC is activated, OA mutual aid system representatives should be at the OA EOC to facilitate coordination and information flow.
- When the OES Coastal Region EOC (REOC) is activated, regional mutual aid coordinators should have representatives in the REOC unless it is mutually agreed that effective coordination can be accomplished through telecommunications. State agencies may be requested to send representatives to the REOC to assist OES regional staff in handling mutual aid requests for disciplines or functions that do not have designated mutual aid coordinators.
- When the State Operations Center (SOC) is activated, state agencies with mutual aid coordination responsibilities will be requested to send representatives to the SOC.
- Mutual aid system representatives at an EOC may be located in various functional elements (sections, branches, groups or units) or serve as an agency representative, depending on how the EOC is organized and the extent to which it is activated.

VOLUNTEER AND PRIVATE AGENCIES IN MUTUAL AID

Volunteer agencies and private agencies may participate in the mutual aid system along with governmental agencies. For example, the disaster medical mutual aid system relies heavily on private sector involvement for medical/health resources. Some volunteer agencies such as the American Red Cross, Salvation Army and others are an essential element of the statewide emergency response to meet the needs of disaster victims. Volunteer agencies mobilize volunteers and other resources through their own systems. They also may identify resource needs that are not met within their own systems that would be requested through the mutual aid system. Volunteer agencies with extensive involvement in the emergency response should be represented in EOCs.

Some private agencies have established mutual aid arrangements to assist other private agencies within their functional area. For example, electric and gas utilities have mutual aid agreements within their industry and established procedures for coordinating with governmental EOCs. In some functional areas, services are provided by a mix of special district, municipal and private agencies. Mutual aid arrangements may include both governmental and private agencies.

A liaison should be established between activated EOCs and private agencies involved in a response. Where there is a need for extensive coordination and information exchange, private agencies should be represented in activated EOCs at the appropriate SEMS level.

EMERGENCY FACILITIES USED FOR MUTUAL AID

Incoming mutual aid resources may be received and processed at several types of facilities including marshaling areas, mobilization centers and incident facilities. Each type of facility is described briefly below.

Marshaling Area - Defined in the Federal Response Plan as an area used for the complete assemblage of personnel and other resources prior to their being sent directly to the disaster affected area. Marshaling areas may be established in other states for a catastrophic California earthquake.

Mobilization Center - Off-incident location at which emergency service personnel and equipment are temporarily located pending assignment, release or reassignment. For major area-wide disasters, mobilization centers may be located in or on the periphery of the disaster area.

Incident Facilities/Staging Areas - Incoming resources may be sent to staging areas, other incident facilities or directly to an incident, depending on the circumstances. Staging areas are temporary locations at an incident where personnel and equipment are kept while awaiting tactical assignments.

POLICIES AND PROCEDURES

Mutual aid resources will be provided and utilized in accordance with the California Master Mutual Aid Agreement. During a proclaimed emergency, inter-jurisdictional mutual aid will be coordinated at the county, operational area or mutual aid regional level.

Cities/towns and special districts will make mutual aid requests through the Marin County OA EOC. Requests should specify, at a minimum:

- Number and type of personnel needed
- Reporting time and location
- Access routes
- Risks and hazards
- Type and amount of equipment needed
- Whom forces should report to
- Estimated duration of operations

Following a major disaster, the Marin County Sheriff's OES can assist local governments with reimbursement procedures for response-related costs.

MUTUAL AID AUTHORITIES AND REFERENCES

Mutual aid assistance may be provided under one or more of the following authorities:

- California Master Mutual Aid Agreement
- California Fire and Rescue Emergency Plan
- California Law Enforcement Mutual Aid Plan
- Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended) provides federal support to state and local disaster activities

MARIN OPERATIONAL AREA MUTUAL AID AGREEMENTS

Marin maintains mutual aid agreements with several different agencies. They include agreements:

WITH	FOR
State of California	Master Mutual Aid
Marin County OA Agreement	Inter-Agency Cooperation in Major Natural and Technological Disasters
State of California	Emergency Management Mutual Aid

VOLUNTEER RESOURCES

In response to disaster, management of resources requires integration of material, as well as personnel, into the existing Emergency Management System of the County. OA volunteer groups trained in emergency response can greatly enhance and supplement emergency response personnel. All personnel assigned to emergency response must be trained, equipped, and aligned with a qualified organization. [10]

Spontaneous volunteers, when trained and managed appropriately, can provide valuable resources to the community. [11]

Examples of existing, trained volunteers in Marin include the following volunteer organizations:

RADIO AMATEUR CIVIL EMERGENCY SERVICE (RACES/ACS)

RACES is organized under FEMA, operates according to Federal Communications Commission (FCC) rules, and is a volunteer organization of licensed amateur radio operators who donate time, energy, skills, and use of personal equipment for public service. The Marin OA RACES group is also affiliated with the State of California OES of Emergency Services Auxiliary Communications Service (ACS). In Marin County, RACES/ACS is organized under the Marin County Sheriff's OES, which is responsible for public safety as defined by the California OES. RACES/ACS members may provide communications support using amateur radio, cellular, and regular phones, computers, e-mail, facsimile, Internet, microwave, public service radio, satellite, television, and video-conferencing systems, as well as field and in-office support of personnel. RACES/ACS support for all Marin OA government services and agencies is given by request and remains, at all times, under the Sheriff's OES.

MARIN MEDICAL RESERVE CORPS (MMRC)

Marin County's Health and Human Services Department has created the Marin Medical Reserve Corps (MMRC) which enlists citizen volunteers to assist in the establishment of an organized pool of resources capable of being deployed to support Emergency Management Systems already in place in the event of a major disaster. MMRC has developed a partnership within the Marin County medical profession (active and retired) that aid in the education, training and deployment of citizen volunteers and resources in the event of a large scale, local emergency. MMRC will serve as a support role by providing volunteer medical professionals and resources to augment those services in the community that are engaged in the health and welfare of the citizenry.

COMMUNITY EMERGENCY RESPONSE TEAM (CERT)

Following a major disaster, first responders who provide fire and medical services will not be able to meet the demand for these services. Factors such as number of victims, communication failures, and road blockages will prevent people from accessing the emergency services that they have come to expect at a moment's notice through 911. The CERT program in Marin County presents citizens with training about what to expect following a major disaster and also in life saving skills with emphasis on decision-making skills and rescuer safety. The program organizes neighborhood teams so that certified CERT members become an extension of first responder services offering immediate help to victims until professional services arrive.

[10] The Center for Volunteer and Non-Profit Leadership (CVNL) is contracted by Marin County to develop and sustain Emergency Volunteer Center (EVC) capability to support disaster volunteer management.
[11] Marin OA Spontaneous Volunteer Management Annex

Marin County CERT training includes education topics such as earthquake survival, fire prevention and suppression, search and rescue, disaster first aid, and general emergency preparedness. CERT courses and information on organizing neighborhood teams is available at Marin OA Fire stations. Current OA programs include:

- Southern Marin CERT Program
- Central Marin CERT Program
- San Rafael Fire CERT Program
- Novato CERT Program
- West Marin CERT Program

GET READY MARIN DISASTER PREPAREDNESS PROGRAM

The Get Ready Marin Program was originally developed by the Tiburon Peninsula Disaster Preparedness Taskforce and is now available for all residents of Marin County. This two hour program is outlined by the Federal Emergency Management Agency (FEMA) to teach citizens what to do when help is unavailable during emergencies and disasters.

MARIN COUNTY SHERIFF'S OFFICE VOLUNTEERS

There are additional volunteer groups who contribute significantly during both disaster and non-disaster times. Volunteers may be called upon for their specialized training and professional skills in the following areas:

- Mounted Posse
- Dive Team
- Air Patrol
- Search and Rescue
- Marine Patrol
- OES/EOC

These volunteer groups contribute over 25,000 hours each year to support the Sheriff's Office.

MARIN OPERATIONAL AREA EMERGENCY OPERATIONS CENTER (EOC)

INTRODUCTION

Day- to- day operations are conducted from departments and agencies that are widely dispersed throughout the County. An EOC is a location from which centralized emergency management can be performed during a major emergency or disaster. This facilitates a coordinated response by the Director of Emergency Services, Emergency Management Staff and representatives from organizations who are assigned emergency management responsibilities. The level of EOC staffing will vary with the specific emergency situation.

An EOC provides a central location of authority and information. It allows for face to face coordination among personnel who must make emergency decisions. The following functions are performed in the Marin Operational EOC:

- Managing and coordinating emergency operations
- Receiving and disseminating warning information
- Developing emergency policies and procedures
- Collecting intelligence from, and disseminating information to, the various EOC representatives, and, as appropriate, to county, city/town, special district, state agencies, military, and federal agencies and political representatives
- Preparing intelligence/information summaries, situation reports, operational reports, and other reports as required
- Maintaining general and specific maps, information display boards, and other data pertaining to emergency operations
- Continuing analysis and evaluation of all data pertaining to emergency operations
- Directing, controlling and coordinating, within established policy, the operational and logistical support of OA resources committed to the emergency
- Maintaining contact and coordination with support to Disaster Operations Centers, other local government EOCs, and the Coastal Region
- Providing emergency information and instructions to the public, making official releases to the news media and the scheduling of press conferences as necessary

EOC LOCATION AND DESCRIPTION

The Marin OA EOC is located in the Marin County Sheriff's Emergency Operations Facility (EOF) at 1600 Los Gamos Drive, San Rafael, CA. The new EOF opened on May 10, 2014 and was designed to serve as an essential facility built to modern seismic standards. The new EOC is fully set-up and ready for activation at all times. The EOF is also home to the Sheriff's OES.

The EOC is designed to be self-sufficient for over 48 hours.

The EOC is well supplied with a computer network, telephones, dedicated fax lines, copy machines, televisions and all county communication systems. Marin County Sheriff's OES recently purchased WebEOC. WebEOC® Professional is Crisis Information Management Software (CIMS) that was developed over a decade ago to meet the needs of emergency management agencies (EMAs) at the federal, state, and local levels. WebEOC will be used during any large-scale emergency including acts of terrorism. WebEOC application can be incorporated into cities', towns' and other local agencies' EOCs.

WebEOC contains a set of custom designed status boards that are basically electronic displays that allow EOC staff to transmit and share information in real-time among other WebEOC users.

WebEOC boards are the equivalent of large, chronological, or topical paper-based boards that, for years, dominated every EOC and command center around the world.

Although WebEOC and its product suite provide specialized tools for managing crisis information and emergency response, it can be used to manage any and all events, agencies, organizations, etc. WebEOC will improve our information sharing, situational awareness and record keeping in daily use and during disasters. Paper status boards are retained as a redundant measure for the collection and dissemination of information in the event other systems fail.

The EOC is also equipped with a video wall capable of displaying WebEOC status boards and other information in order to support incident situational awareness. RACES operators are located in the Communications Room adjacent to the main floor. There are also break-out rooms for the Public Information Officer (PIO), Operations Section, Planning Section, Situational Analysis, Medical Health Operational Area Coordinator (MHOAC) and a conference room with video conferencing capabilities.

Staffing patterns are SEMS based, and operational periods are determined during the initial stages of an event. The Chief Administrative Officer (CAO), or other designated staff, serves as the EOC Director with additional staffing provided by County Department heads (or other designated personnel) and other supporting agencies including the Department of Forestry and Fire Protection (CALFIRE), California Highway Patrol (CHP), California National Guard (CNG), Environmental Protection Agency (EPA), Coastal Region OES, Pacific Gas and Electric (PG&E), American Red Cross (ARC), and other organizations, as needed.

ALTERNATE EOC LOCATION AND DESCRIPTION

The alternate EOC is located within Marin County Detention Facility next to the Marin County Civic Center at 13 Peter Behr Drive in San Rafael. If available, the alternate EOC would be activated if the primary EOC is damaged or not available for other reasons. The operational capabilities of the alternate EOC are considerably limited. Direction and control authority will be transferred from the primary EOC to an alternate EOC when deemed necessary by the EOC Director. The Logistics Section will arrange for relocation of EOC staff members to the alternate EOC. All Section Chiefs will advise their emergency response field forces of the transition to the alternate EOC.

Emergency response coordination may be conducted from the EOC or from other locations depending on the situation. The EOC may be partially or fully staffed to meet the demands of the situation.

WHEN TO ACTIVATE THE EOC:

- A significant disaster has occurred causing damage in the OA or neighboring jurisdictions
- Two or more of Marin County's local jurisdictions have activated their EOCs, or a local jurisdiction has requested activation of the OA EOC
- Heavy or continuous rain is expected to elevate the county's river levels or tidal sloughs beyond flood stage
- An impending or declared "State of War Emergency" has occurred
- An emergency situation has occurred or might occur of such magnitude that it will require a large commitment of resources from two or more local jurisdictions or the County over an extended period of time. Examples include a major hazardous material incident, civil disturbance, aircraft disaster, wildland fire or severe weather conditions. **(Figure 5, page 26)**

WHO CAN ACTIVATE THE EOC:

The following individuals, either acting as the EOC Director or on behalf of the EOC Director, or their appointed representatives (as referenced in Continuity of Government Lines of Succession), are authorized to activate the EOC:

- County Administrator
- Assistant/Deputy County Administrators
- County Fire Chief or designee
- Sheriff or designee
- Public Health Officer (PHO) or designee
- Director of Public Works or designee

HOW TO ACTIVATE THE EOC:

- Contact the Marin County Sheriff's Communication Center
- Identify yourself and provide a callback confirmation phone number
- Briefly describe the emergency/disaster situation causing this request

DEACTIVATING THE EOC:

Deactivation of the Marin EOC will occur when the incident, emergency, or disaster is concluded when the Management Section has assessed the need to deactivate and receives approval from the authorized County personnel who activated the EOC. All resources and personnel will be accounted for prior to deactivation.

TRIGGER EVENT/SITUATION	ACTIVATION LEVEL	STAFFING	ACTIVITIES
Severe Weather Watch	Stand-By	None Limited to office or other location.	None EOC is configured; All systems ready.
Severe Weather or Tsunami Warning	Minimal	EOC Director EOC Coordinator Liaison Officer PIO and Deputy PIO Section Chiefs Law, Fire, Medical/Health, Situation Analysis, Personnel, Supply, Communications, IT Support	Situation analysis Public Information Response coordination Resource coordination Liaison Logistics support Financial support
Significant incidents involving two or more cities			
Earthquake with minor damages			
Substantial shaking - standby for aftershocks			
Severe Weather or Tsunami Warning	Partial to Full	All Minimal Level staff plus: Branches and Units as appropriate to situation Liaison/Agency reps as appropriate	Situation analysis Public Information Response coordination Resource coordination Liaison Logistics support Financial support
Earthquake with substantial damage reported			
Intense shaking - standby for aftershocks			
Major wind or rain storm with damage			
Two or more large incidents involving two or more cities			
Wildfire affecting developed area			
Major scheduled event			
Incident involving large-scale or possible large-scale evacuations			
Major city or regional emergency - multiple areas with heavy resource involvement	Full	All positions Liaison/Agency reps as appropriate	Situation analysis Response coordination Resource coordination Logistics support Public Information Sustained Operations
Earthquake with severe damage			

Note: *Marin County may activate the OA EOC at the request of one or more local jurisdictions*

FIGURE 5: OA EOC ACTIVATION LEVELS EXAMPLES

STATUS BOARDS AND ELECTRONIC DISPLAY DEVICES

Because the EOC's major purpose is accumulating and sharing information to ensure coordinated and timely emergency response, status boards for tracking emergency activities will be made available for use in both the primary and alternate EOCs. All EOC sections must maintain display devices so that other sections can quickly comprehend what actions have been taken, what resources are available, and to track damage in the OA. The Planning/Intelligence Section is responsible for coordinating the display of information.

