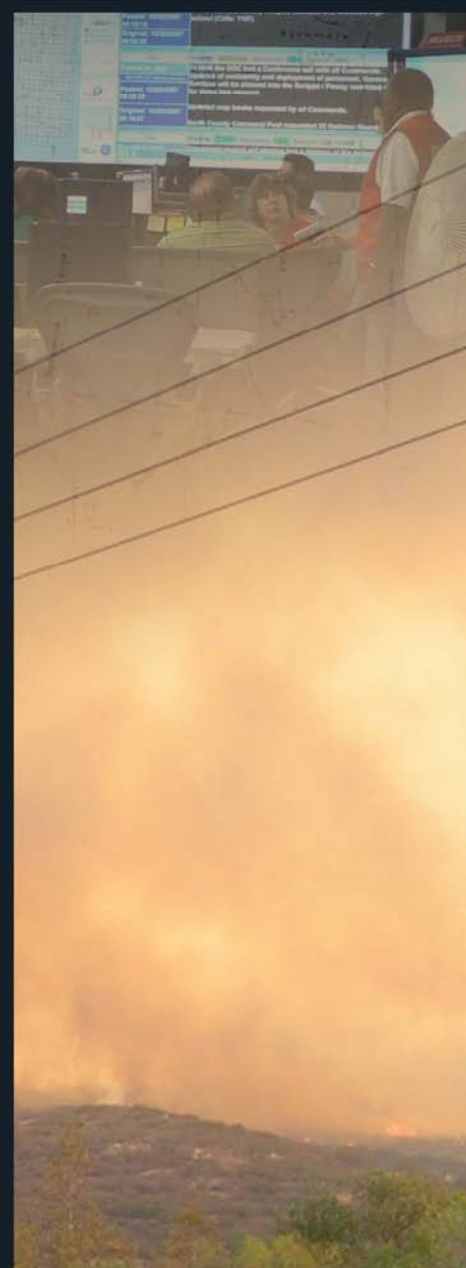
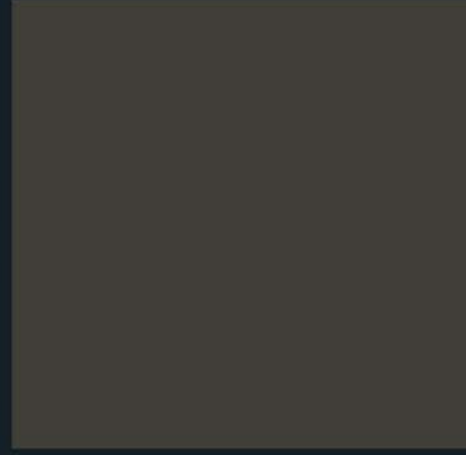


2007 San Diego County Firestorms After Action Report



County of San Diego

2007 Firestorms After Action Report

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February 2007

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EXECUTIVE SUMMARY

The 2007 San Diego County Firestorms were the largest in county history, far surpassing the 2003 Firestorms in terms of intensity and duration. As a result of extensive planning, equipment procurement, training, and exercises in the years since 2003, the response by San Diego County went exceptionally well. Based on the lessons learned and identified in the 2003 San Diego County Firestorms After Action Report (AAR), significant adjustments and improvements were made to overall county operations, including enhancements to the Operational Area Emergency Operations Center (OAEOC) and revision and development of county plans. This AAR is intended to serve as an asset to further enhance San Diego County's ability to respond effectively and minimize life and property loss to disasters such as the 2007 fires.



Due to forecasted Santa Ana winds and ongoing drought, the San Diego County Office of Emergency Services (OES) and other regional partner agencies initiated preparation for potential wildland fires the week prior to the start of the firestorm. The 2007 fires began at approximately 0923 Pacific Standard Time (PST) on October 21, 2007, near the U.S./Mexico border with the Harris Fire. At the height of the firestorms, there were seven separate fires burning in San Diego County, including the Witch Creek, Rice Canyon, and Poomacha fires. The seven fires resulted in 10 civilian deaths, 23 civilian injuries, and 89

firefighter injuries—more than 6,200 fire personnel fought to control the wildland fires. The fires consumed approximately 369,000 acres or about 13% of the county's total land mass.

Additionally, the fires destroyed an estimated 1,600 homes; 800 outbuildings; 253 structures; 239 vehicles; and 2 commercial properties. To date, the costs incurred to contain the Harris, Witch Creek, Rice Canyon, and Poomacha fires are estimated at \$41.3 million. The total projected damage costs are expected to exceed \$1.5 billion.

The OAEOC was initially activated at 1116 PST on October 21, 2007, in response to the Harris Fire. With the onset of the Witch Creek Fire, a full Level 3 activation was achieved at approximately 1602 PST. Personnel from more than 60 disciplines were present in the OAEOC during the fires and represented Federal, State, and local departments and agencies. The OAEOC improved its infrastructure through technological enhancements, including the purchase and implementation of WebEOC, a real-time, web-based emergency management system, and Reverse 911 and AlertSanDiego, two automated telephone delivery systems used throughout the county for emergency and evacuation notifications. Also, the OAEOC underwent a staffing reorganization to provide for a more seamless emergency response.



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During the 2007 fires, newly developed county, city, and community evacuation plans were implemented for the first time. These plans were used to assist the San Diego County Sheriff's Department in issuing evacuation orders for an estimated 515,000 county residents through the use of the Reverse 911 and AlertSanDiego mass-notification systems. This resulted in the largest single fire evacuation in the Nation's history. Furthermore, through the use of the mass-notification systems, 28 boil-water orders were issued to approximately 7,000 residents.

During the disaster, the Joint Information Center (JIC), in coordination with the OAEOC, and 211 San Diego, a non-profit organization, provided critical emergency information directly to the public. The JIC successfully disseminated more than 200 press releases and collaborated with regional partners to conduct routine press conferences. Information was also distributed through the use of numerous media outlets including the www.sdcountyemergency.com website, which received approximately 10 million visitors. In addition, 211 San Diego answered approximately 109,000 calls and assisted with rumor control activities.



With more than 7,000 volunteers and a significant amount of donations, volunteer organizations—along with municipal, State, and Federal agencies—operated 45 shelters throughout the county, including two mega-shelters: one at Qualcomm Stadium and the other at Del Mar Fairgrounds. In addition, approximately 400 animals were brought into three county animal shelters; more than 3,000 animals were rescued, relocated, temporarily housed, and returned to owners; and an estimated 5,000 animals per day were fed and cared for at evacuated owners' properties for up to 5 days after the disaster.

The short-term recovery process commenced shortly after the response to provide financial assistance, damage assessments, and the eventual establishment of four county Local Assistance Centers (LACs). The LACs provided 24,000 residents with financial and temporary housing information assistance. The arrival of Federal Emergency Management Agency (FEMA) representatives enabled the county LACs to transition to Federal Assistance Centers.

Several memorandums of understanding (MOUs) and memorandums of agreement (MOAs) were developed to further coordination and cooperation among regional partners. These included, but were not limited to, agreements between the San Diego County OES and California Department of Forestry and Fire Protection (CAL FIRE) to provide fire liaisons to the OAEOC, and the San Diego County Geographical Information Service (GIS) and the National Aeronautics and Space Administration (NASA) for the sharing of sophisticated imagery technologies. Additionally, the Emergency Managers Mutual Aid (EMMA) agreement was refined, resulting in less resistance to requests for additional emergency management personnel.



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Continued cooperation among regional partners contributed to significant successes during the 2007 fires. These successes include an organized response from the OAEOC; multiple sources for evacuation and critical Internet-based disaster information; pre-mapping of evacuation routes using GIS technology; the use of WebEOC, a web-enabled crisis information management system, as a “virtual liaison;” military liaisons who provided a conduit to a variety of critical resources, such as aerial reconnaissance; the ability to coordinate and disseminate timely public information; and the establishment and operation of numerous shelters.



Areas for improvement include continued integration of the Medical Operations Center (MOC) functional role; increased information sharing among several county agencies; additional training on WebEOC and other technological resources; volunteer and donations management coordination; the formation of a formal repopulation plan; and further development of critical MOUs/MOAs.

Recommendations include reviewing initial fire notifications with OAEOC personnel; reviewing the length of operational periods; continuing to develop information sharing and personnel management systems used during disasters; formalizing sheltering MOUs/MOAs that include the pre-positioning of shelter supplies; and clarifying reimbursement and documentation responsibilities within county departments.

Overall, San Diego County’s response to the 2007 fires was efficient, effective, and successful. Through increased preparedness efforts, regional collaboration and cooperation, and the ability to adapt to changing fire activities, county personnel were able to effectively respond to the largest disaster in county history.

NEXT STEPS

This AAR provides a depiction of the events of the 2007 San Diego County Firestorms, and a starting point from which lessons learned in this tragedy can be incorporated into emergency management plans and processes.

This AAR does not specifically address the much-discussed issue of fire agency consolidation within San Diego County. Consolidation is an important issue, and a discussion that should continue. However, the true merits of consolidation are based on day-to-day fire and medical response, including regional service levels and response times. The unique magnitude of the 2007 fires, which required the response of more than 5,000 firefighters, 100 aircraft, and 5 incident management teams, makes it impractical to evaluate consolidation in relationship to this particular fire response.



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Additionally, this AAR does not review the firefighting activities overseen by the individual CAL FIRE Incident Management Teams for each of the fires. CAL FIRE is creating its own internal AAR, which will review these activities in detail. The San Diego region is appreciative of all the tireless and heroic efforts of firefighters from across California and the Nation that assisted in the 2007 San Diego County Firestorms.

At a high level, a careful review of the events of the 2007 fires, as well as a review of this AAR, suggests three distinct steps to be taken by the San Diego County region: implement the recommendations of this report; implement a regional master fuel management plan; and continue to improve regional fire resources. These steps are further explained in the following paragraphs:



1. Implement the recommendations of this report. The AARs for the 2003 Cedar Fires, published in 2004, delineated several important and critical improvements needed, including upgrading the county communications system, implementing a mass-notification system, and implementing a JIC. All of these recommendations were implemented and worked extremely well during the 2007 fires. Significant emergency management improvements, achieved after the 2003 Cedar Fires, decreased the necessity for major programmatic changes following the recent fires. However, there were many things done during the 2007 fires that the region had never attempted before, such as evacuating hospitals, establishing mega-shelters, and using satellite imagery. It is important to codify the lessons learned from these activities into the region's emergency plans.
2. Implement a regional master fuel management plan. The firestorms that hit Southern California are much like the hurricanes that impacted the Gulf Coast—they are naturally occurring events that were occurring long before humans arrived, and when they occur, there is little we can do to stop them. However, firestorms require three key components to be present: extreme winds, extremely low humidity, and an abundance of fuel. Of these elements, only fuel can be humanly controlled. During the 2007 fires, more than 17,000 homes were in the fire perimeter, or within ¼ mile of the perimeter, yet only 1,700 homes burned. The fact that less than 10% of the homes in the fire-threat area burned is a testament to the fire-safe activities of San Diego County residents and communities as well as the outstanding structure protection effort put forth by firefighters. Careful study of the damage assessment reports finds that many homes burned as a result of flaws in defensible space. Examples of homes destroyed by embers include embers starting fires on: wooden decks, trash cans next to homes, and



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shake-wood roofs. Garage doors left open and patio furniture being blown into windows were other culprits. Although a 90-mile-per-hour (mph), wind-fueled firestorm cannot be stopped, fuel management around homes and communities can dramatically mitigate damage.

Fuel management in today's environment is extremely complex. Environmental concerns, non-native plant intrusion, watershed management, and many other factors make management of the wildland urban interface a complex undertaking. There is much disagreement regarding the utility of controlled burns and firebreaks. For example, one of the best firebreaks in the county, the 8-lane Interstate 15 (I-15) freeway, proved



ineffective—the fires jumped the freeway in at least three locations. However, the fires demonstrated unequivocally that defensible space around homes works. One key imperative learned from this fire is the need for San Diego County to continue to expand its fuel management efforts within the region. Also, it is important that these efforts begin with individual homeowners—a fire-safe community begins with individual homeowners creating defensible space around their homes. These homeowners need support from the more than 50 FireSafe Councils in the county, which can provide

advice and support, such as chipping programs, to combine these defensible homes into fire-safe communities. It is then important for local governments to support homeowners and communities with aggressive public awareness campaigns, as well as conduct efforts to thin government-owned property near homes and roads. The State and Federal Government can enhance these efforts through financial support and complementing legislation.