At the onset of any disaster, a log will also be compiled for the duration of the emergency situation. Key disaster related information will be recorded in the log: e.g., casualty information, health concerns, property damage, fire status, size of risk area, scope of the hazard to the public, number of evacuees, etc. The posting of the log is the responsibility of the Planning/Intelligence Section staff.

WEB EOC APPLICATION

WebEOC provides real-time information to authorized users anywhere Internet access is available by automating the paper processes already in place to effectively manage incident information. The Menus developed by OES for application on the WebEOC system are reflective of the traditional Status Boards and information display devices. WebEOC is integrated with the California OES for event reporting, resource request process, and the mutual aid system. Marin County's WebEOC is locally configured and tailored to our county's operations. A primary value of WebEOC is the ability to bring secure real-time crisis information management to the Marin County EOC.

COMMUNICATION/NOTIFICATION

The State, the Region, the County, and other Marin local governments have established essential communications support procedures to provide the information links between the Federal government, State Operations Center (SOC), Regional Emergency Operations Center (REOC), the OA EOC, and other local jurisdictions' EOCs or Department Operations Centers(DOCs). The following systems are available:

Federal

- **EAS** – Emergency Alert System - *Serves the OA by transmitting public emergency messages*
- **CISN** – California Integrated Seismic Network - *Collects earthquake data collected and shares via the Internet*

State/Regional

- **CSWC-** California State Warning Center - *Dissemination of electronic emergency alerts to OAs*
- **EDIS** – Emergency Digital Information System - O*fficial emergency/disaster information*
- **OASIS** – Operational Area Satellite Information System - *Communication on microwave frequencies and video conferencing capabilities*
- **CLETS** – California Law Enforcement Telecommunications System- *Links all counties' Law Enforcement with capabilities to contact Federal, State and local computerized Information files*
- **EDIS** – Emergency Digital Information System - *Provides official information about emergencies/disasters*

Local

- **TENS** –Telephone Emergency Notification System - *County-wide computerized telephone notification system: Telephone Emergency Notification System (TENS) and the Marin Emergency Automated Notification System (MEANS)*
- **MERA** – Marin Emergency Radio Authority voice radio system
- **RACES/ACS** – Radio Amateur Civil Emergency Services - *County-wide organization of over 120 amateur radio operators*
- **County Communications** – Computer Aided Dispatch (CAD) responsible for fire, law, medical and local government frequencies

INCIDENT COMMAND SYSTEM (ICS)

The ICS is a nationally used standardized emergency management system specifically designed to allow the user(s) to adopt an integrated organizational structure equal to the complexity and demands s of single or multiple incidents without being hindered by jurisdictional boundaries. ICS addresses both organization and process. ICS is used to manage facilities, equipment, personnel, procedures, and communications through the use of a common organizational structure and standardized procedures.

The Marin County EOC uses ICS as the primary organizational structure in accordance with both the National Incident Management System (NIMS) and Standardized Emergency Management System (SEMS).

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

NIMS provides a comprehensive national framework for incident management, applicable at all jurisdictional levels and across all functional disciplines. NIMS establishes standardized incident management processes, protocols, and procedures that all responders – Federal, State, Tribal, and Local – will use to coordinate and conduct response actions. The Marin County EOC conforms to NIMS.

STANDARDIZED EMERGENCY MANAGEMENT SYSTEM (SEMS)

SEMS is the statewide system for managing response to multi-agency or multi-jurisdiction emergencies in California. SEMS is intended to facilitate communication and coordination between all levels of the system and among all responding agencies. SEMS provides the structure and foundation for the OA's emergency organization. SEMS is required by the California Emergency Services Act (ESA) for managing multi-agency and multi-jurisdictional responses to emergencies in California. The system unifies all elements of California's emergency management community into a single integrated system and standardizes key elements. SEMS incorporates the use of the Incident Command System (ICS), California Disaster and Civic Defense Master Mutual Aid Agreement (MMAA), the OA concept and multi-agency and inter-agency coordination. SEMS integrates the concepts and principles of NIMS into the existing SEMS structure. The Marin County EOC conforms to SEMS.

SEMS COORDINATION LEVEL

Catastrophic events are described in terms of the involvement and interaction of the five organizational levels. **(Figure 6 below)**

- STATE
  The State Operations Center (SOC) is activated to coordinate state agency response, to mobilize mutual aid resources from unaffected regions, and to initiate federal assistance. The SOC also serves as the liaison with the National Operations Center (NOC). The State is comprised of three regions: Inland, Coastal, and Southern.

- REGION
  The Marin County OA is in the Coastal Region. The Regional Emergency Operations Center (REOC) responds to resource requests from the OA, including the tasking of state agencies, tracking of state resources, and coordinating regional mutual aid resources.

- COUNTY
  The County OA EOC is utilized during a county-wide, multi-jurisdictional, multi-agency response for coordination of emergency activities within the geographic area of the County. The OA EOC serves as a link in the system of communication between the REOC and the political subdivisions within the OA.

- OTHER LOCAL GOVERNMENT (cities/towns/districts/agencies)
  Other local governments within the County retain responsibility for managing the response within its jurisdictions. Local EOCs shall establish priorities, mobilize and allocate available resources to support field units, and to provide situation reports and resource request to the OA.

- FIELD RESPONSE
  Affected jurisdictions will respond as feasible. Multiple Incident Command Posts (ICPs) may be established at various sites throughout the disaster area. Resource requests are made to agencies/jurisdiction's EOC and DOC.

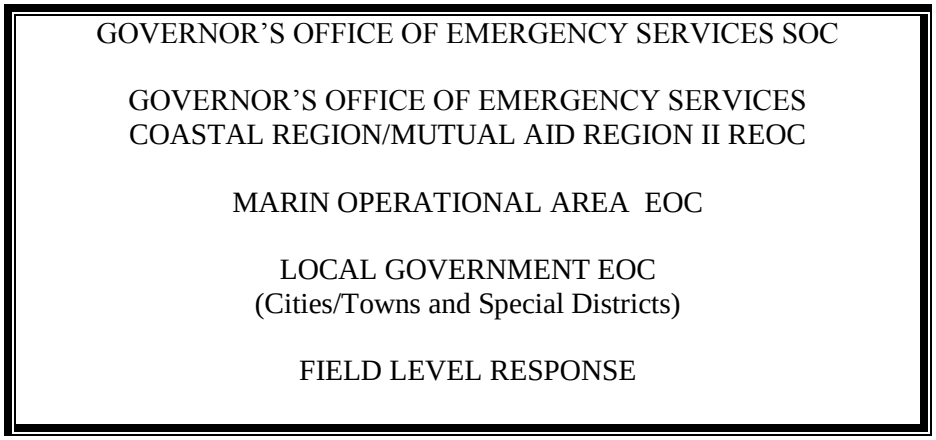


FIGURE 6: MARIN OPERATIONAL AREA COORDINATION LINKS

EOC COORDINATION WITH VOLUNTEER, COMMUNITY BASED, NON GOVERNMENT, AND PRIVATE AGENCIES

Local jurisdictions' EOCs will generally be a focal point for coordination of response activities with many non-governmental agencies and should establish communication with private and volunteer agencies providing services within their jurisdiction.

Agencies that play key roles in the response should have representatives in the EOC. If an agency supports several functions and has only one representative in the EOC, the agency representative should be located in the liaison area. If an agency is supporting one function only, its representative may be located with that functional element. Some agencies may have several personnel participating in functional elements within the EOC. For example, ARC personnel may be part of the staffing for the Care and Shelter element of the EOC.

Agencies that have countywide response roles and cannot respond to numerous local jurisdictions' EOCs should be represented at the OA level.

Coordination with volunteer and private agencies is conducted through the Marin Interagency Disaster Coalition (MIDC)[12] representative at the OA EOC. The MIDC representative acts as the lead coordinator of information and resources for disaster response and recovery.

[12] MIDC is a certified Volunteer Organization Active in Disaster (VOAD) for Marin County. MIDC member agencies include private sector, nonprofit, community and faith-based agencies serving human and animal needs

EOC POSITION DESCRIPTIONS AND RESPONSIBILITIES

EOC Structure **(Figure 7, page 32)**

SEMS regulations require local governments to provide five functions: management, operations, planning/intelligence, logistics and finance/administration. These functions are the basis for structuring the EOC organization.

Management - Responsible for overall emergency policy and coordination through the joint efforts of governmental agencies and private organizations

Operations - Responsible for coordinating all jurisdictional operations in support of emergency response through implementation of the local government's EOC Action Plan

Planning/Intelligence - Responsible for collecting, evaluating and disseminating information and assisting in the development of the County OA's EOC Action Plan, After Action Report, and Corrective Action Report, in coordination with the EOC Emergency Services Coordinator

Logistics - Responsible for supporting operations, providing facilities, services, personnel, equipment and materials

Finance/Administration - Responsible for financial activities and other administrative aspects

The EOC organization may include representatives from special districts, volunteer agencies, and private agencies with significant response roles

Mutual Aid assignments include the responsibility to liaise between the Marin OA EOC and their respective agencies/jurisdictions.

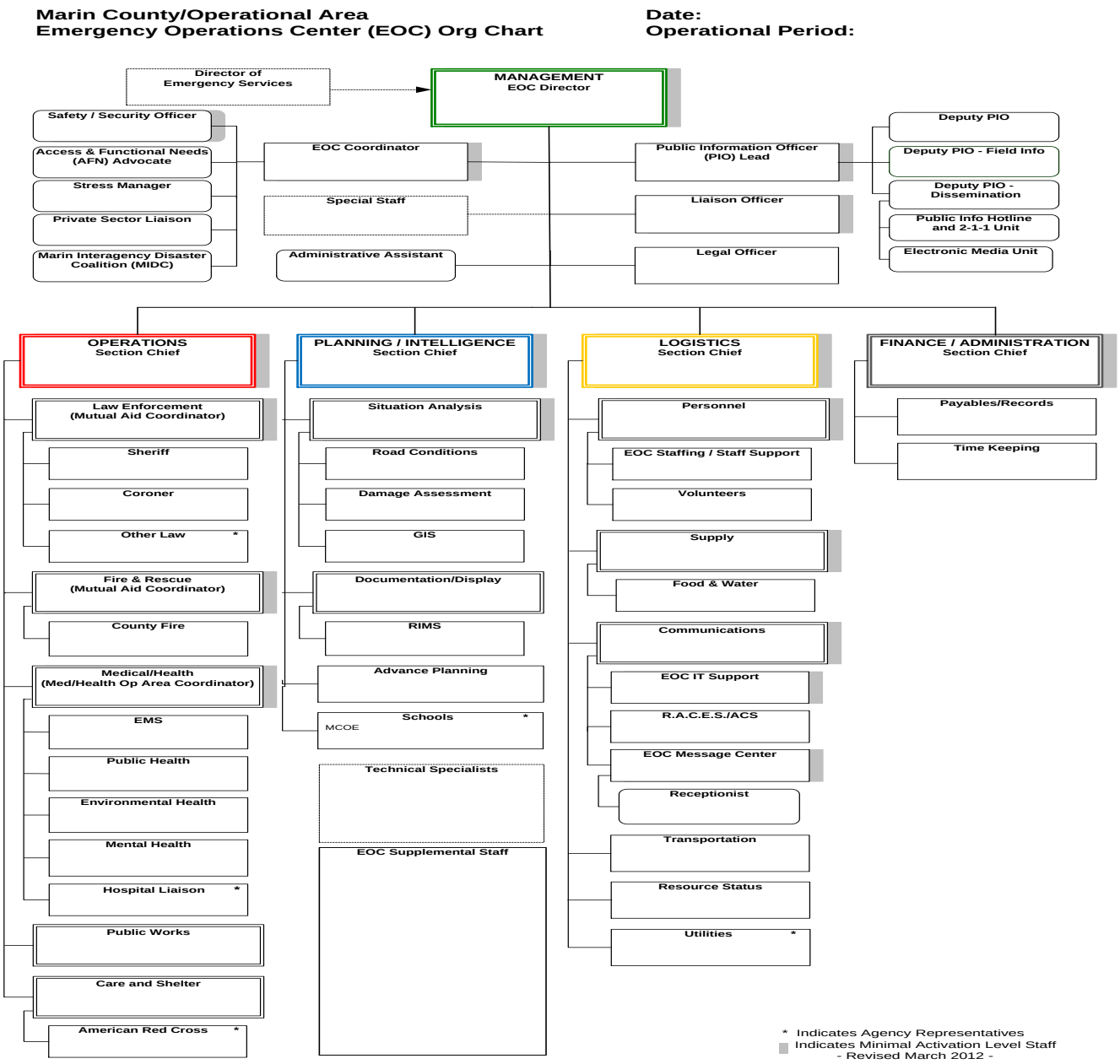
MANAGEMENT SECTION

- EOC Director
- Safety/Security
- AFN Advocate
- Stress Manager
- Private Sector Liaison
- MIDC Liaison
- EOC Coordinator
- Special Staff
- Administrative Assistant
- Legal Officer
- Public Information Lead
  - Public Information Officers and Support Positions

A fully staffed EOC requires over 50 staff members.

The Management Section is under the supervision of the EOC Director. This section is responsible for overall management and administration of the incident. Management also includes certain support staff functions required to support the EOC Management function and the field command function.

FIGURE 7: MARIN OA EOC ORG CHART



Director of Emergency Services - In Marin County, the Director of Emergency Services is a member of the BOS, elected by the BOS. The Director is responsible for the Marin OA's response to and recovery from any disaster or emergency. The Director provides input and guidance to the EOC Director, confers with other Board members, and may elevate policy issues to state and federally- elected officials.

EOC Director - The EOC Director is responsible for directing Marin OA's response and recovery for any disaster or emergency. In Marin, the County Administrative Officer (CAO) is the primary EOC Director and may delegate this responsibility. In the CAO's absence a Deputy CAO is appointed.

EOC Coordinator - The EOC Coordinator serves as a resource and assists the EOC Director in the administration of the emergency response. In addition, the EOC Coordinator provides guidance to all other EOC staff in performing their responsibilities.

Liaison Officer - When an incident has a multi-agency or multi-jurisdictional response, the Liaison Officer provides and maintains coordination with outside agency representatives, other Operational Area jurisdictions, local businesses and employers, the REOC, State OES, and other political representatives.

Safety and Security Officer - The Safety and Security Officer acts as an advisor to the EOC Director. He or she watches over all aspects of the emergency organization to ensure the safety of all personnel. The Safety Officer is responsible for correcting unsafe operations and for working with all sections to protect the safety of all emergency services workers in the EOC.