Another lesson learned is that newer homes, built in accordance with new fire-safe building codes, withstood the fire better than older homes built to less stringent codes. Homeowners, communities, and the region should look at ways to retrofit, or at least mitigate, homes in the wildland-urban interface that are not built to today's standards. Again, a key lesson learned from this fire is that fuel management works and is the county's best defense against future firestorms.

3. Continue to improve regional fire resources. One thing the 2003 and 2007 fires have in common is that they were statewide events, not just San Diego County events. It is a safe planning assumption that these extremely dangerous Santa Ana wind events will not happen in isolation, and San Diego County will always be competing for State and Federal resources with other communities experiencing similar fires. Accordingly, it is imperative that the region enhance its regional firefighting capability for the first 48



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hours of a firestorm, when outside resources are going to be scarce. Since the 2003 fires, the region has invested heavily in additional fire capability, including the purchase of the region's first three firefighting helicopters. It is important that the region explore ways to continue to expand its capacity to fight the first 48 hours of a firestorm. Possible strategies include purchasing additional helicopters; purchasing additional fire engines (to be manned by off-duty firefighters); and exploring the expansion of structure protection vehicles, such as trucks to apply fire gel (which had considerable success at Palomar Mountain during the 2007 fires).

This AAR provides tremendous detail of the San Diego County response to the 2007 fires. What is evident from this report is that, as a community, San Diego's response was one in which each resident should take considerable pride. In many ways, this report prescribes the three ingredients for a successful disaster response: a competent government response, combined with a caring community and prepared individual residents. A careful study of disasters throughout the world reveals that disasters can bring out the best or worst in a community. For San Diego County, the 2007 fires were a defining moment—for 5 days in October, the Nation's attention was focused on San Diego, and what the Nation saw was San Diego at its very best, in the worst of circumstances.





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DISASTER OVERVIEW

The 2007 San Diego County Firestorms started on October 21, 2007, near the U.S./Mexico border at 0930 Pacific Standard Time (PST). The fires burned throughout San Diego County until the last fire was fully contained on November 9, 2007.

The Harris Fire was the first of the 2007 wildfires to ignite, starting at Highway 94 and Harris Ranch Road near Potrero, in the southernmost section of San Diego County. The Harris Fire burned northwest towards eastern Chula Vista, causing thousands of advisory and mandatory evacuations throughout southern San Diego County. The Harris Fire burned 90,440 acres before it was contained.

The Witch Creek Fire started just a few hours after the Harris Fire in Witch Creek Canyon near Santa Ysabel. The wildfire quickly spread to Ramona, Rancho Bernardo, Poway, and Escondido. With reported winds of more than 100 miles per hour (mph) in some areas, the fire jumped over Interstate 15 (I-15) and continued west, causing significant damage in Lake Hodges, 4S Ranch, Del Dios, and Rancho Santa Fe. The Witch Creek Fire burned a total of 197,990 acres, making it the largest of the 2007 wildfires.

The Rice Canyon Fire started the next day on October 22, 2007, in Rice Canyon on Clearwater Road in Fallbrook. It burned 9,472 acres and caused the closure of I-15 and thousands of evacuations in the northern part of San Diego County. Later the same day, the Poomacha Fire started as a structure fire on the La Jolla Indian reservation. The fire quickly spread to Palomar Mountain where it joined the Witch Creek Fire and entered the Agua Tibia Wilderness. The Poomacha Fire burned 49,410 acres and was not fully contained until November 9, 2007. It was the last fire of the 2007 wildfires to be contained.



Other wildfires of the 2007 San Diego County Firestorms included the Marine Corps Base Camp Pendleton Fires (the Wilcox Fire, the Ammo Fire, and the Horno Fire), as well as the Coronado Hills Fire, the El Capitan Fire, and the McCoy Fire.

The 2007 fires resulted in 10 civilian deaths, 23 civilian injuries, and 89 firefighter injuries. It burned a total of 368,340 acres, destroyed an estimated 1,600 homes; 800 outbuildings; 253 structures; 239 vehicles; and 2 commercial properties. More than 6,200 fire personnel fought to control the 2007 fires. Almost all public schools in San Diego County were closed, as were many



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businesses. Some of the major freeways were shut down for periods of time, and county residents were strongly encouraged to stay off the roads.

To date, the costs incurred to fight the Poomacha, Rice Canyon, Harris, and Witch Creek fires are estimated at \$41.3 million. Total projected damage costs for the 2007 San Diego County Firestorms are expected to exceed \$1.5 billion. During the entire course of the 2007 fires, 515,000 county residents received voluntary or mandatory evacuation notices, which exceeded the number of residents evacuated from New Orleans during Hurricane Katrina.



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SEQUENCE OF EVENTS / TIMELINE

SUNDAY, OCTOBER 21, 2007

Weather Conditions: A red flag warning is in effect. Hot, dry Santa Ana winds begin blowing through the Los Angeles and San Diego areas. Wind speeds ranging from 30 to 50 miles per hour (mph) were measured in the area, with extremely low relative humidity. The temperatures throughout the region are as follows:

Coastal	high 93	low 48
Inland	high 85	low 53
Desert	high 85	low 44
Mountains	high 68	low 30

Events according to Pacific Standard Time (PST) are as follows:

- 0923 The Harris Fire begins. The cause of the fire is unknown. Santa Ana winds of 30–40 mph drive the fire to the west.
- 0925 The San Diego County Sheriff’s Department receives initial dispatch for aviation support (Helicopters 10 and 12).
- 0955 The San Diego County Office of Emergency Services (OES) staff duty officer receives a Radio Amateur Civil Emergency Service (RACES) report about a 30-to-40-acre fire off of Highway 94 at Harris Ranch Road near Tecate. The cause of the fire is unknown. Strong Santa Ana winds are reported in the area. The incident is named the Harris Fire. Sheriff’s Department helicopters are on scene.
- 1030 The Sheriff’s Department Operations Center (DOC) is activated. Reverse 911 is activated, and calls are made to approximately 70 residences immediately threatened by the Harris Fire.
- 1116 The Operational Area Emergency Operations Center (OAEOC) is activated at Level 1. OAEOC personnel notifications via AlertSanDiego begin.
- 1133 The California Department of Forestry and Fire Protection (CAL FIRE) reports that the Harris Fire is now 100-plus acres and has destroyed one structure. Approximately 300 firefighters are on scene with air and ground support. An information hotline is established for media personnel only.
- 1241 The Sheriff’s Department reports mandatory evacuations for Tecate residents. Reverse 911 messages are sent to 700 homes. The Steele Canyon High School evacuation point is established. Animal Services is dispatched to the Steele Canyon shelter. San Diego County Humane Society establishes a large animal shelter near Jamul Fire Station.