Access and Functional Needs (AFN) - The Access and Functional Needs advocate evaluates operations in the context of people with disabilities and Access and Functional Needs (AFN), ensures that they receive adequate attention in planning and communications functions, and ensures that language and disability program access and physical accessibility issues are addressed at all levels of emergency response. [13]

Stress Manager - The Stress Manager provides direct mental health support and services to all EOC staff.

Private Sector Liaison - The Private Sector Liaison maintains coordination with private businesses, industries, chamber of commerce's, and other private resources.

Public Information Officer - The Public Information Officer (PIO) acts under the direction of the EOC Director and Emergency Services Coordinator and coordinates city/town and county public information activities. The PIO ensures that the media and citizens are fully informed on all aspects of the emergency. During regional events, the PIO will be the point of contact for the designated regional Joint Information Center (JIC).

Legal Officer - The Legal Officer is the Marin County Counsel or his or her designee. The Legal Officer provides advice to the EOC Director in all legal matters relating to the emergency. The Legal Officer assists the Director of Emergency Services and the EOC Director in declaring a local emergency and implementation of emergency powers.

Special Staff - Special Staff with certain subject matter expertise may be brought in to the EOC to recommend actions to the EOC Director. This person is may communicate with the EOC while off site (e.g., Public Health Officer).

[13] Marin County Access and Functional Needs Guidance, April 2011, Appendix C: Functional Needs Coordinator Checklist adapted from the Regional Mass Care and Shelter Plan Functional Annex for the Marin County EOC AFN Advocate Checklist

OPERATIONS SECTION

The Operations Section is under the supervision of the Operations Section Chief who is in charge of all functions within the Operations Section. The Operations Section directs the Marin County operational resources and coordinates mutual aid resources. In addition, the Operations Section is responsible for coordinating with the County field incident commanders. The following branches are in the Operations Section. Various Branches/Groups can be added as needed.

The Operations Section directs Marin County operational resources and coordinates mutual aid resources.

- Law Branch
- Fire Branch
- Medical Health Branch
- Public Works Branch
- Care and Shelter

Operations Section Chief - The Operations Section Chief is in charge of all branches/units in the Operations Section and reports directly to the EOC Director. The Operations Section Chief assists in the development and execution of the Action Plan. The Operations Section Chief shall be advised of all requests for Mutual Aid and other resources

Law Branch - The Law Branch directs the response activities of Sheriff's Office units, reserves, and volunteers. It also coordinates Coroner activities and all law enforcement mutual aid, including resources such as California Highway Patrol and the California National Guard

Fire Branch - The Fire Branch directs the response activities of county, volunteer, and mutual aid fire. This Branch coordinates rescue operations with the Public Works Branch and other outside agencies as required for heavy rescue

Medical Health Branch - The Medical Branch is staffed by Emergency Medical Services and functions as liaison with medical resources throughout the County. This Branch manages all medical mutual aid within the OA and from outside the OA.

Public Works Branch - The Public Works Branch directs and coordinates response to public works problems, maintains surviving utilities and services, and coordinates public works mutual aid. This Branch also assists in evaluating the safety of structures (e.g., buildings and bridges) and roads. Public Works will also assist other units with traffic control, search and rescue, and transportation, as needed

Care and Shelter Branch - The Care and Shelter (C&S) Branch directs and coordinates response activities in cooperation with the American Red Cross (ARC), the Salvation Army (TSA), and other organizations active in disaster and with local government jurisdictions to aid in providing C&S services to all those impacted by an emergency or disaster[14]

[14] While it is expected that all emergency response plans will incorporate functional needs as appropriate, The Care and Shelter Annex is especially critical

PLANNING/INTELLIGENCE SECTION

The Planning/Intelligence Section is under the supervision of the Planning Section Chief. The duties and responsibilities of the Planning Section are to gather and analyze all data regarding the incident and the assigned resources. The Planning Section maintains an incident log, EOC display maps, and charts. The Planning Section is also responsible for preparing situation reports, assessing damage, conducting planning meetings, documenting all EOC activities, and assisting in the preparation of the Action Plan. The following branches are established as necessary in the Planning Section:

Planning and Intelligence gather and analyze all incident and resource data.

- Situation Analysis Branch
- Documentation/Display Branch

Planning Section Chief - The Planning Section Chief manages the Planning Section. The Planning Section Chief is responsible for the collection, evaluation, and dissemination of incident information.

Situation Analysis Branch - The Situation Analysis Branch's primary role is to collect, collate and process all information and intelligence including Road Conditions and Damage Assessment. Situation Analysis is also responsible for maintaining the Master Incident Log and map displays.

Documentation/Display Branch - The Documentation/Display Branch maintains and files all EOC messages, maintains official history of the emergency to insure complete documentation for the purpose of recovery of funds and advance planning

Technical Specialist - Technical Specialists provide expert information in the development of an Action Plan. Some areas of expertise might be: river levels, weather forecasting, Geographic Information Systems/Maps, hazardous materials or radiological materials.

LOGISTICS SECTION

The Logistics Section is under the supervision of the Logistics Section Chief and provides all emergency support needs. The Logistics Section orders all resources, manages volunteer personnel, and provides communications, facilities, transportation, supplies, equipment, fuel, food, and shelter. The Logistics Section is made up of the following branches:

Logistics orders all resources, manages personnel and provides any supplies.

- Personnel Branch
- Supply Branch
- Communications Branch

Logistics Section Chief - The Logistics Section Chief ensures the logistics function is carried out in support of the Marin Operational Area EOC and is in charge of all functions within the Logistics Section.

Personnel Branch - The Personnel Branch provides personnel resources in support of the EOC and Field Operations and supports and coordinates volunteer services for local jurisdictions and the Marin Volunteer & Non-Profit Leadership (CVNL).

Supply Branch – The Supply Branch oversees the procurement and allocation of supplies and material not normally provided through mutual aid channels. It coordinates delivery of supplies, manages donated good programs, establishes and maintains staging areas, and coordinates procurement actions with the Finance/Administration Section.

Communications Branch – The Communications Branch coordinates Information Technology Support, the Radio Amateur Civil Emergency Services (RACES), the EOC Message Center, and the EOC Receptionist.

FINANCE/ADMINISTRATION SECTION

The Finance/Administration Section provides for the tracking of the time worked by all emergency personnel involved in the incident, provides cost analysis and projections, and records any and all injury claims for compensation. The Finance Section is managed by the Finance Section Chief (County Auditor-Controller). The Finance Section is made up of the following branches:

Finance tracks all time worked and the expenses associated with the incident.

- Payables/Records
- Time Keeping

Finance Section Chief - The Finance Section Chief provides supervision to members of the Finance Section and manages all financial aspects of the emergency. In addition, he/she manages the receipt of claims for compensation against the county

Payables/Records Branch – The Payables/Records Branch provides the projected cost of supplies and materials to support the emergency. In addition, it collects all cost data and records, performs cost effectiveness analysis, and provides cost estimates and cost savings recommendations. This branch also manages claims for worker's compensation.

Time Keeping Branch - The Time Keeping Branch maintains records of all personnel time worked at the emergency which includes all volunteers that may or may not be previously registered as Disaster Service Workers.

EMERGENCY PROCLAMATIONS

LOCAL EMERGENCY

At the Marin County level a Local Emergency may be proclaimed by the Director of Emergency Services or designee. The BOS must ratify the proclamation within seven (7) days. The governing body must review the need to continue the proclamation at least every fourteen (14) days until the Local Emergency is terminated. However, in no event shall a review take place more than twenty-one (21) days after the previous review. The Local Emergency proclamation must be terminated by resolution as soon as conditions warrant. Emergency proclamations are normally made when there is an actual incident or threat of disaster or extreme peril to the safety of persons and property within Marin County, caused by natural or man-made situations and local resources for response is inadequate.

The BOS must ratify an Emergency Declaration within seven days.

Incorporated cities/towns within the OA may proclaim a local emergency as provided under their municipal code. The city/town shall advise the Marin Sheriff's OES of the proclamation. The proclamation of a Local Emergency provides the governing body with the legal authority to:

- Request that the Governor declare a State of Emergency, if necessary
- Promulgate or suspend orders and regulations necessary to provide for the protection of life and property, including issuing orders or regulations imposing a curfew within designated boundaries
- Exercise full power to provide mutual aid to any affected area in accordance with local ordinances, resolutions, emergency plans, or agreements
- Request state agencies and other jurisdictions to provide mutual aid
- Require the emergency services of any local official or employee
- Requisition necessary personnel and materials from any local department or agency
- Obtain vital supplies and equipment and, if required, immediately commandeer the same for public use
- Impose penalties for violation of lawful orders
- Conduct emergency operations without incurring legal liability for performance, or failure of performance (*Note: Article 17 of the Emergency Services Act provides for certain privileges and immunities).*

STATE OF EMERGENCY

The Governor may declare a State of Emergency when:

- Conditions of disaster or extreme peril exist which threaten the safety of persons and property within the state caused by natural or man-made incidents
- The Governor is requested to do so by local authorities
- The Governor finds that local authority is inadequate to cope with the emergency

Whenever the Governor declares a State of Emergency:

- Mutual aid shall be rendered in accordance with approved emergency plans when the need arises in any county, city and county, or city for outside assistance.
- The Governor shall, to the extent he deems necessary, have the right to exercise all police power vested in the State by the Constitution and the laws of the State of California within the designated area.
- Jurisdictions may command the aid of citizens as deemed necessary to cope with an emergency.
- The Governor may suspend the provisions of orders, rules or regulations of any state agency; and any regulatory statute or statute prescribing the procedure for conducting state business.
- The Governor may commandeer or make use of any private property or personnel (other than the media) in carrying out the responsibilities of his office.
- The Governor may promulgate, issue, and enforce orders and regulations deemed necessary.
- The Governor can request additional assistance by asking for a Presidential declaration.

STATE OF WAR EMERGENCY

Whenever the Governor declares a State of War Emergency, or if a State of War Emergency exists, all provisions associated with a State of Emergency apply. In addition, all state agencies and political subdivisions are required to comply with the lawful orders and regulations of the Governor which are made or given within the limits of his authority as provided in the Emergency Services Act.

CONTINUITY OF GOVERNMENT

PURPOSE

A major disaster or an enemy attack could result in great loss of life and property, including the death or injury of key government officials. At the same time, there could be partial or complete destruction of established seats of government, and the destruction of public and private records essential to continued operations of government and industry.

In the aftermath of a major disaster, law and order must be preserved and essential government services must be maintained. Civil government accomplishes this best. To this end, it is particularly essential that local units of government continue to function.

Applicable portions of the California Government Code and the State Constitution (cited in the next paragraphs) provide authority for the continuity and preservation of state and local government.

RESPONSIBILITIES

Government at all levels is responsible for providing continuous, effective leadership and authority under all aspects of emergency services operations (preparedness, response, recovery, and mitigation). Under California's concept of mutual aid, local officials remain in control of their jurisdiction's emergency operations while others may provide additional resources upon request. A key aspect of this control is the ability to communicate official requests, situation reports, and emergency information throughout any disaster.

PRESERVATION OF LOCAL GOVERNMENT

Article 15 of the *California Emergency Services Act* (Chapter 7 of Division 1 of Title 2 of the Government Code) provides the authority, as well as the procedures to be employed, to ensure continued functioning of political subdivisions within the State of California. Article 15 provides for the succession of officers who head departments responsible for maintaining law and order, or in furnishing public services relating to health and safety.

Article 15 also outlines procedures to ensure continued functioning of political subdivisions in the event the governing body, including standby officers, is unavailable to serve.

LINES OF SUCCESSION FOR OFFICIALS CHARGED WITH DISCHARGING EMERGENCY RESPONSIBILITIES

The first step in assuring continuity of government is to have personnel who are authorized and prepared to carry out emergency actions for government in the event of a natural, technological, or national security disaster.

Article 15, Section 8638 of the Emergency Services Act authorizes governing bodies to designate and appoint three standby officers for each member of the governing body. Chapter 10, Section 10 -18 of the Marin County Code states the Board of Supervisors may appoint three (3) standby officers for each member of the Board. Notification of any successor changes shall be made through the established chain of command.

Article 15, Section 8637 of the Emergency Services Act authorizes political subdivisions to provide for the succession of officers (department heads) having duties related to law and order and/or health and safety. (See Lines of Succession list for County departments at the end of this section.)

Article 15, Section 8643 Emergency Services Act describes the duties of a governing body during emergencies as follows:

- Ascertain the damage to the jurisdiction and its personnel and property
- Reconstitute itself and any subdivisions
- Perform functions in preserving law and order and furnishing local service

Below is the line of succession for several county services and departments:

SERVICE / DEPARTMENT	TITLE / POSITION
County Administrator	1. County Administrator 2. Deputy County Administrator 3. Assistant County Administrator
Sheriff's Department	1. Sheriff 2. Undersheriff 3. Captain
Fire Department	1. Fire Chief 2. Deputy Fire Chief 3. Hazardous Materials Manager
Health and Human Services	1. Public Health Officer 2. Deputy Public Health Officer

PRESERVATION OF VITAL RECORDS

In Marin County, two departments are responsible for the preservation of vital records: Records Management and Recorder, who maintain centralized electronic files of public and non-public records.

Vital records are defined as those records that are essential to:

- Protect and preserve the rights and interests of individuals, governments, corporations and other entities. Examples include vital statistics, land and tax records, license registers, and articles of incorporation
- Conduct emergency response and recovery operations. Records of this type include utility system maps, locations of emergency supplies and equipment, emergency operations plans and procedures, personnel rosters, etc.
- Re-establish normal governmental functions and protect the rights and interests of government: constitutions and charters, statutes and ordinances, court records, official proceedings, and financial records

Each department within the county and the cities/towns should identify, maintain and protect its own essential records.

PART TWO: THREAT SUMMARY AND ASSESSMENTS

GENERAL

This section of the Marin EOP consists of a series of threat summaries based on the results of the Marin County Operational Area's hazard analysis. The County of Marin has the potential for experiencing a variety of natural and man-made disasters. This section provides a brief description of these threats, but does not contain all the technical data.

It is important to note that a disaster could include more than one event. For instance, a major earthquake could cause major structure loss, inundation by a dam collapse, flooding from a tidal surge, extensive hazardous material spills from vehicles on the roadway and ruptured underground pipelines. In general, those agencies assigned roles under this plan should be prepared for the worst and expect minimal help from outside the OA.

Especially threatening are acts of terrorism. Many of the hazards could be a deliberate act, which would increase the danger due to the targeted nature of the event. For example, a hazardous materials release would be much more dangerous if it were timed to coincide with commuter periods or would be located in an especially sensitive area.

LOCATION AND POPULATION

The Marin OA (**Figure 8, page 42**) is dominated by California's coastal mountain range which creates a rugged landscape with 606 square miles of land and water. The Costal, Inland Rural, City-Centered, and Bay Land Corridors each provide uniquely different challenges based on the variety of topography. Located on the central coast of California north of the Golden Gate Bridge, the Marin OA is within the Governor's Office of Emergency Services Coastal Region.