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- 1306 CAL FIRE reports a second fire burning near Santa Isabel at Highway 78. Structures are immediately threatened, and Highway 78 is closed. The fire is named the Witch Creek Fire.
- 1338 The Sheriff's Department reports mandatory Harris Fire evacuations for the community of Dulzura, and 322 reverse 911 calls are made. Residents are urged to call 211 or obtain additional fire information at www.211sandiego.org.
- 1349 The OAEOC increases its activation to Level 2.
- 1422 CAL FIRE reports that the Harris and Witch Creek fires have grown to 2,500 acres and 3,000 acres, respectively. The Witch Creek Fire is moving toward southeastern Ramona and San Diego Country Estates. The Sheriff's Department issues an advisory evacuation message via reverse 911 to approximately 8,900 homes. Poway High School is established as the evacuation point.
- 1446 In response to the Harris and Witch Creek fires, the San Diego County director of emergency services issues a proclamation of local emergency and requests State Proclamation and Presidential Declaration.
- 1602 The OAEOC is activated at Level 3.
- 1610 The Sheriff's Department issues a mandatory evacuation for approximately 700 homes in the Otay Lakes / Barrett Junction vicinity in response to the Harris Fire.
- 1640 The Sheriff's Department issues a mandatory evacuation for approximately 300 homes in the Witch Creek vicinity.
- 1936 CAL FIRE reports that the Harris Fire has increased to 14,000 acres and is 5% contained. The communities of Potrero, Tecate, and Dulzura, and parts of Deerhorn Valley have been evacuated. The Witch Creek Fire has increased to 5,000 acres and is 0% contained. Mandatory evacuations are made for Witch Creek, Old Julian Highway, and the northeast side of San Diego Country Estates.
- 2210 The Sheriff's Department issues a mandatory evacuation order for all residents of Ramona. This evacuation constitutes approximately 10,000 reverse 911 calls. Poway and Escondido High Schools are designated as shelters.

Summary of logistical activities for October 21 and 22, 2007:

- The Ramona Incident Command Post (ICP) requests that the Fuel Pump Station at Highway 78 be opened.
- The Ramona ICP Logistics Chief requests N-95 masks.
- The Department of Environmental Health (DEH) requests safety goggles (quantity to be determined).
- Animal Control requests 55, 5-gallon buckets.
- The Del Mar Shelter requests 1,000 bottles of water and 1,000 snacks.



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- 2241 The presiding judge of San Diego County Superior Court decides to close all San Diego County Courts on October 22. Sheriff’s deputies normally assigned to the courts will assist with fire operations.
- 2245 The City of Escondido EOC is activated.
- 2300 The American Red Cross closes the Poway High School shelter due to health concerns. Evacuees are relocated to Mira Mesa High School.

The Sheriff’s Department aviation operations consisted of the following response:

Copter 10	8.0 flight hours	Harris Fire	57 water drops
Copter 12	7.6 flight hours	Harris Fire	23 water drops

Copter 12 was involved in a search based on a report of a burnover of firefighters.

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed.

MONDAY, OCTOBER 22, 2007

Weather Conditions: There is a red flag warning in effect until 1500 PST Wednesday due to strong northeast-to-east winds and low humidity. There will be long periods of single-digit humidity through Wednesday. The temperatures throughout the region are as follows:

Coastal	high 92	low 45
Inland	high 87	low 51
Desert	high 84	low 49
Mountains	high 57	low 36

Events according to PST are as follows:

0033 Precautionary evacuation planning is underway in the City of Escondido. Reverse 911 calls are used to provide residents with “be prepared to evacuate” information.

0136 The Escondido Fire Department requests reverse 911 calls for approximately 2,000 residents in southeastern Escondido.

0201 The OAEOC receives reports of a new fire burning near the California State San Marcos campus. This fire is named the Coronado Hills Fire.

Summary of key events for October 22, 2007:

- The Coronado Hills Fire begins.
- The Rice Canyon Fire begins.
- Local Emergencies are proclaimed in Poway, Chula Vista, and Carlsbad.
- Mandatory evacuations are issued for: Discovery Hills; Coyote Holler; Poway; Del Dios; Escondido; Rainbow; Valley Center; Pomerado Hospital; Rancho Santa Fe; Leucadia; Elfin Forrest; Fallbrook; Olivenhain; and Encinitas.



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- 0227 The Sheriff's Department is calling numbers for the San Pasqual Academy to provide it with the evacuation notice.
- 0230 The Sheriff's Department dispatch advises the Sheriff's DOC that deputies made contact with San Pasqual Academy at 0205 and evacuated them.
- 0256 The Sheriff's Department issues a mandatory evacuation order for the Discovery Hills area of San Marcos. Approximately 4,300 reverse 911 calls are made. Escondido High School is the designated evacuation point.
- 0300 The City of Poway EOC is activated.
- 0314 The City of San Marcos EOC and the Cal State San Marcos EOC are activated.
- 0332 The Sheriff's Department issues a mandatory evacuation order for Coyote Holler in response to the Harris Fire. Approximately 970 reverse 911 calls are made. Evacuees are instructed to move toward Campo.
- 0345 The City of San Diego EOC is activated.
- 0416 The Rice Canyon Fire begins in northern San Diego County near Rainbow.
- 0422 The Sheriff's Department issues a mandatory evacuation order for portions of Poway in response to the Witch Creek Fire. Approximately 1,900 reverse 911 calls are made. Evacuees are instructed to move to the evacuation center at the Poway Community Center.
- 0436 The City of Poway proclaims a local emergency.
- 0442 The City of Carlsbad EOC is activated at Level 1.
- 0458 The City of Chula Vista advises that it will activate its EOC at 0830.
- 0524 City of Carlsbad residents are notified via AlertSanDiego to plan for a precautionary evacuation in response to the Coronado Hills Fire. Approximately 22,770 reverse 911 calls are made.
- 0600 The Sheriff's Department issues a mandatory evacuation order for Del Dios and the unincorporated area of Escondido in response to the Witch Creek Fire. Approximately 43,240 reverse 911 calls are made. Evacuees are instructed to move to shelters in the western part of the county.
- 0601 The OAEOC is advised of the City of San Marcos local emergency proclamation that occurred at 0200.