Marin County covers 521 square miles and is surrounded by water on three sides, the Pacific Ocean to the west, the San Pablo Bay to the east and the San Francisco Bay to the south. It is adjacent to Sonoma County to the north.

Marin County is connected to its surrounding neighbors by bridges. The Golden Gate Bridge to the south; the Richmond/San Rafael Bridge is to the east; State Route 37 to the north east (along the north part of San Pablo Bay filled by land); and U.S. Highway 101 to the north (which narrows to a 4-lane uncontrolled road that transverse the San Antonio Creek).

Marin's population is approximately 250,000 in eleven incorporated cities and towns and the county's unincorporated area. Most of the population is located in the urban corridor located along the east-central part of the county.

A major concern for emergency responders is the access to services by people with disabilities.[15] Instead of defining need in terms of disabilities, it more effective to take a functional approach to disaster needs. Using a functional-based approach with acknowledges that any citizen may at some time have a disaster-generated need. Defining disaster needs by function helps us to ensure equal access to services for all citizens of Marin County, and responders are sensitive to both existing and emerging needs. Access and Functional Needs (AFN) is the whole community approach applied during all phases of disasters.

One of the major problems the county faces during any emergency is the possibility of being isolated from the surrounding communities and any resources or help.

[15] Section 12132 of the Americans with Disabilities Act provides that..."no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of services, programs, or activities of public entity, or be subjected to discrimination by any such entity."

FIGURE 8: MARIN OPERATIONAL AREA

TRANSPORTATION AND INFRASTRUCTURE

Transportation - The primary travel corridor in Marin County is U.S. Highway 101 (running north and south) along which 70 percent of the population lives. This is the main economic and transportation corridor for the County and entire North Bay, as well as the main tourist route through Northern California. The main east/west travel route is Highway 580. Of note is scenic Highway 1 (the Pacific Coast Highway) running along the coastline. All other roadways in the county are two-lane rural roads or surface streets. Other means of transportation include:

- Gnoss Field in Novato - a small airport staffed and maintained by the County Department of Public Works (DPW) for the benefit of the flying public
- Sonoma-Marin Area Rail Transit (SMART) - passenger rail service will serve a 70 mile corridor from Larkspur to Cloverdale upon completion in late 2016
- The Marin Airporter and Charter Service - designed to provide transportation from Marin to the San Francisco Airport
- Golden Gate Transit - operating bus and ferry services to other counties as well as local county service
- Marin Transit - responsible for: Local transit and Para-transit services within Marin County
  West Marin Stage Coach
  Muir Woods Shuttle
  Novato Dial-a-ride
- Whistlestop Wheels - provides people with disabilities and AFN transportation services through Marin Access[16]

POTENTIAL HAZARDS AND THREATS SUMMARY

The County of Marin is vulnerable to a wide range of threats. In recent years it has experienced several events such as earthquakes, floods, hazardous materials spills and storms. The threat picture is further complicated by the increased use, storage and transportation of numerous hazardous materials.

Marin County, with its varying topography, mix of semi-urban and rural areas, and growing permanent, seasonal, and recreational population, is subject to a wide variety of negative impacts from various hazards and threats. There are three broad categories of hazards: natural, technological and man-made threats. **(Page 44)**

[16] Marin Access provides transportation services in partnership with Whistlestop, Marin Transit and Golden Gate Transit to Seniors and people with disabilities (ADA) and Access and Functional Needs (AFN)

Potential Threats and Hazards:

NATURAL	TECHNOLOGICAL	MANMADE
▪ Earthquake ▪ Flood ▪ Wildland Fire ▪ Winter Storm ▪ Tsunami ▪ Landslide ▪ Drought ▪ Public Health Crisis ▪ Extreme Temperature Event ▪ Climate Change/Sea Level Rise	▪ Hazardous Materials Incident ▪ Transportation Accident ▪ Dam Failure ▪ Energy Disruption ▪ Radiological Incident	▪ Terrorism ▪ Civil Disturbance ▪ National Security Emergency ▪ Security Related Threats

ASSESSMENT 1: EARTHQUAKE

GENERAL SITUATION

Varying in type and intensity, earthquakes are perhaps the least predictable of any of the potential hazards. They may cause no real damage or the area could be heavily impacted. Often, the main earthquake is followed by a series of aftershocks. Aftershocks can be larger than the original quake and pose a significant threat to those responding to the first event.

Located within and next to Marin County are several known active and potentially active earthquake faults, including the San Andreas and the Rogers Creek/Healdsburg faults. **(Figure 9, page 48)**

- The San Andreas Fault enters the county on the southwestern corner and continues north along the coast. The fault lies close to many smaller coastal communities which host many tourists in the summer months. This fault is also capable of generating a near-shore Tsunami (see Tsunami Hazard). During the 1906 earthquake, portions of fences and roads were offset by up to sixteen feet in Tomales - even though the epicenter was in South San Francisco.
- The Rogers Creek / Healdsburg Fault runs just east of the county with the northern part of Marin located less than ten miles apart.

A major earthquake occurring in or near these areas could result in deaths, casualties, property and environmental damage, and disruption of normal government and community services and activities. The effects could be aggravated by collateral emergencies such as fires, flooding, hazardous material spills, utility disruptions, landslides, dam failures, and transportation emergencies. The location of the epicenter, as well as the time of day and season of the year, would significantly influence the number of casualties and the amount of damage.

Such an event would exceed the response capability of the OA's emergency management organization, requiring assistance from volunteer and private agencies, the Governor's Office of Emergency Services and the federal government. Response efforts will be significantly hampered by the loss of communications and transportation systems.

A major effort would be needed to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities and provide continuing care and temporary housing for affected citizens.

The economic impact of a major earthquake may also be significant. Employment may decline, businesses may suffer or even fail, tourism will drop, and a corresponding reduction in tax revenues will strain the basic financial systems in local communities. Additionally, costs for basic services and supplies can be expected to increase along with additional infrastructure maintenance, replacement, or repair expenses. Effects can last for months and years unless addressed quickly and aggressively.

SPECIFIC SITUATION

Freeways and Major Highways
Freeways and critical highways pass through key parts of the OA - for some communities, there are no alternate routes. Should overpasses or bridges collapse or become unsafe, or roads close due to landslides, communities could be isolated for days. The opening of crossings and traffic control will be a major factor for emergency services personnel.

Railroads
Many railroad bridges are susceptible to seismic damage because of age, design and construction. Large lengths of line are vulnerable to landslide.

Dam and Flood Control Channels
Based upon current design, construction practices and ongoing programs of review and modification, catastrophic dam failure is considered unlikely, but still possible. The Nicasio Dam at Nicasio Lake, for example, is of modern construction and is closely monitored by an array of seismic sensors. Strong shaking could cause some dams to overflow and cause localized flooding. Flood control channels may suffer minor damage. Marin Municipal Water District (MMWD) and North Marin Water District (NMWD) provide current information on dam inundation flood threats. Current dam inundation maps are integrated in our Telephone Notification System (TENS) that will allow for rapid notification to flood threat areas critical facilities. [17]

Hazardous Sites
Underground fuel pipelines, chemical storage tanks, and manufacturing locations may be damaged or destroyed and the resulting leaks may constitute a considerable threat to individual areas. Additionally, the area is crossed with many high voltage lines which supply power to the majority of the area. Should they fall, roadways will be blocked and the potential for fire and shock hazards will be significant until Pacific Gas and Electric can shut them off.

Seasonal Fluctuation in Population
In addition to caring for their own citizens, the county and cities/towns may also have to support seasonal visitors in the area at the time of the event or evacuees from other Bay Area jurisdictions. Local agencies may have to restrict access and dedicate large numbers of resources to traffic management and transportation. Such populations may place excessive demands upon any established mass care facilities or shelters.

DAMAGE TO VITAL PUBLIC SERVICES, SYSTEMS AND FACILITIES

Medical Facilities
Approximately half of the beds in the county's medical facilities could be lost during a major earthquake due to the age and type of construction of some of the hospitals and rehabilitation centers in Marin. These hospitals will have services limited by damages, staff shortages, and lack of supplies. Local clinics, surgical facilities, and field treatment sites may be needed to handle the initial demand. Marin County's Mass Casualty Incident (MCI) plan will be implemented but may be overwhelmed by the number of victims. The most common injuries will be glass cuts on hands and feet. The most serious injuries will be crush or burn. It may be necessary to transport many injured to out-of-county facilities.

Fire Operations
Although total collapse of fire stations is not expected, possible disruption of utilities, damaged doors and loss of power can create major problems. Numerous fires due to disruption of power and natural gas networks can be expected. Many connections to major water sources may be damaged and storage facilities would have to be relied upon. Water supplies could be inadequate or non-existent. Rescuers should expect loss of power and water, jammed doors, restricted mobility due to debris, possible loss of communications capability and delays in reaching maximum effectiveness due to personnel shortages.

Communications
The use of telephones will be limited. Traditional and cellular systems will be affected by infrastructure failure, overloads, and loss of electrical power. Immediately following an event, numerous failures will occur, compounded by system use overloads. 80% of the telephone system is likely to be disabled for the first 24 hours.

[17] The EOC's Care and Shelter Branch maintains current shelter sites and types with AFN considerations in the event of an evacuation.

Radio systems are expected to operate at 40% effectiveness the first 12 hours following an earthquake, increase to 50% for the second 12 hours, then decline to approximately 40% within 36 hours. A major issue will be batteries for portable radios.

Equipment reliant on microwave transmission will experience loss of power. Damage to antennas and loss of alignment will reduce the equipment effectiveness to 30% or less.

Electrical Power
Extra-high-voltage transmission equipment is generally the most susceptible component of the electrical system. Transmission lines are especially vulnerable in Marin due to the rugged and remote terrain. Generating plants usually fare better but could also fail. Up to 60% of the system load may be interrupted immediately.

Repairs may require physically clearing roadways, bringing in special equipment, and safeguarding against aftershocks and other hazards. Close coordination is required with regional and local utility representatives. Power restoration may take days or even weeks.

Natural Gas
Damage to natural gas facilities serving Marin County's communities will consist primarily of isolated breaks in major transmission lines. Breaks in mains and individual service connections within the distribution system will be significant. Leaks pose a fire threat in these susceptible areas of intense ground shaking and/or poor ground near the shoreline. Breaks in the system will affect the most developed portions of the county and restoration could be significantly delayed.

Propane Gas
Many residents and businesses rely upon propane or bottled gas. Many of these tanks are not secured and will likely tip over or become disconnected. The leaking tanks will pose a fire/explosion hazard and many households will be without cooking and heating capabilities. Re-supply and repair of this service will be delayed until roads can be cleared and outside assistance is brought into the area by the vendors. Priority for repair and re-supply will be given to critical facilities such as medical sites, shelters, and emergency generators at remote radio repeater sites.

Water
Primary water sources may be incapacitated due to damage to the chlorine treatment stations and/or to the pipelines that distribute potable water. There are a number of small water districts which may be susceptible to total destruction. In the most affected areas, sheer forces could render about one third of wells inoperable by cutting the shafts.

Priority for water distribution will go to fire suppression, life support, medical facilities, decontamination, and shelter operations. This may result in significant rationing. The use of surface-laid pipes and water tanker trucks to maintain a minimal supply to some areas will be almost certainly required.

The three major reservoirs within Marin County include Soulajule, Nicasio and Bon Tempe. There are also a host of smaller reservoirs. The water supply lines are easily affected during Marin County winter storms and should be considered likely to fail during a major earthquake.

Sanitation Systems
These systems will be generally affected in the same manner and degree as potable water. There is limited storage capacity in the wastewater plants which could result in releases of minimally treated or untreated sewage. Damaged or pumping stations and sewer line breaks may result in small spills of untreated sewage. Household sewer connections may break and plug.

FIGURE 9: EARTHQUAKE FAULTS

ASSESSMENT 2: FLOOD

GENERAL SITUATION

Floods are generally classed as either slow-rise or flash floods. Slow-rise floods may be preceded by a warning time measured in hours or days. Evacuation and sandbagging for a slow-rise flood may lessen flood-related damage. Conversely, flash floods are the most difficult to prepare for, due to the extremely short warning time, if any is given at all. Flash flood warnings usually require immediate evacuation within the hour.

Public and private losses from the Dec 05 / Jan 06 flooding exceeded $100 million.

The National Weather Service issues flash flood watches and warnings. A flash flood "Watch" is issued when flash flooding is possible within the designated watch area - all persons should be alert. A flash flood "Warning" is issued when a flash flood has been reported or is imminent - all persons should take necessary precautions.

No area is immune to flash floods. In small streams, especially near the headwaters of river basins, water levels may rise quickly in heavy rainstorms, and flash floods can begin before the rain stops falling. (**Figure 10, page 50)**

There is little time between the detection of flood conditions and the arrival of the flood crest. Swift action is essential to protect life and property.

All low lying areas, both coastal and inland, are subject to flood conditions. Urban development in flood plain areas are often subject to seasonal inundation. The flood plain is a natural extension of any waterway, although infrequently used. Storm water runoff, when exceeding the capabilities of the physical channel characteristics of a stream, will result in the natural flooding of a localized area, inundating vehicles and causing considerable damage to residential and industrial properties located near stream and drainage channels.

Once flooding begins, personnel will be needed to assist in rescuing persons trapped by flood water, securing utilities, evacuating residents, moving equipment, cordoning off flooded areas, and controlling traffic. These actions may overtax local agencies, and additional personnel and resources may be required.

SPECIFIC SITUATION

Key areas of Marin County are subject to flash flooding, urban flooding (storm drain failure/infrastructure breakdown), and river channel overflow. The Marin county Flood Control and Water Conservation District manages eight Flood Control Zones:

- Novato
- Mill Valley
- Bel Aire
- Stinson Beach
- San Rafael Meadows
- Santa Venetia
- Ross Valley
- Inverness

Winter storms can generate heavy wave action along the coast which, either by itself, or when combined with high tides and/or high winds, can cause localized flooding in low-lying coastal areas.