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- 0614 The Sheriff's Department issues a mandatory evacuation for the Rainbow area in response to the Rice Canyon Fire, and approximately 36 reverse 911 calls are made. Evacuees are advised to move west away from the fires.
- 0635 The Sheriff's Department issues a mandatory evacuation for Valley Center north of Lake Wohlford, and approximately 2,300 reverse 911 calls are made.
- 0635 After a brief lull, winds throughout the county are reported as increasing. Wind gusts in Potrero, Alpine, Ramona, and Valley Center exceed 50 mph.
- 0736 The Sheriff's Department issues an advisory evacuation for additional areas of Poway in response to the Witch Creek Fire. Approximately 4,000 reverse 911 calls are made, and evacuees are directed to the Poway Civic Center.
- 0759 Pomerado Hospital and the Monte Vista Nursing Home in Escondido are evaluated for possible evacuation.
- 0830 The City of Chula Vista EOC is activated.
- 0830 Pomerado Hospital and nursing homes along Monte Vista Road begin evacuating with 10 ambulances and 23 Poway Unified School District busses assisting.
- 0831 The City of Escondido requests additional mandatory evacuations with the Sheriff's assistance.
- 1008 The Sheriff's Department issues a mandatory evacuation order for Rancho Santa Fe and portions of Leucadia, and approximately 17,600 reverse 911 calls are made.
- 1045 The Solana Beach Fire Department begins door-to-door voluntary evacuation notifications for portions of Solana Beach.
- 1055 The Sheriff's Department issues a mandatory evacuation order for additional areas of Poway in response to the Witch Creek Fire, and approximately 8,700 reverse 911 calls are made.
- 1056 Weather reports throughout the county report wind gusts of 50–70 mph.
- 1115 The announcement is made that all San Diego County schools will be closed on October 23, 2007.
- 1224 The Sheriff's Department issues a mandatory evacuation order for Poway, Elfin Forrest, Escondido, Fallbrook, Olivenhain, and Encinitas between 1118 and 1224 in



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- response to the Witch Creek Fire and the Rice Canyon Fire, and approximately 19,000 reverse 911 calls are made.
- 1300 The City of Chula Vista proclaims a local emergency.
- 1356 The City of Carlsbad issues a voluntary evacuation for south Carlsbad in response to the Coronado Hills Fire.
- 1400 San Diego County OES requests to use Camp Pendleton as an evacuation site.
- 1404 The City of San Diego reports the evacuation of Scripps Ranch, and approximately 45,000 residents are affected.
- 1428 The National Guard stages at Del Mar Fairgrounds, and 100 troops are expected in the next 12 hours with 1,100 troops in 24 hours.
- 1438 The City of Carlsbad proclaims a local emergency.
- 1445 The San Diego County OES requests the use of the United States Ship (USS) Mercy Hospital to shelter patients evacuated from two area hospitals. Medical facility evacuees are expected to exceed 3,000. Public Health and the Medical Reserve Corps are expected to provide staff to assist.
- 1552 The Coronado Hills Fire in San Marcos is 100% contained.
- 1612 The City of Imperial Beach EOC activates at Level 1.
- 1642 The City of Encinitas EOC activates at Level 1.
- 1800 County employees are advised that all county offices will be open October 23, with the exception of the County Library System. County departments have activated their continuity of operations (COOP) plans and are directing essential personnel to report for duty and non-essential personnel to telecommute.
- 1825 The Sheriff's Department issues advisory evacuation notices to Del Mar, Solana Beach, and Rancho Santa Fe in response to the Witch Creek Fire. Approximately 34,700 reverse 911 calls are made advising residents to evacuate to Qualcomm Stadium.
- 1857 Del Mar Fairgrounds reports that 2,000 evacuated horses are currently in stalls and have adequate food and care.
- 2009 The City of Encinitas requests the mandatory evacuation of portions of Olivenhain in response to the Witch Creek Fire. Approximately 1,640 reverse 911 calls are made.



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Sheriff's Department Aviation Operations consisted of the following flights:

Astrea 1	1.8 flight hours		
Astrea 2	2.6 flight hours		
Astrea 3	1.4 flight hours		
Copter 10	9.5 flight hours	Harris Fire	67 water drops
Copter 12	9.7 flight hours	Harris Fire	43 water drops

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed.

TUESDAY, OCTOBER 23, 2007

Weather Conditions: A red flag warning is in effect until 1500 PST Wednesday. The offshore Santa Ana winds will continue to gradually decrease and weaken tonight through Wednesday. This will bring a potential for erratic winds and local effects near the wildfires. The temperatures throughout the region are as follows:

Coastal	high 99	low 49
Inland	high 97	low 55
Desert	high 93	low 51
Mountains	high 79	low 42

Events according to PST are as follows:

0243 Lakeside Fire Department requests the mandatory evacuation of Wildcat Canyon and Muth Valley in response to the Harris Fire. Approximately 3,800 reverse 911 calls are made, and residents are instructed to evacuate to Santana High School.

0309 The Sheriff's Department issues a mandatory evacuation order for North Jamul and Indian Springs. Approximately 1,550 reverse 911 calls are made, and residents are instructed to evacuate to Qualcomm Stadium.

Summary of key events for October 23, 2007:

- The Poomacha Fire begins.
- The American Red Cross National Management Team arrives with supplies and staff.
- Mandatory evacuation orders are issued for: Wildcat Canyon; Muth Valley; Jamul; Indian Springs; La Jolla Indian Reservations; Pauma Valley; Palomar Mountain; Hidden Meadows; De Luz; Eastern Chula Vista; Pine Hills; Winola; Harmony Grove; Eagle Peak; Cuyamacha; Fallbrook; Ramona; and Lakeside.
- Evacuation orders are lifted for: Chula Vista, Solana Beach, Olivenhain, and Del Mar.

0313 The Poomacha (Palomar Mountain / Valley Center) Fire begins as a structure fire on the La Jolla Indian Reservation and eventually joins the Witch Creek Fire.



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- 0445 The Sheriff's Department issues a mandatory evacuation order for La Jolla Indian Reservation and Pauma Valley between 0415 and 0445 in response to the Poomacha Fire, and approximately 4,100 reverse 911 calls are made.
- 0630 The Sheriff's Department issues a mandatory evacuation order of the Palomar Mountain area between 0450 and 0630 in response to the Poomacha Fire. Approximately 8,000 reverse 911 calls are made, and residents are instructed to evacuate to shelters established in Temecula.
- 0645 The Sheriff's Department issues a mandatory evacuation of Hidden Meadows in response to the Witch Creek Fire, and approximately 2,900 reverse 911 calls are made.
- 0707 National Guard troops are deployed to Rancho Santa Fe, Fallbrook, Valley Center, and Ramona to assist with road blocks and security.
- 0724 The American Red Cross National Management Team arrives and brings supplies and staff to support 20 shelters, which are being managed by county personnel or volunteer organizations.
- 1018 The Sheriff's Department issues a mandatory evacuation order of the De Luz area and portions of Rainbow in response to the Rice Canyon Fire, and approximately 1,000 reverse 911 calls are made.
- 1034 The Chula Vista Police Department and Chula Vista Fire Department begin mandatory evacuations for eastern Chula Vista areas in response to the Harris Fire.
- 1113 The San Diego County Water Authority (SDCWA) EOC reports the Ramona Water District Poway pump station is inoperable. Emergency generators were ordered and are coming from Los Angeles. Estimated time to operation is 1300 hours. San Diego Gas & Electric Company will provide updates if the timeframe changes.
- 1238 The CAL FIRE requests mandatory evacuation of Ramona/Lakeside (Highway 67 corridor) in response to the Harris Fire. Approximately 1,800 reverse 911 calls are made, and residents are instructed to evacuate to Santana High School.

Summary of logistical activities for October 23, 2007:

- 300 cots are provided to the Chula Vista shelter.
- 10 porta-potties are provided to Gillespie Field.
- 60 bales of hay are requested and delivered to Gillespie Field.
- 54 shower trailers are requested for local shelters.
- 200 cots, pillows, blankets, towels, and personal items are provided to the Borrego shelter.
- 300 cots, blankets, pillows, food, and personal items are provided to the Escondido shelter.
- Two 25-yard dumpsters are ordered for Lakeside Rodeo Grounds.
- 100 10-foot by 10-foot pop-up tents are ordered for Qualcomm and Fiesta Island shelters.
- A Cannon copier is ordered for Qualcomm Stadium.



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- 1327 The Sheriff's Department issues a mandatory evacuation order of areas near Julian (Pine Hills, Winola, and Harmony Grove). Approximately 2,400 reverse 911 calls are made, and residents are instructed to evacuate to Borrego Springs.
- 1413 The Sheriff's Department issues a mandatory evacuation of De Luz in response to the Rice Canyon Fire in north San Diego County, and approximately 4,400 reverse 911 calls are made.
- 1445 The Sheriff's Department issues a mandatory evacuation of Jamul in response to the Harris Fire, and approximately 800 reverse 911 calls are made.
- 1612 All San Diego Schools are closed through Friday, October 26, 2007.
- 1613 The Sheriff's Department issues an advisory evacuation of Julian, and approximately 3,100 reverse 911 calls are made.
- 1618 The cities of Chula Vista and Solana Beach lift all evacuation orders. Residents of both cities are allowed to return to their homes.
- 1730 The Sheriff's Department issues a mandatory evacuation of Eagle Peak and Cuyamaca in response to the Poomacha Fire, and approximately 142 reverse 911 calls are made.
- 1800 The City of Encinitas lifts Olivenhain evacuation orders, and residents are allowed to return to their homes. Secretary of Homeland Security Chertoff and Governor Schwarzenegger meet with county officials at the County EOC.
- 1833 All City of Del Mar evacuation notices are lifted, and residents are allowed to return to their homes.
- 2015 The Sheriff's Department issues a mandatory evacuation for the Fallbrook area in response to the Rice Canyon Fire, and approximately 14,000 reverse 911 calls are made.
- 2305 The SDCWA EOC requests the OAEOC to supply 1,200 gallons of red dye diesel fuel on October 24. The Ramona Water District orders fuel needed to run the replacement generators. Reports indicate the first generator will be operational after midnight, but the second generator will not be operational until the morning of October 24.

Sheriff's Department aviation operations consisted of the following response:

Astrea 1	1.9 flight hours
Astrea 2	3.6 flight hours
Astrea 3	0.2 flight hours
Astrea 4	4.4 flight hours



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Copter 10	7.8 flight hours	Witch Fire	72 water drops
Copter 12 (HELCO)	1.5 flight hours	Harris Fire	working with CAL FIRE
Copter 12	.9 flight hours	Harris Fire	46 water drops

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed.

WEDNESDAY, OCTOBER 24, 2007

Weather Conditions: Skies are mostly sunny with areas of smoke. Morning ridge winds are easterly at 4–8 mph, becoming southwest to 10 mph after 1400 PST. Evening ridge winds are southwest at 4–8 mph. Night diurnal flow is down slope and down canyon. Inversion may begin to clear by 1000 PST. The temperatures throughout the region are as follows:

Coastal	high 98	low 49
Inland	high 101	low 52
Desert	high 97	low 53
Mountain	high 78	low 36

Events according to PST are as follows:

0210 The Sheriff’s Department issues a mandatory evacuation for the De Luz area in response to the Rice Canyon Fire. Approximately 900 reverse 911 calls are made, and residents are instructed to evacuate to shelters established in Temecula.

Summary of key events for October 24, 2007:

- The Horno Fire at Camp Pendleton begins.
- Evacuation orders are lifted for: Poway, Northeastern Rancho Bernardo, Rancho Penasquitos, 4S Ranch, and Santa Luzare.
- The Ramona Water District sends the message to limit water for emergency use only.

0334 Camp Pendleton advises that the Horno Fire is 6,000 acres and growing. Train service between San Clemente and Oceanside is halted. California Highway Patrol closes Interstate 5 (I-5) at 0100 at the request of Base officials.

1000 The City of Poway lifts evacuation orders, and residents are allowed to return.

1023 Work continues to bring both Ramona Water District pumps online. The time it will take to regain full operational status and system re-pressurization is not determined at this time. CAL FIRE indicates that its priority is to restore service to Ramona airport to support firefighting operations. SDCWA has queried the Ramona Water District regarding mutual aid needed to restore service.