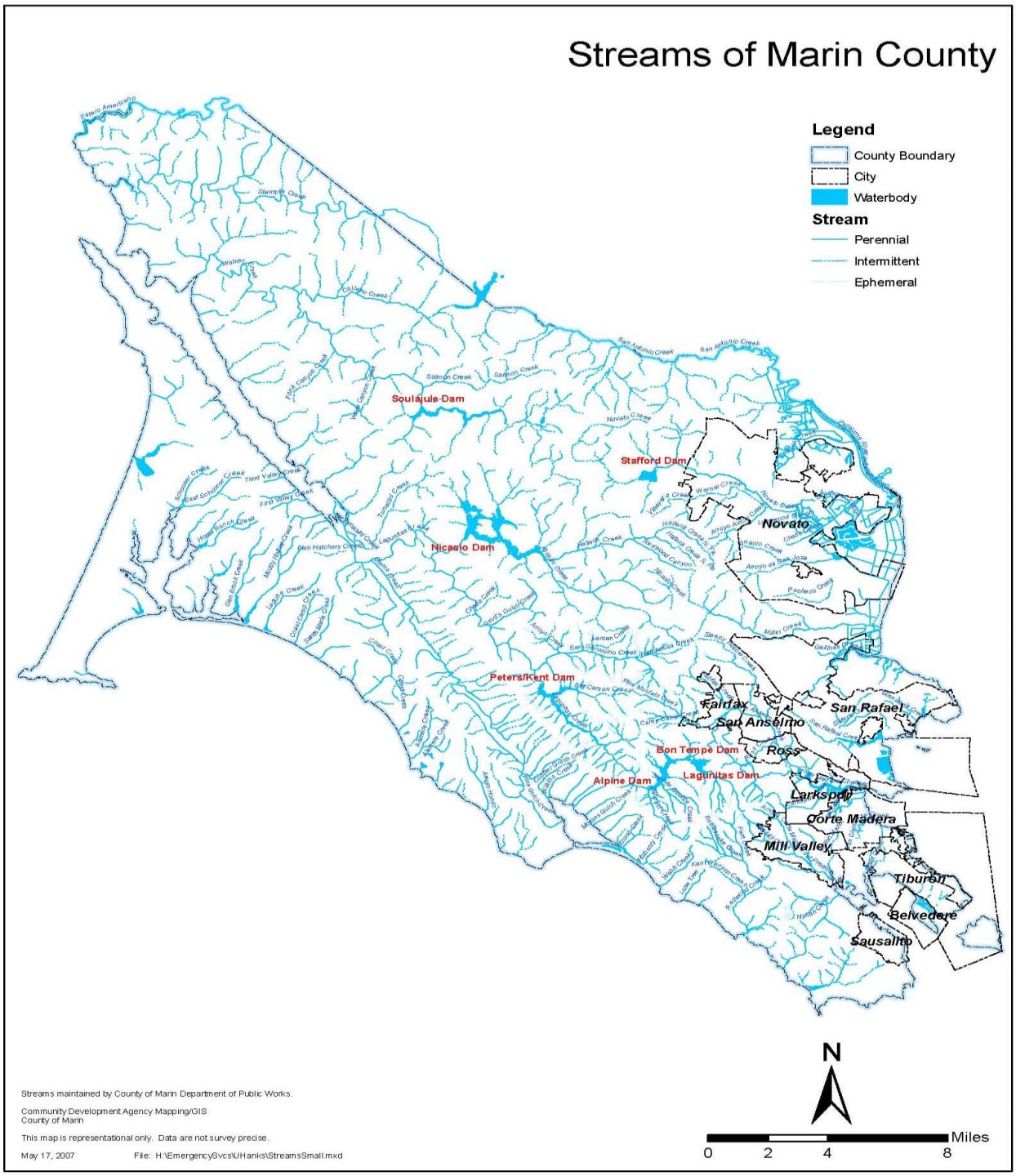


FIGURE 10: STREAMS OF MARIN COUNTY

ASSESSMENT 3: WILDLAND FIRE

GENERAL SITUATION

Wildland fire hazards exist in varying degrees over approximately 85% of Marin County. The fire season generally lasts from five to six months. The wildland fire hazard is caused by a combination of factors including rugged terrain, highly flammable vegetation and forest, long summers, and human activity.

There are several areas in the county which contain heavy fuel loads. Many homes have been built on steep slopes with vegetation in close proximity. These slopes are often steep, located in rugged terrain and have very few access routes. The onset of Sudden Oak Death has significantly increased the number of dead or weakened trees in most areas.

Wildland fire hazards exist in over 85% of Marin.

In several areas, an "Urban Interface" fire hazard is created as older neighborhoods directly border wild lands, parks, or forests. These areas often have mature vegetation and large tree canopies, which could cause the fire to spread quickly.

SPECIFIC SITUATION

Winds

The western portion of the county is heavily influenced by the Pacific Ocean in terms of local climate. In these environments the fire hazard is mitigated by summer fog intrusion and lower temperatures. However, during the two to three weeks of "off-shore" wind events each fall, even the coastal areas become an extreme fire hazard.

In the east, the large inland valleys create their heat-generated wind systems and more closely match the climates of California's Central Valley.

Topography

The topography in the county is typical of the mountains in the Coastal Range where they abruptly rise upward from the rugged shoreline to elevations of more than 2000 feet.

This creates an opportunities for wildland fires to spread uphill and in many directions making it extremely difficult for the firefighters to control a fire in these areas. This is made more difficult when trying to protect structures.

The topography in the inland areas can also cause significant fire fighting challenges due to hotter, drier climates. The higher density of homes and population further complicates fire-fighting efforts.

Fire Causes

People, and their activities, may cause wildland fires. Since the heaviest concentrations of people are found along Highway 101, most fires start there. Use of equipment, people playing with fire, arson, off-road vehicles, mowing, and debris burning are among the most common causes of wildland fires. Trees growing into power lines have also been a frequent cause of large and damaging fires. Lightning strikes can spark many fires simultaneously in widely separated areas. Many of these fires may smolder for days before becoming very active.

Level of Fire Protection Services

Marin County is served by the following fire districts:

- Tiburon
- Southern Marin
- Novato
- Bolinas
- Marinwood CSD
- Ross Valley
- Stinson Beach
- Sleepy Hollow
- Kentfield
- Marin County
- Cities and Towns

In West Marin, there are additional Fire Response Units that include the Inverness Public Utility District, the Muir Beach Volunteer Fire Department, and the Nicasio Volunteer Fire Department.

Marin County's primary fire protection is provided by the Marin County Fire Department, which also serves as a California Department of Forestry and Fire Protection (CALFIRE) contract agency. Several Dispatch Centers are responsible for notifying local fire resources and dispatching resources.

Marin's fire agencies have signed a county-wide mutual aid agreement to insure that firefighting resources and personnel will be available to combat a wildland/urban interface fire. If these resources are not enough to meet the threat, fire resources from throughout California can be summoned under the State's Master Mutual Aid Agreement which is administered by the State OES.

Wildland Fire in Combination with Other Threats

The fire hazard can be significantly affected by other hazards such as earthquake, drought or Sudden Oak Death. One worst-case scenario could involve a major earthquake during fire season. Broken gas lines or downed electrical wires could spark multiple fires. Firefighters would be hampered by disrupted communications, impassible roads, and the need to perform rescue/medical operations.

Assets at Risk

Numerous factors affect how vulnerable a structure is to a wildland fire ignition. Roof composition, siding material, construction type and materials, slope, fire-resistant vegetation, and defensible space are some general variables that affect structure survivability. Marin County includes densely populated urban cities and towns along the eastern Highway 101 corridor from the Golden Gate Bridge northward to Novato. Many of the county's communities are situated within or adjacent to the Wildland-Urban Interface (WUI) with dense to moderate concentrations of structures. **(Figure 11, page 53)**

WILDLAND URBAN INTERFACE

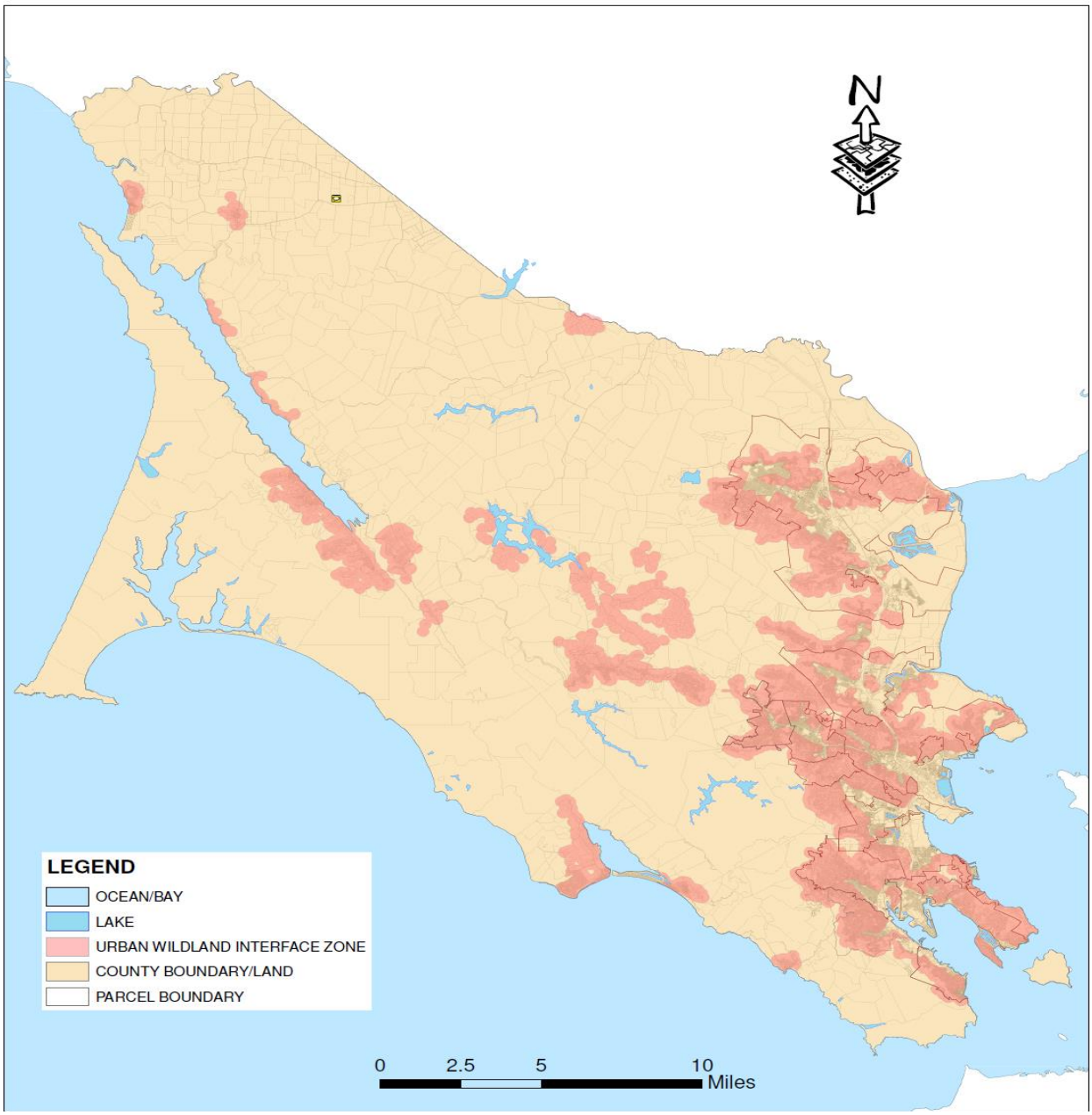


FIGURE 11: FIRE HAZARDS/WILDLAND URBAN INTERFACE

Response times present significant challenges to keeping fires from directly impacting communities and sub-divisions. Emergency fire access to single road access residential areas is limited where narrow, winding roads are lines with dense vegetation.

In the aftermath of the Oakland Hills Fires in 1991, several public agencies and private interests wanted to reduce the likelihood that a similar tragedy would be repeated in Marin County. FIRESafe MARIN was formed to promote fire safety and stimulate communities to collaborate when solving problems related to wildland fire protection.

ASSESSMENT 4: WINTER STORM

GENERAL SITUATION

In recent years, winter storms in California have grown increasingly intense and longer-lasting. Flash floods, mudslides, high coastal surf, coastal erosion, stream and creek flooding, snowstorms, and avalanches have all recently occurred. Especially noteworthy are the tropical storms that are blown into California on a wind current called the "Pineapple Express". From the central Pacific, warm storm fronts move quickly and directly northwest picking up energy and pulling moisture from the ocean as they travel. Once they come ashore and are forced to rise over the coastal mountains, they cool and begin to drop their moisture.

SPECIFIC SITUATION

In Marin County, winter storms frequently drop large amounts of rain onto the coastal mountains. This often causes flash flooding and landslides.

Another frequent storm behavior is high winds. High winds are most common and dramatic along the coast and in the coastal mountains. The high winds result in damage to structures, downed trees, broken telephone lines, as well as arcing and downed power lines. Due to the rugged nature of the area, it can take days or weeks to make full repairs to electrical transmission and distribution lines. Power outages are a major issue almost every winter.

History

In recent history, the winter storms of 1970, 1973, 1982, 1983, 1986, 1998, 2005, and 2006 caused significant damage. Novato Creek in the northern part of the county historically caused damage to large numbers of homes in the 1960's until the Novato Flood Control Project was completed in the 1980's. The area of Santa Venetia flooded in 1982.

Over 1000 buildings were damaged or destroyed during the Dec 05 / Jan 06 floods.

Corte Madera Creek has had a history of flooding that caused severe damage to the surrounding communities with the largest recorded flows in the winter of 1982 and more recently in December 2005 and January 2006. During this period, widespread localized flooding occurred in almost all areas of the County. San Anselmo, Ross, Fairfax, and Mill Valley were the most heavily impacted. Power outages peaked at 10,000 customers in January. Nine schools closed due to mud, water and road damages and over 20 major roads were closed during the early part of the storm. Two levies in the Novato area were damaged. Over a thousand homes, apartments, and businesses were damaged or destroyed.

ASSESSMENT 5: TSUNAMI

GENERAL SITUATION

A distant-source tsunami is a series of traveling ocean waves generated by earthquake or underwater landslides. As a tsunami crosses the deep ocean, its length from crest to crest may be one hundred miles or more, and its height from the bottom of the wave to the crest only a few feet. It cannot be felt aboard ships in deep water and cannot be seen from the air, but in deep water, tsunami waves may reach forward speeds exceeding 600 miles per hour.

As the tsunami enters the shallow water of coastlines in its path, the velocity of its waves diminishes and wave height increases. It is in these shallow waters that tsunamis become a threat to life and property, as they can crest to heights of more than 100 feet, and strike with devastating force. This danger is not over until the entire wave-series has passed. All tsunamis, like hurricanes, are potentially dangerous, even though they may not damage every coastline they strike. At present, there is no way to determine, in advance, the amplitude or size of tsunamis in specific locations. A small tsunami at one beach can be a giant one a few miles away.

Local source tsunamis may also be generated by earthquakes or underwater landslides just off shore. These "near-shore tsunamis" can also be very large but may arrive with little or no warning. In addition to the initial event, additional - and even larger - waves may continue to arrive for hours. [18]

Damage
The great waves of a tsunami may crush buildings, smash vehicles and boats, uproot trees, and disrupt vital public services, systems and facilities. The effects may be aggravated by the secondary effects of fire. Efforts may be required to remove debris and clear roadways, reestablish public ser8vices and utilities, and provide temporary housing for displaced persons.

Evacuation
It is essential to evacuate persons in low-lying coastal areas and around the rims of bays and harbors, for these areas consistently sustain the greatest damage by tsunamis. Potential danger exists for all areas within one mile of the coast and less than 50 feet above sea level for tsunamis of distant origin, and for all areas within one mile of the coast and less than 100 feet above sea level for tsunamis of local origin.

Tsunami Warning System
The National Oceanic and Atmospheric Administration (NOAA) maintains the international Tsunami Warning System. The occurrence of a major earthquake anywhere in the Pacific Ocean area brings an immediate response from the system.

[18] The Tsunami Annex to the Marin EOP provides details about tsunami threats and concepts of response operations

Tsunami Watch

When an earthquake of sufficient magnitude to generate a tsunami occurs, Tsunami Warning System staff determines the location of the earthquake epicenter. If the epicenter is under or near the ocean, a tsunami is possible. The Warning System issues a Tsunami Watch, which tells recipients that an earthquake has occurred, its location, and that the possibility of a tsunami exists. A Tsunami Watch constitutes the System's first alerting action. It is similar to alerts issued by NOAA for tornadoes, hurricanes, and other natural hazards.

The first positive indication of a tsunami usually comes from tide stations near the disturbance. When confirmation is received, the Alaska Tsunami Warning Center issues a Tsunami Warning, alerting participants to the approach of potentially destructive waves. The warning contains the Estimated Time of Arrival for Tsunamis at various coastal locations. The Tsunami Warning System does not issue false alarms. When an ocean-wide Tsunami Warning is issued, a tsunami exists. When a Tsunami Warning is received, it must be assumed that a dangerous wave is on its way. The tsunami of May 1960 killed 61 persons in Hilo, Hawaii, primarily because the warning was thought to be a false alarm.

There are also natural warning signs of tsunamis. A local earthquake or a noticeable rising or falling of coastal ocean water may be a natural warning of approaching tsunami waves. People in low-lying coastal areas should take these signs warnings to immediately move to higher ground.

SPECIFIC SITUATION

The Marin County coastline extends 55 miles. Several small vacation and residential communities are located here. The greatest potential damage from a tsunami would occur in such communities as Drakes Bay, Pt, Reyes, Bolinas, Stinson Beach, Muir Beach and the coastal beaches. NOAA develops tsunami inundation maps for the Western United States, which includes Marin County. (**Figure 12, page 57)**

A near-shore tsunami generated by an earthquake on the San Andreas Fault or the Cascadia Subduction Zone could arrive just 30 to 60 minutes after the initial shock. Marin County probably gives Northern California the clearest look at the San Andreas Fault's working. As the two continental plates grind together, rocks between them in the fault zone are ground up too. This is why much of the San Andreas' path is marked by long valleys, referred to as rift valleys. Tomales Bay is a flooded rift valley, and Point Reyes is the likely center of the greatest quake in California's history.

The Cascadia Subduction Zone is a very long sloping fault that stretches from mid-Vancouver to Northern California. Great Subduction Zone earthquakes are the largest earthquakes in the world and can exceed magnitude 9.0. In low lying areas along the Marin County coastline, strong shaking should be taken as a warning of a potential tsunami, and individuals should immediately move to higher ground.

When a tsunami warning message is generated, the Marin County Sheriff's Dispatch Center will receive the message and then relay it to appropriate agencies. The amount of available response time will vary depending on the location of the earthquake epicenter. There will usually be sufficient warning time for evacuation procedures. The importance of evacuating potential danger areas by all persons, including campers, sightseers, and emergency personnel cannot be overemphasized.

On the west side of the County, Highway 1 is the main route. If sections of Highway 1 are rendered impassable as a result of inundation damage, debris, or rock slides, post-incident response may be hampered and communities may be isolated for a period of time.

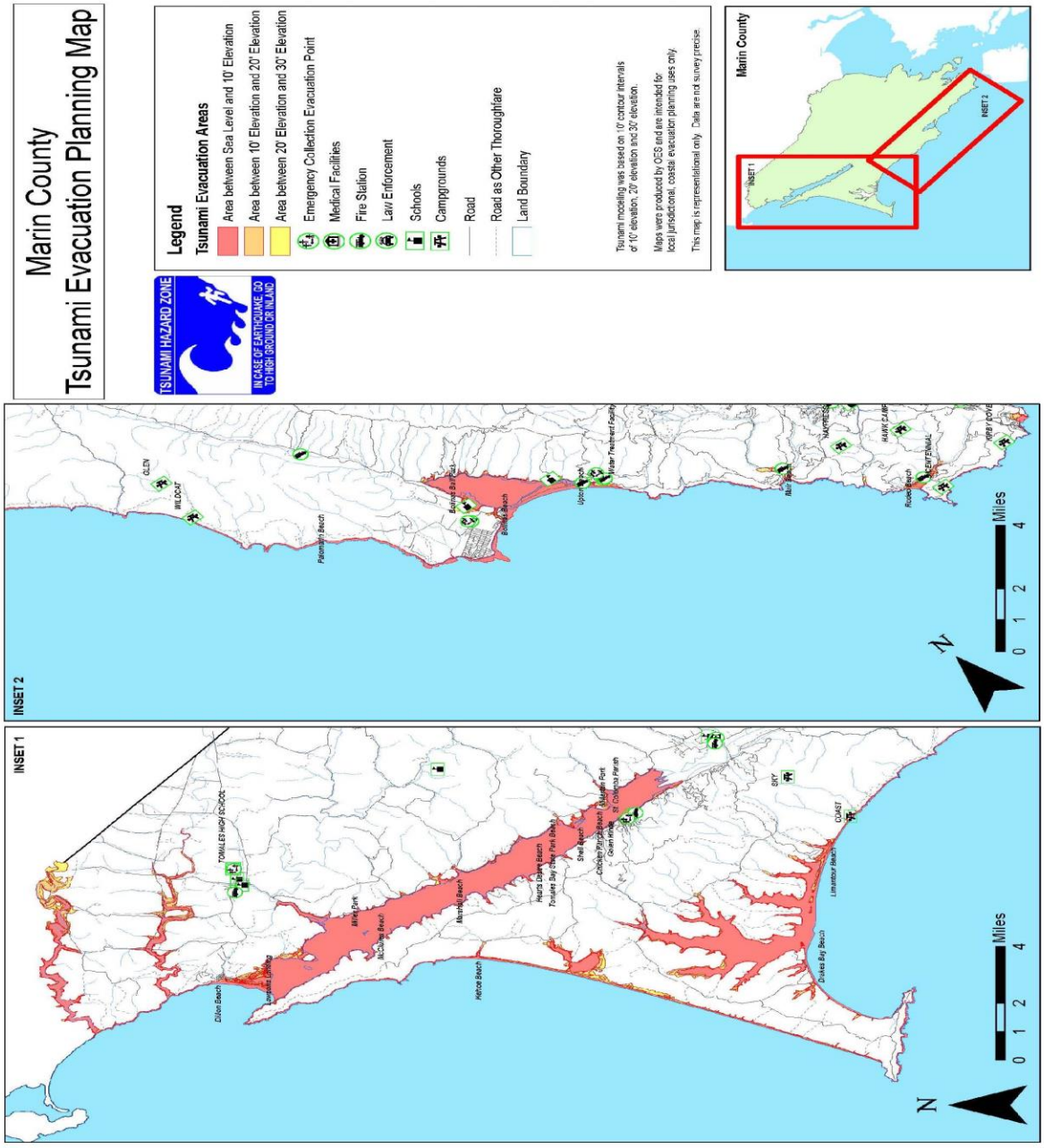


FIGURE 12: POTENTIAL TSUNAMI INUNDATION AREAS

ASSESSMENT 6: LANDSLIDE

GENERAL SITUATION

Landslides include all movements of soil, rock or debris as a result of falling, sliding or flowing. Landslides are categorized according to the types of motion and material involved. They can be directly caused by earthquakes or be completely independent of them.

Falls describe the sudden movement of material from vertical or near-vertical slopes, and are generally labeled by the type or material displaced (e.g., soil fall, rock fall).

Landslides tend to occur on steep slopes adjacent to foothill roads.

Slides refer to movements in which the material moves more or less as a unit along recognizable shear surfaces. If the shear surface is concave, the slide movement will be rotational, and is denoted by the term "slump". If the shear surface is flat, the term "slide" is used alone.

Flows describe the movement of material in which small-scale movements, rather than massive sliding, is the dominant mechanism of transport. Flows are described by the type of material involved and the rate at which it moves (e.g., debris flow, mudflow).

Landslides can occur due to both natural and human factors. Natural factors include the cohesive strength and characteristics of the affected minerals, the orientation of joints and planes of weakness between slide material and bedrock, the steepness of slopes, seismic activity, the degree of saturation of ground materials (highly affected by rainfall), and the density of vegetation. Human factors include the creation of excessively steep and overloaded slopes, the removal of natural vegetation, and the addition of water to the soil by watering lawns and septic system drain fields, and onsite creations of ponds for storm runoff.

Landslides will usually be associated with earthquakes or heavy rainfall. There are many identified sites where there is potential for slides within our county. Many threaten key highways. Some jurisdictions may be directly affected or simply isolated.

Landslides and debris flowing can damage or destroy buildings, block roads, sever utilities, disrupt water supplies, and injure or kill people. Damage control and emergency response operations may be seriously hampered by road closures and loss of communications. Evacuation of dangerous areas may become necessary. Extensive efforts may be needed to rescue trapped people, recover bodies, remove debris, and restore utilities and services.

SPECIFIC SITUATION

Landslides in Marin County tend to occur with the greatest frequency on steep slopes adjacent to foothill roads. With nearly every winter storm in the county, some landslide damage is incurred. Due to the 1998 storms, over $2.5M damages were caused due to landslides. One resident was killed in 2006 as a result of a slide in Mill Valley.

ASSESSMENT 7: DROUGHT

GENERAL SITUATION

A gradual phenomenon, drought often takes two or three consecutive winters with less than average precipitation, to produce any significant impacts. California has experienced major droughts in 1912-13, 1918-20, 1923-24, 1929-34, 1947-50, 1959-61, 1976-77, 1987-92, and 2013 - 2014.

Drought produces a variety of impacts that spans many sectors of the economy and reaches well beyond the area experiencing physical drought. Impacts are commonly referred to as direct or indirect. Reduced crop, rangeland, and forest productivity; increased fire hazard; reduced water levels; increased livestock and wildlife mortality rates; and rationing are a few examples of direct impacts. These problems can, in turn, produce others. For example, a reduction in crop, rangeland, and forest productivity may result in reduced income for farmers and agribusiness, increased prices for food and timber, unemployment, reduced tax revenues, increased crime, and foreclosures on bank loans to farmers and businesses.

SPECIFIC SITUATION

Marin County is very sensitive to the impacts of drought due to its growing population, dependence on fragile water sources, agricultural economic base and environmental concerns. Several Marin communities often see dramatic drops in their water supplies.

Drought of 1976-77
The drought of 1976-77 was the worst in the state's recent history due to the driest (1977) and fourth driest (1976) years on record. Statewide, California's average annual rainfall is 200,000,000 acre-feet. In 1977, precipitation totaled only 90,000,000 acre-feet, or 45 percent of average. This drought left California with dangerously low reservoir and ground water levels. Forty-seven (47) 47 of the state's fifty-eight (58) counties declared emergencies, and economic losses totaled $2.4 billion.

Drought of 2014
On January 17, 2014, with California facing water shortfalls in the driest year in recorded state history, Governor Edmond G. Brown Jr. proclaimed a State of Emergency and directed state officials to take all necessary actions to prepare for these drought conditions. In the State of Emergency declaration, Governor Brown directed state officials to assist farmers and communities that are economically impacted by dry conditions and to ensure the state can respond if Californians face drinking water shortages. The Governor also directed state agencies to use less water and hire more firefighters and initiated a greatly expanded water conservation public awareness campaign.

The 2014 drought response measures in Marin include drought resolutions, ordinances, and stringent reduction measure of water use on voluntary and mandatory basis. Local drought and water conservation programs throughout the county support the State Water Resource Control Regulations and Drought Emergency Rules.

Water sources
Marin County has two principal sources of water for domestic, commercial, industrial and agricultural use: the Mt. Tamalpais Watershed and water imported from the Russian and Eel Rivers. Some communities make use of limited groundwater sources. Additional water sources include diversions from small streams and reservoirs. Most West Marin communities depend completely on ground water pumping and storage of surface waters from rainfall and streams.

ASSESSMENT 8: CLIMATE CHANGE/SEA LEVEL RISE

GENERAL SITUATION

Climate disasters are on the rise. Around 70 percent of disasters are now climate related – up from around 50 percent from two decades ago. These disasters take a heavier human toll and come with a higher price tag. Over the next twenty years, we can expect more and intense climatic hazards everywhere. Particular at risk in Marin are our communities located in flood-prone areas. Anthropogenic climate change is projected to result in at least by a 2 degrees Celsius increase in temperature by 2100. Coastal ecosystems, including salt marshes, will be impacted by climate change through accelerating sea-level rise. Emergency management must consider the implications of climate change and the impacts from rising temperatures, increased storm intensity and frequency, rising sea levels, changing drought and fire risk along with impacting threats to human health and disease patterns.

ASSESSMENT 9: PUBLIC HEALTH CRISIS

GENERAL SITUATION

One of the gravest threats to the life safety of Marin County residents and visitors is posed by biological agents that occur naturally. Bacteria and viruses continue to evolve and spread. Drug-resistant strains of these pathogens also pose serious challenges to modern medicine. A public health crisis will immediately impact the breadth and width of emergency medical services.

In order to reduce costs, the medical community has worked to increase its efficiency by reducing or closing facilities, reducing staff, and relying on just-in-time inventory systems for medical supplies. This has resulted in an indirect reduction in the capacity to handle large-scale health events and an increased reliability on crisis response systems.

Public Health events are likely to impact whole regions and nations. Resources from outside Marin County may not be available. American society has not had to respond to a major health crisis in modern times. Existing concepts and response systems may be overwhelmed.

ASSESSMENT 10: EXTREME TEMPERATURE EVENT

GENERAL SITUATION

While Marin County enjoys a moderate climate year-round, the unexpected extremes of temperatures can be dangerous to segments of the population unable to take adequate measures to protect themselves. Extreme temperature increases the number of heat and cold-related injuries and can cause death. Marin County's Extreme Temperature Annex/Guide serves as a standard to help reduce the effects of extreme temperature events. [19]

[19] Marin County Extreme Temperature Emergency Annex/Guide, April 2010 provides notification and response operations

ASSESSMENT 11: HAZARDOUS MATERIALS INCIDENT

GENERAL SITUATION

A hazardous material is any substance that may be explosive, flammable, poisonous, corrosive, reactive, radioactive, or any combination thereof, because of its quantity, concentration, or characteristics. Hazardous materials require special care and handling because of the threats they pose to public health, safety, and the environment. The production, transportation, and use of hazardous materials have become a normal part of society.

Accidental releases of hazardous materials can be especially damaging when they occur in highly populated areas or along transportation routes which are used simultaneously by commuters and hazardous materials transports. Incidents are more likely to occur along highways and railways. Fixed facilities, such as manufacturing and light industrial facilities can cause hazardous materials incidents; however stringent safety requirements help to limit these.

Hazardous materials incidents in the urban areas of the county may require precautionary evacuations, or may require residents to shelter-in-place. Such events may produce many victims who are suffering from exposure to the agent or burns and require implementation of the county's Mass Casualty Incident (MCI) Plan.

SPECIFIC SITUATION

Marin County is not home to the large industrial complexes normally associated with high incidents of hazardous material emergencies. Marin County is served by one Hazardous Materials team. Due to traffic congestion, it is estimated that significant out-of-county assistance to Marin may be unavailable for a period of one to three hours - especially if the incident occurs at a peak traffic time.