1155 The City of San Diego announces the re-opening of northeastern Rancho Bernardo. Additional repopulation messages are forthcoming.



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- 1346 City of Del Mar EOC deactivates.
- 1401 CAL FIRE has water service at Ramona airport, but Ramona Water District has asked CAL FIRE to refrain from using the system until the entire system is filled and pressurized. CAL FIRE will continue to fill its aerial tankers with water from the water trucks. Ramona Airport has 16 tankers flying on October 24. The water system usage restraint may negatively impact aircraft turnaround times.
- 1407 The City of San Diego announces that Rancho Penasquitos, 4S Ranch, and Santa Luzare are open for repopulation.
- 1444 Ramona Water District begins the process to request a reverse 911 message be sent to the entire Ramona community. The message will state that water restrictions are limited to emergency use only for all Ramona residents. The Ramona Pump Station was disabled during the fire, and the Ramona Water District is attempting to charge the lines, which cannot be done while water is being used in town. The Ramona Water District needs lines shut so it can charge the entire system and load reservoirs around town. Residents will be re-notified as soon as full restoration is complete.
- 1515 The City of San Marcos EOC deactivates.
- 1556 A Regional Assistance Center opens in Rancho Bernardo.
- 1654 The public is notified of the request to not use water in Ramona in order to rebuild water system pressure to support fire suppression operations. Ramona Municipal Water District staff lock out water meters. A boil-water notice was issued for the Ramona area on October 23 at 1900 and will remain in effect until further notice. Sufficient water pressure must be present in the system prior to allowing Ramona repopulation.
- 1700 The City of Poway EOC deactivates.
- 2135 The City of Escondido downsizes staffing.

Summary of logistical activities for October 24, 2007:

- 2,000 bottles of water and 2,000 snacks are provided to Local Assistance Center (LAC) operations in Ramona and Fallbrook.
- 60 cases of water are ordered for the San Diego County Sheriff's Communications Center.
- Personal items are ordered for Qualcomm and Del Mar Fairgrounds evacuation centers.
- 6,000 cots are ordered for evacuation centers.
- 90 bales of hay are ordered for horses and cattle near Highway 67.
- One truckload of ice is provided to animal services operations at Qualcomm Stadium.
- Bus transportation is provided for 206 special needs patients from Qualcomm Stadium to special needs shelters in Escondido and Rancho Bernardo.
- 220 bales of hay are ordered for Gillespie Field.
- 250 bales of hay are ordered for Del Mar Show Park.
- 25 personnel are requested at the county warehouse to unload four Wal-Mart semi-trucks of supplies.
- 150 bath towels are ordered for the Campo Community Center.



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Sheriff's Department aviation operations consisted of the following response:

Astrea 1	0.4 flight hours		
Astrea 2	1.6 flight hours		
Astrea 5	2.3 flight hours		
Copter 10	6.0 flight hours	Witch Fire	74 water drops
Copter 12	6.2 flight hours	Harris Fire	29 water drops

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed.

THURSDAY, OCTOBER 25, 2007

Weather Conditions: There will be typical diurnal winds over the region through early next week. Winds will be light offshore or down slope during nights and mornings and light onshore or upslope in the afternoons. The temperatures throughout the region are as follows:

Coastal	high 92	low 53
Inland	high 98	low 48
Desert	high 92	low 33
Mountains	high 96	low 49

0026 The San Diego County Sheriff's Department reports that it will evaluate the Ramona area for repopulation in the morning.

0911 The City of Escondido lifts evacuation orders.

0925 The Sheriff's DOC awaits an OAEOC policy group decision on Ramona repopulation. CAL FIRE Incident Command advises that the wildfires no longer threaten the community of Ramona, clearing repopulation once all health and safety issues, including unsafe household water and lack of water in fire hydrants, are mitigated.

Summary of key events October 25, 2007:

- Repopulation begins for Escondido, Ramona, Potrero, Tecate, Rancho Santa Fe, Valley Center, San Pasqual Reservations, and Fallbrook.
- The California Department of Health issues an unsafe water alert for Ramona.
- A mandatory evacuation order is issued for Lawson Valley and Carveacre.
- Qualcomm Stadium evacuees are moved to the Del Mar Fairgrounds shelter.

0957 The City of Escondido EOC deactivates.

0958 The Harris Fire incident commander advises Potrero to re-open at 1200. The Tecate Border Crossing will also re-open at 1200.

1130 Portions of Rancho Santa Fe are authorized to repopulate.



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- 1219 The State Office of Drinking Water requests OAEOC assistance to provide drinking water to Ramona Residents. The State requests that bottled water or hauled potable water be provided.
- 1343 Portions of Valley Center are authorized to repopulate.
- 1354 CAL FIRE orders a mandatory evacuation for Lawson Valley and Carveacre in response to the Harris Fire, and approximately 950 reverse 911 calls are made.
- Summary of logistical activities for October 25, 2007:**

 - Thomas Brother Guides and office materials are ordered to support OAEOC operations.
 - 100 fly masks are ordered to support operations at Lakeside Rodeo Grounds.
 - 9,000 photocopies of a “Do Not Drink Water” document are ordered for Ramona.
 - One 10-foot by 28-foot trailer is ordered to support Gillespie Field.
- 1439 Qualcomm Stadium evacuees move to the Del Mar Fairgrounds shelter.
- 1448 The San Pasqual Reservation is authorized to repopulate.
- 1502 Portions of Valley Center evacuation orders are lifted.
- 1556 OAEOC advises the Sheriff’s DOC that water issues continue to be the problem with repopulating the community of Ramona. Low water-pressure problems continue and could adversely hamper fire suppression efforts. The Ramona Water District is working on the problem and hopes to restore water pressure within the next 6–12 hours (estimated), thus clearing the way to open up Ramona.
- 1552 The City of Santee EOC deactivates.
- 1930 The Ramona evacuation order is lifted at 1915 with the provision that the Ramona Municipal Water System not be used until properly re-pressurized.
- 1931 Evacuation orders for portions of Fallbrook are lifted.
- 1951 The county launches a recovery website: www.sdcountyrecovery.com.
- 2056 The reverse 911 system is used to notify the community of Ramona. The text reads: “The following information is an advisory to residents in the community of Ramona on October 25th, 2007, at 7:00 p.m. The California Department of Health has issued an unsafe water alert for the Ramona area. Do no drink the water from the Ramona Water Municipal District. Failure to follow this advisory can result in illness. Use only bottled water. Additionally, residents are requested to not use water resources to help ensure adequate water for fire fighting efforts. This advisory is in effect until further notice. For additional information visit www.sdcountyemergency.com or call 211.”