Transportation Routes or Fixed Hazardous Materials Facilities

Hazardous materials incidents in Marin County would most likely occur on the transportation routes or at fixed hazardous materials sites within the various cities. Hazardous materials are often transported through the area on U.S. Highway 101 and State Route 37. Surface streets are also used for the local transportation of hazardous materials. The three hospitals located in Marin County use a variety of hazardous materials, radioactive materials, and solvents. They maintain current lists of the materials in their facilities.

Community Colleges and high schools have hazardous materials on-site, primarily flammable materials, corrosives, and poisonous materials. They are in smaller quantities, but could pose a threat to rescue efforts. Water treatment sites sometimes contain tanks of chlorine gas.

Agriculture

The large agriculture industry in Marin County is one potential source of hazardous materials incidents. Accidental release of pesticides, fertilizers, and other agricultural chemicals may pose short and long-term threats to public health and the environment. These materials are generally stored in remote rural areas but are often transported from one site to another.

Oil Spill
An oil spill can be a significant hazard to Marin County's ecosystems, including wildlife and environmentally sensitive sites. [20]

Sewage Spills
Sewage spills into the county's waterways or into the San Francisco Bay may cause significant contamination causing sickness to people who come in contact with those waters, as well as by sickness and distress to wildlife. Sewage spills are often caused by waste treatment facilities pumps and alarm failures, as well as by human errors.

Other Sources
Another source of hazardous materials incidents is the illegal manufacturing of drugs in clandestine laboratories. The residue and hazardous waste from these laboratories are usually dumped illegally, posing a public health and safety hazard and a threat to the environment. In many cases, criminals will conduct their activities in the midst of residential or commercial neighborhoods to remain hidden.

ASSESSMENT 12: TRANSPORTATION ACCIDENTS

GENERAL SITUATION

A major incident involving an airplane, truck, or train could result in numerous casualties and could significantly impact Marin County's transportation systems. The ability of emergency response teams to respond and transport victims to hospitals will be affected by the time of day and traffic congestion.

A major incident on any of the primary routes will produce road closures of at least four or more hours. Extensive search and rescue operations may be required to assist trapped and injured persons. Emergency medical care and temporary shelter would be required for injured or displaced persons. Identification, movement and temporary storage of any significant number of dead will be difficult. Families may be separated, particularly if the incident should occur during working hours. In some instances, the loss of communications and disruption of other essential services may hamper emergency operations.

Under certain circumstances, government effort will be required to remove debris and clear roadways, demolish unsafe structures, and assist in re-establishing public services. It may be necessary to provide continuing care and welfare for the affected population.

Each of these hazards could produce several secondary threats, such as a hazardous materials incident, fire, severe damage to nearby buildings or vehicles, loss of life in either adjacent buildings or vehicles and pedestrians.

Major accidents could involve an airplane crash, trucking incident or a train crash. The following assessments provide additional details unique to each type of incident:

[20] The Oil Spill Annex to the Marin OA EOP provides information and guidance that is specific to the oil spill threat to Marin. The annex establishes coordinated incident management and field-level procedures to be used in response to oil spill large enough to trigger the implementation of the San Francisco Bay and Delta's Area Contingency Plan

Aircraft Crash

General Situation

Often the impact of a disabled aircraft as it strikes the ground creates the potential for multiple explosions, resulting in intense fire. Wherever the crash occurs, the resulting explosion and fires have the potential to cause injuries, fatalities and the destruction of property. The time of day when the crash occurs may have a profound effect on the number of dead and injured. As well, an airplane crash produces profound mental health issues for survivors, surrounding residents, and emergency responders.

Specific Situation

Marin County has no commercial service airports with regularly scheduled air carrier passenger service. The Marin County Airport at Gnoss Field located in Novato is a regional general aviation airport. It is home to several charter companies with two airfields. The San Rafael Airport on Smith Ranch Road is a private general aviation airport with limited membership. The county lies along the West Coast air corridor and traffic patterns for Bay Area and Sacramento airports traverse our area. The crash of a small (light) aircraft would result in obvious issues if the incident took place near heavily-populated areas. In remote areas, the rugged terrain could make access and communications difficult.

A far more significant event would be the crash of an airliner occurring in our county. A large area could be affected with falling parts, burning fuel and destroyed buildings. Many state and federal agencies would respond to the scene in a very short period, and media attention would be intense.

Major Vehicle/Trucking Accident

General Situation

A major vehicular truck accident that occurs in a heavily-populated industrial area or residential area can result in considerable loss of life and property. Potential hazards could be overturned tank trailers, direct impact either into a residence or industrial building, or cutting into the normal flow of traffic.

Specific Situation

The main transportation arteries through Marin County are U.S. Highway 101 and State Route 37. These routes are heavily used most hours of the day. The control of vehicular traffic in and around an affected by a multi-casualty or hazardous materials incident will be the primary problem at any time.

In many areas of Marin there are few, if any, good alternate routes to these main arteries. During commute hours, the problem will be severely compounded. It will be essential to expedite the flow of essential emergency response vehicles through the area and divert nonessential traffic. In a major accident, it is not uncommon for these roads to close for most of a day to support rescue, recovery and accident investigation activities.

In a major disaster, increased reliance on goods and equipment being trucked into the county, combined with restricted or damaged roads, could result in a greater chance for a major accident.

Train Crash

General Situation

A major train derailment that occurs in a heavily populated industrial area can result in considerable loss of life and property. As a train leaves its track, there is no longer any control as to the direction it will travel. Potential hazards could include overturned rail cars, hazardous materials incidents, impact to an industrial building, or entering into normal street traffic.

Train accidents could be caused by derailment, an accident with a vehicle at a crossing, an accident with a pedestrian at a crossing, a collision with another train, or an explosion or fire in or near the train. Any hazardous materials carried by the train as freight or in another impacted vehicle could substantially complicate response actions and require that the situation be monitored until all debris is removed. There would be a great number of agencies responding to the scene. Traffic control and resource management will be difficult but essential to maintain. Schools near the site may be isolated or be called upon to evacuate immediately. Media attention can be expected to be significant.

Specific Situation

Marin County is served by the North Coast Rail Authority (NCRA). Rail passenger service was largely discontinued in mid-1950 including rail freight service is also currently discontinued. However, the Sonoma-Marin Area Rail Transit (SMART) passenger train will provide rail service along 70 miles of the Northwestern Pacific Railroad Alignment with about one third of the rail existing within Marin County. Phase One of the SMART train is anticipated to be completed by 2015. [21]

ASSESSMENT 13: DAM FAILURE

GENERAL SITUATION

Dam failure is the collapse or failure of an impoundment that causes significant downstream flooding. The most common cause of dam failure is overtopping where the water behind the dam flows over the face of the dam and erodes the structure. This is most common during heavy rainstorms.

The collapse and structural failure of a dam may be caused by a severe storm, earthquakes, internal erosion of piping and foundation leakage. Seismic activity may also cause inundation by the action of a seismically-induced wave from the water in the dam that overtops the dam without causing failure of the dam, but still floods downstream. Landslides flowing into a lake may also cause a dam to fail or overflow. The principle consequences of dam failure are injury, loss of life, and significant downstream property damage.

[21] Phase One construction season for 2014 includes railroad segments from Petaluma to San Rafael and north from Guerneville Road to Airport Boulevard in Santa Rosa

SPECIFIC SITUATION

Dam inundation, or flooding which occurs as a result of structural failure of a dam, poses a serious threat to specific areas within Marin County. Although there is no history of major dam failure in the area, any failure at all could have serious impacts. Marin County's dams include: Alpine, Bear Valley, Belvedere, Bon Tempe, Cascade, Docini, Hagmaier North, Hagmaier South, Home Ranch, Kehoe, Lagunitas, Lower Estero, Lower Muddy Hollow, Lower Murphy, Mill Pond, Lower Turney, Nicasio, Novato Creek, Novato Creek 88 at Stafford Lake, Peters, Phoenix Lake, Soulajule, Vonsen, and Walker Creek.

Failure of these dams, even during a catastrophic event such as a severe earthquake, is considered very unlikely. Owing to the method of construction of these dams, they have performed well in past earthquakes, and failure is not expected to occur. Detailed dam maps are available at the Marin County Community Development Agency.

Additionally, there are numerous "agricultural" ponds in the county, which can be considered as threats. If these ponds should break, they could damage homes or roads, but not on as large a scale as with dams. The State of California Office of Emergency Services is currently in the process of identifying all ponds and dams and evaluating their risk to all residents, not just to owners.

The vast majority of these dams and ponds are not constantly monitored. Therefore, detection of any problems such as leaking or overflowing will depend upon the owner and local residents. Marin Sheriff's OES uses the TENS system to notify and alert those who are in a potential dam inundation zones when inundation and flooding is imminent.

ASSESSMENT 14: ENERGY DISRUPTION

GENERAL SITUATION

Modern society has increasingly grown dependent on technologies which use various sources of energy. Events in the last 40 years have underscored the major impacts that a disruption in the energy supply can have:

- The major Arab Oil Embargo in 1973 led to significant economic and political changes including increased domestic oil production, additional investment in alternative energy sources, inflation, and a marked reduction in the Gross National Product.
- The California electrical shortages of 2001 resulted in the use of rotating electrical outages, also known as rolling blackouts. This crisis created a great deal of confusion, loss of power, increased utility rates, and negatively impacted the state budget.

Fossil Fuels

This includes natural gas, oil, and gasoline. Disruptions in the supply of these resources would immediately cause serious problems in transportation, electrical generation, business, and communications, and would cause prices for most goods and services to rise dramatically.

Electrical Power

A power failure is any interruption or loss of electrical service due to disruption of power generation or transmission caused by an accident, sabotage, natural hazard, equipment failure, or fuel shortage. These interruptions can last anywhere from a few seconds to several days. Power failures are considered significant problems only if the local emergency management organization is required to coordinate the provision of things such as food, water, and heating as a result. Power failures are common when severe weather and winter storm activity occur. Critical systems, including telecommunications, will fail unless provided with alternate or redundant power sources.

SPECIFIC SITUATION

Marin County does not manufacture any petroleum products. The majority of these products are imported from Bay Area refineries. A natural gas pipeline feeds the majority of the population along the U.S. Highway 101 corridor.

ASSESSMENT 15: RADIOLOGIAL INCIDENT

GENERAL SITUATION

Depending upon the type, location, and quantity released, nuclear (radiological) materials can damage human health, the environment, and property. Such an accidental release is extremely rare. Commercial nuclear plants began generating power in 1957. The United States has had only one major incident that occurred at the Three Mile Island facility near Harrisburg, Pennsylvania in 1979. Other minor incidents have occurred, but these have been infrequent and have caused few off-site consequences.

Common sources of radiological materials include those used in medical procedures, research, industrial production, and construction.

It is important to note that a radiological event differs from a regular Hazardous Materials spill in that the affected area could be large; radioactivity is difficult to detect; specialized equipment is required to pinpoint sources; and clean up may require tremendous resources. Long-term effects may be difficult to determine. Public perception will play a critical role in the incident. Media coverage of such an event will be massive. Federal agencies will play a key role in managing response and recovery efforts.

Generally, shielding, limited exposure time, and increased distance from the source are the keys to effective mitigation and response.

SPECIFIC SITUATION

Marin County is a combination suburban/rural area, removed from the multiple risks of nuclear (radiological) materials emergencies normally associated with a more urban environment. Only a few sites (medical facilities and hospitals) use such materials - and these are considered a relatively low-level threat. As U.S. Highway 101 is the primary north/south corridor for California's North Coast, some industrial and medical grade radiological materials are transported on this route.

ASSESSMENT 16: TERRORISM

GENERAL SITUATION

The Federal Bureau of Investigation (FBI) defines terrorism as "the unlawful use of force against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in the furtherance of political or social objectives." Since the events of September 11, 2001, a significant increase in the assessment and preparation for terrorism has been a national priority.

Terrorism can be state-sponsored or the outgrowth of a frustrated, extremist fringe of polarized and/or minority groups of people. Extremists have a different concept of morality than does mainstream society. Terrorist groups include:

- Ethnic separatists and political refugees
- Leftwing radical organizations
- Rightwing racists, anti-authority survivalist groups
- Extremist issue-oriented groups such as animal rights, the environmental, religion, abortion rights, etc.

Terrorist events could typically be expected to strike in urban areas near public gatherings, government facilities, or highly visible areas, but no one area is less likely to be a target than any other. Communities are vulnerable to terrorist incidents and many have high visibility and vulnerable targets. These facilities, sites, systems, and special events in the community are usually located near routes with high transportation access. Examples include:

- Government office buildings, courthouses, schools, hospitals, and shopping centers
- Dams, water supplies, and power distribution systems
- Military installations
- Railheads, interstate highways, tunnels, airports, ferries, bridges, seaports, pipelines
- Recreational facilities such as stadiums, theaters, parks, casinos, concert halls
- Financial institutions and banks
- Sites of historical and symbolic significance
- Scientific research facilities, academic institutions, museums
- Telecommunications, newspapers, radio and television stations
- Chemical, industrial, and petroleum plants, business offices, and convention centers
- Law, fire, emergency medical services facilities, and operations centers
- Special events, parades, religious services, festivals, celebrations
- Family planning facilities

Weapons of Mass Destruction

Experts generally agree that there are five categories of Weapons of Mass Destruction (WMD) which terrorists could use: Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE). It is important to note that developing and properly employing such weapons is very difficult - but not impossible. Each category of weapon is discussed below:

- Chemical agents are compounds with unique chemical properties that produce lethal or damaging effects in humans, animals, and plants. Chemical agents can exist as solids, liquids, or gases. Most chemical agents are in liquid form and

can be introduced into the unprotected population relatively easily by using aerosol generators, explosive devices, breaking containers, or other forms of covert dissemination. Dispersed as an aerosol, chemical agents have their greatest potential for inflicting mass casualties.

- Biological agents pose a serious threat because of their accessible nature and the rapid manner in which they spread. These agents are disseminated by the use of aerosols, contaminated food or water supplies, direct skin contact, or injection. Several biological agents that could be adapted for use by terrorists include anthrax, tularemia (rabbit fever), cholera, the plague, botulism, and pandemic flu. A biological incident will most likely be first recognized in the hospital emergency room, the medical examiner's office, or within the public health community long after the terrorist attack. The consequences of such an attack will present communities with an unprecedented requirement to provide mass protective treatment to exposed populations, mass patient care, mass fatality management, and environmental health clean-up plans and procedures.

- A radiological Weapon of Mass Destruction either involves the detonation of a large conventional explosive that incorporates nuclear material, or the detonation of an explosive in close proximity to nuclear materials in use, storage, or transit.

- A nuclear threat is the use or threatened detonation of a nuclear bomb or device. At present, there is no known instance of any non-governmental entity having the ability to obtain or produce nuclear weapons.

- Explosive incidents account for 70 percent of all terrorist attacks worldwide. Bombs are the terrorist's weapon of choice. The Internet and local libraries provide ample information on the design and construction of explosive devices. The FBI reported that 3,163 bombing incidents occurred in the United States in 1994, 77 percent were due to explosives. Residential properties are the bombers' most common targets.

Cyber Terrorism

In addition to WMD attacks, cyber terrorism is a relatively new phenomenon used to potentially disrupt our society and exploit our increasing reliance on computers and telecommunication networks. Cyber terrorism threatens the electronic infrastructure supporting the social, health, and economic well-being of our communities. Interlinked computer networks regulate the flow of power, water, financial services, medical care, telecommunication networks, and transportation systems.

SPECIFIC SITUATION

Some smaller terrorist attacks have occurred in Marin County Most notably, in 1970, a murder and kidnapping case in a Marin County Courthouse shooting, which was triggered by extremist political issues, left four dead, including a Marin County Judge. The county and the jurisdictions within its boundaries remain vulnerable to the threat of terrorism. All public facilities are considered subject to a terrorist attack. The San Francisco Bay Area contains many high profile sites and buildings which are considered potential terrorist targets. Therefore, even though Marin County may not suffer such an attack, it is likely that it will be asked to provide support to this major metropolitan area that has been impacted. Another consideration is the potential for large numbers of the public to move from the impacted area due to actual or perceived dangers.

The federal and state response to terrorist activities has been intense since the attack of September 11, 2001. Emergency

Management actions have centered on terrorist threat assessment, planning, grant administration, and training. Detailed terrorism threat assessments for the County and the State of California have been completed and are considered confidential.

ASSESSMENT 17: CIVIL DISTURBANCE

GENERAL SITUATION

Civil disturbance includes incidents that are intended to disrupt a community to the degree that law enforcement intervention is required to maintain public safety. Civil disturbances are generally associated with controversial political, judicial, or economic issues and/or events. The effects of civil disturbances could include traffic congestion or gridlock, illegal assemblies, disruption of utility service, property damage, injuries and potential loss of life. This is in contrast to Civil Disobedience.

SPECIFIC SITUATION

The County of Marin has experienced minor civil disturbances in several of its cities and in the unincorporated areas. In the future, protest events tied to world economic and environmental issues could potentially produce a situation for larger civil disturbances to occur.

ASSESSMENT 18: NATIONAL SECURITY EMERGENCY

GENERAL SITUATION

A national defense emergency will normally be announced by the Federal government; however, unless there is a sudden, unprovoked attack, there should be some time available for planning and initiation of evacuation procedures. It is not the duty of civil authorities to fight the war, but rather to control and care for the local population. Local and state authorities under a "State of War" have not been exercised since the Second World War Two.

Potential impacts of a national security emergency include:

Military Call-up and Activity
A major national defense emergency would require the activation of the Military Reserve Forces and the National Guard. Members of those organizations would be called to duty. Their service in the federal government takes precedence over local authority. There would be no trained replacement personnel immediately available. This would affect government agencies at all levels, and organizational restructuring might be necessary. There are very few military installations in the region which would deploy troops. However, movement through the area could place a great deal of strain on major highways and local resources.

Civilian Activity
The civilian population may also be immediately affected by a declaration of a national emergency. Most certainly there will be a significant portion of the population which would try to evacuate the area in advance. This could produce some civil disobedience. Employee safety could become a significant concern.

Outright War or Attack

An attack upon the United States (either conventional or nuclear) is extremely unlikely. The potential for such an event, however, does exist. Although the chances of a massive nuclear strike on the U.S. have greatly diminished, several countries throughout the world have developed, or are seeking to develop the capability of deploying nuclear weapons, either on a tactical

basis or a strategic one. Additionally, the possibility exists that a terrorist organization might acquire the capability of creating a small nuclear detonation. A single nuclear detonation in the United States would likely produce fallout affecting an area many times greater than that of the blast itself.

In the event of a conflict involving the major world powers, an attack on the Bay Area would be an almost certainty. In most probability, the attack would come from missiles with nuclear warheads. An attack on the coast by amphibious forces is unlikely. This is normally the responsibility of the federal agencies; however, protection of municipal facilities and resources would be an important consideration.

There are several "strategic" targets in the Bay Area which are or would be targeted for a nuclear strike. In addition to the military installations, defense production and communications-related civilian activities may be designated as targets. Destruction would be complete in many areas and all normal sources of power and water will cease to exist. The surviving population would flee the area by any means possible. Areas not directly affected by the blast of weapons will suffer the effects of radioactive particulate dispersed into the atmosphere.

In the event of a massive attack, no help would be received from outside agencies for a prolonged period of time. It would be the responsibility of law enforcement to restore order and the job of the entire government to re-assert its authority and re-establish any systems possible to aid in the placement and care of refugees as well as local citizens.

ASSESSMENT 19: SECURITY RELATED THREATS

GENERAL SITUATION

Whether a disaster is the result of natural or manmade circumstances, our communities are vulnerable not only to the destructive effects of those disasters, but to the related threats that may be caused by increased vulnerability to crime, violence, cyber-attacks, toxic environments and general human security (economic, food, health, personal, political).

PART THREE: APPENDICES

APPENDIX A: EOP ANNEXES

The Marin Operational Area Emergency Operations Plan (EOP) is supplemented with numerous threat specific annexes. These documents provide information or additional detail for hazards or response functions that cannot be included in the EOP. The list below indicates current EOP Annexes. As annexes are updated and additional annexes created, the Marin Operational Area Access and Functional Needs Planning Guidance provides guidance to help ensure that functional needs are addressed during disasters and that equal access to services are provided to all Marin County residents. [22]

- Post-Disaster Housing Annex — December 2003
- Spontaneous Volunteer Annex — September 2005
- Bioterrorism Annex — September 2005
- Tsunami Annex/updated final draft — October, 2014
- Medical/Health Annex — November 2006
- Oil Spill Annex — April 2006
- Extreme Temperature Annex — April 2010
- Mass Fatality Annex (Marin specific/Regional Plan) — January 2013
- Mass Care and Sheltering Annex (Marin specific/Regional Plan) — August 2014

EMERGENCY SUPPORT FUNCTIONS

In addition to EOP Annexes and a variety of Support Plans and Documents to the EOP, the Federal Emergency Support Functions ESFs) provide the structure for planning for coordinated federal, state, and local agencies support for a response to an incident. They are a key component to an all-hazards emergency management approach to ensure effective collaboration during all phases of emergency management.

The Incident Command Systems (ICS) provides for the flexibility to assign and ESFs and other stakeholder resources according to capabilities and tasking.

[22] The Marin County Access and Functional Needs Planning Guidance 2011 provides information and guidance specific to response-related issues for people with functional needs

The ESF's capabilities were primarily designed to provide improved coordination with all levels of government, agencies and private sector in in order to respond to incidents in a more collaborative, cross-cutting, and effective manner.

ESF'S SERVICES PROVIDE:

- Support
- Resources
- Life saving
- Environment protection
- Restoration of essential services
- Restoration of critical infrastructure
- Help victims and communities to return to normal

BENEFITS INCLUDE:

- Improves communications among partners
- Enhances sharing of assets the Federal or State government already own
- Reduces duplication of efforts
- Promotes efficient response and recovery
- Advocates continuity of operations
- Supports hazard mitigation efforts

The United States National Response Framework (NRF) is part of the National Strategy for Homeland Security that presents the guiding principles enabling all levels of domestic response partners to prepare for and provide a unified national response to disasters and emergencies. Building on SEMS/NIMS and ICS, the NRF's coordinating structures are always in effect for any level and any time for local, state, and national emergency or disaster response.

NRF annexes include specific protocols, roles, and responsibilities for each ESF listed below. [23]To facilitate effective operations, the Marin County Emergency Management adopts a functional approach that groups the types of assistance into ESFs, each headed by a lead agency or organization which has been selected based on its authority, resources and capabilities in that functional area. The chart below depicts each ESRF and the designated lead agency/organization:

ESF	Function	Lead Agency
1	Transportation	Marin County Transit
2	Communications	Marin County Sheriff's OES
3	Public Works	Marin County DPW
4	Fire Fighting	Marin County Fire
5	Emergency Management	Marin County Sheriff's OES

[23] Federal Emergency support function annexes www.fema.gov

6	Mass Care	Marin County HHS/Social Services
7	Logistics and Resource Support	Marin County Purchasing
8	Public Health and Medical	Marin County Public Health and EMS
9	Search and Rescue	Marin County SAR and USAR
10	Hazardous Materials/Environmental Protection	Marin County Environmental Health
11	Agriculture/Natural Resources	Marin County Agriculture Commissioner's Office
12	Fuel/Energy	Marin County Environmental Protection/Community Development Agency
13	Volunteers and Donations	CVNL
14	Military Support	California National Guard
15	Public Information	Marin County Sheriff's OES
16	Law Enforcement and Security	Marin County Sheriff
17	Animal Issues	Marin County Humane Society
18	Business Industry and Economic	Marin Economic Forum

APPENDIX B: AUTHORITIES AND REFERENCES:

The California Emergency Services Act, Cal. Gov't Code Sec. 8550-8668, Title 2, Div. 1, ch. 7, hereafter referred to as, "The Act", provides the basic authorities for conducting emergency operations following a proclamation of Local Emergency, State of Emergency or State of War Emergency by the Governor and/or appropriate local authorities, consistent with the provisions of the Act.

The Standardized Emergency Management System (SEMS) Regulations, Cal. Gov't Code Sec. 8607, Title 19, Div. 2, ch. 7, article 9.5, establishes SEMS to provide an effective response to multi-agency and multi-jurisdiction emergencies in California.

Homeland Security Presidential Directive (HSPD-5) gives the Secretary of Homeland Security the responsibility of developing and administering the National Incident Management System (NIMS).

The California Emergency Plan, which is promulgated by the Governor, is published in accordance with the Act and provides overall statewide authorities and responsibilities, and describes the functions and operations of government at all levels during extraordinary emergencies, including wartime. Section 8568 of the Act states, in part, that "the State Emergency Plan shall be in effect in each political subdivision of the state, and the governing body of each political subdivision shall take such action as may be necessary to carry out the provisions thereof". Local emergency plans are, therefore, considered to be extensions of the California Emergency Plan.

The National Response Plan (NRP) establishes a single, comprehensive approach to domestic incident management to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies. The NRP is an all-hazards plan built on the template of the National Incident Management System (NIMS). The NRP can be partially or fully implemented in the context of a threat, anticipation of a significant event, or in response to an incident requiring a coordinated

Federal response. The NRP applies to all incidents requiring a coordinated Federal response as part of an appropriate combination of Federal, State, local, tribal, private-sector, and nongovernmental entities. The NRP is always in effect; however, the implementation of NRP coordination mechanisms is flexible and scalable.

The California Civil and Government Codes contain several references to liability release (Good Samaritan Act) for those providing emergency services.

FEDERAL

Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Pub. L. No. 93-288, as amended, 42 U.S.C. 5121-5207)

Federal Departments and agencies HSPD-5 requirements for adoption of NIMS by State and local organizations

The National Response Plan (NRP) is a national plan to emergencies such as natural disasters or terrorist attacks. It came into effect in December 2004, and was superseded the National Response Framework in March 2008.

NRT-1, Hazardous Materials Emergency Planning Guide and NRT-1A Plan Review Guide (Environmental Protection Agency's National Response Team)

Americans with Disabilities Act of 1990 (ADA) (Pub. L. No. 101-336, Sec. 2, as amended, 42 U.S.C. 12101-12213)

STATE

California Emergency Services Act (Cal. Gov't Code Sec. 8550-8668, Title 2, Div. 1, ch. 7)

Standardized Emergency Management System (SEMS) Regulations (Cal. Gov't Code Sec. 8607, Title 19, Div. 2, ch. 7, article 9.5)

Preservation of Local Government (Cal. Gov't Code Sec. 8635-8644, Title 2, Div. 1, ch. 7, article 15)

Temporary County Seats, (Cal. Gov't Code Sec. 23600, Title 3, Div. 1, ch. 4, article 1)

Standardized Emergency Management System (SEMS) Guidelines

'Good Samaritan' Liability

California Emergency Operations Plan

California Hazardous Materials Incident Contingency Plan

Hazardous Waste Control Definitions (Cal. H&S Code, Sec. 25115, 25117, Div. 20, ch. 6.5, article 2)

Hazardous Materials Release Response Plans and Inventory (Cal. H&S Code, Sec. 25500 et seq., Div. 20, ch. 6.95)

Orders and Regulations which may be Selectively Promulgated by the Governor during a State of Emergency

Orders and Regulations Promulgated by the Governor to Take Effect upon the Existence of a State of War Emergency

California Master Mutual Aid Agreement

California Law Enforcement Mutual Aid Plan

California Fire and Rescue Operations Plan

Judicial System, Article VI, Section 1, 4, 5, and 10, of the Constitution of California

Local Government, Article XI, of the Constitution of California

AMERICANS WITH DISABILITIES ACT

All operations and facilities involved in the disaster response activities shall take special note of the Americans with Disabilities Act of 1990 (ADA). Appropriate efforts shall be made to insure that necessary considerations are given to accommodate victims with disabilities. Public warning, emergency communications, transportation, and sheltering are areas that require special attention.

APPENDIX C: ACRONYMS

AAR	After Action Report
ACS	Auxiliary Communications Service
ADA	Americans with Disabilities Act
ARC	American Red Cross
BOS	Board of Supervisors
C&S	Care and Shelter
CSD	Community Services District
CAD	Computer Aided Dispatch
CalFire	California Fire
CalTrans	California Department of Transportation
CAO	Chief Administrative Officer
CAP	Corrective Action Plan
CBRNE	Chemical, Biological, Radiological, Nuclear and Explosive
CDF	California Department of Fire
CERT	Community Emergency Response Team
CHP	California Highway Patrol
CVNL	Center for Volunteer and Nonprofit Leadership
DC3	Disaster & Citizens Corps Council
DPW	Department of Public Works
EAS	Emergency Alert System
EDIS	Emergency Digital Information System
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EOP	Emergency Operations Plan/Emergency Operating Procedures
EPA	Environmental Protection Agency
FBI	Federal Bureau of Investigation
FD	Fire Department

FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
HEART	Homeowner Emergency Action Response Team
HSPD-5	Homeland Security Presidential Directive -5
ICS	Incident Command System
JIC	Joint Information Center
MACC	Multi-Agency Coordination Center
MCI	Mass Casualty Incident
MIDC	Marin Interagency Disaster Coalition
MMWD	Marin Municipal Water District
MEANS	Marin Emergency Automated Notification System
MHOAC	Medical Health Operational Area Coordinator
MMRC	Marin Medical Reserve Corps
NMWD	North Marin Municipal Water District
NIMS	National Incident Management System
NOOA	National Oceanic and Atmospheric Administration
NRP	National Response Plan
OA	Operational Area
OASIS	Operational Area Satellite Information System
OHS	Office of Homeland Security
PHO	Public Health Officer
PIO	Public Information Officer
RACES	Radio Amateur Civil Emergency Services
REOC	Regional Emergency Operations Center
SMART	Sonoma Marin Area Rail Transit
SEMS	Standardized Emergency Management System
SOC	State Operations Center
SOP	Standard Operating Procedures
TSA	The Salvation Army
WMD	Telephone Emergency Notification System
WEB EOC	Web Based Emergency Operations Center
WMD	Weapons of Mass Destruction
WMD	Weapons of Mass Destruction