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2208 Personnel from the SDCWA, Helix Water District, City of San Diego Water Department, Padre Dam Municipal Water District, Vallecitos Water District, Poway, and the Sweetwater Authority are on site in Ramona to assist with shutting down 10,000 water meters in an effort to recharge the water system. The system is 75% charged at this time. Once the system is charged, mutual aid personnel will be dispatched to open the meters.

Sheriff's Department aviation operations consisted of the following response:

Copter 10	5.5 flight hours	Witch Fire	40 water drops
Copter 12	5.7 flight hours	Harris Fire	60 water drops

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed.

FRIDAY, OCTOBER 26, 2007

Weather Conditions: Winds will turn southwest to west by this afternoon between 5 and 15 mph. A ridge of high pressure will build over the region by Sunday allowing temperatures to warm and humidity to lower once again. The temperatures throughout the region are as follows:

Coastal	high 85	low 46
Inland	high 90	low 43
Desert	high 92	low 40
Mountains	high 87	low 33

0800 Valley Center is authorized to repopulate.

0810 Western Jamul is authorized to repopulate.

1610 Shelter status: 21 shelters are open. The current shelter population is 2,900 residents.

Summary of logistical activities for October 26, 2007:

- Four 53-foot trailers are leased for 2 months to support Qualcomm Stadium cleanup.
- Four 12-foot by 40-foot trailers are provided to operations at Cuyamaca College.
- One lot of assorted medications is ordered for the Campo shelter.
- One pallet of dust masks is ordered for distribution to all four LACs.
- Hand sanitizers are provided to 7,500 students and faculty of Ramona High School.
- Bus transportation is provided to move 16 special needs patients.
- Four upright canisters are provided to Campo shelter operations.

1620 San Diego Superior Court is scheduled to re-open on October 29, 2007.

1802 Rancho Heights, Pauma Valley, and the Highway 76 corridor are authorized for repopulation.



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1814 Julian, Wynola, Pine Hills, and Cuyamaca are authorized to repopulate.

1827 All areas affected by the Rice Canyon Fire are authorized to repopulate.

Summary of key events for October 26, 2007:

- Repopulation orders are issued for Jamul, Rancho Heights, Pauma Valley, Highway 76 corridor, Julian, Wynola, Pine Hills, and Cuyamaca.
- 21 shelters are open with a population of 2,900 evacuees.

Sheriff's Department aviation operations consisted of the following response:

Astrea 5 (HELCO)	4.5 flight hours	Witch Fire	worked with CAL FIRE
Copter 10	6.2 flight hours	Witch Fire	47 water drops
Copter 12	3.2 flight hours	Harris Fire	19 water drops

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed.

SATURDAY, OCTOBER 27, 2007

Weather Conditions: Tropical moisture flowing from the south replaces the hot, Santa Ana winds that roared in a week earlier. The temperatures throughout the region are as follows:

Coastal	high 84	low 50
Inland	high 86	low 45
Desert	high 93	low 47
Mountains	high 79	low 40

0056 Del Dios is authorized to repopulate.

0911 Dulzura is authorized to repopulate.

1322 Bonsall and Rainbow are authorized to repopulate.

1334 Ramona Water District, SDCWA, and 10 member agencies are in the process of connecting water meters. Estimated completion is Sunday, October 28, in the afternoon. Water service to essential services (e.g., medical offices and schools) were completed Friday, October 24, in the late afternoon. A "Do Not Drink" order is still in place.

1443 Shelter status: 14 shelters are open. The shelter population is approximately 2,044 evacuees.

1554 All evacuation orders issued for the Harris Fires are lifted. Repopulation of all evacuated areas is authorized.

Summary of key events for October 27, 2007:

- Repopulation is authorized for Del Dios, Dulzura, Bonsall, and Rainbow.
- 14 shelters are open with a population of 2,044 evacuees.
- "Unsafe Water" notices and "Do Not Drink The Water" alerts are continued in Ramona.
- Municipal water delivery remains in effect.



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1741 In Fire Update #170, Ramona residents are warned not to have contact with municipal water. A reverse 911 message was sent to Ramona residents with the following information about the

use of water: Municipal water delivery will resume today and tomorrow for Ramona residents. Drinking the water is unsafe, even if the water is boiled. The water should be used only in toilets and laundry. Residents should avoid showering or bathing in the water; hot showers are available at the Ramona Rodeo on Aqua Lane. Bottled water or hand sanitizer should be used when washing hands. Bottled water should be used for brushing teeth, washing dishes, making ice, and preparing food.

Summary of logistical activities for October 27, 2007:

- Water to support 1,500 people is ordered for Dulzura shelter.
- 25–30 workers support Qualcomm Stadium demobilization.
- Two buses support transportation of 89 elderly people from Qualcomm Stadium; 20 wheelchairs are also requested to support.
- Two trucks of panels (500 total) are dispatched to the Jamul shelter location.
- 400 horse leads and halters are ordered for Lakeside Rodeo Grounds.
- Two porta-potties are ordered for the El Cajon shelter.
- 500 pairs of goggles are ordered for the Department of Environmental Health (DEH).
- 200 county-owned cots require pickup at Santana High School.
- 100 blankets, 200 pillows, and 50 cases of water are requested for Del Mar Fairgrounds.
- 40 bales of hay and 200, 5-gallon buckets are requested for the Fiesta Island animal shelter.
- Two tower light units are requested for Lakeside Rodeo Grounds.
- 100 cots, blankets, and pillows are requested for Del Mar Fairgrounds.
- Three light tower units are requested for Campo Community Center.
- 60 bales of hay and 10 porta-potties are ordered for Gillespie Field.

Outdoor water use is prohibited. This advisory remains in effect until further notice. A formal “unsafe water notice” was delivered to Ramona homes on Thursday, October 25. The reverse 911 call was placed this afternoon to remind residents that the advisory remains in place. An “unsafe water notice” is more restrictive than a “boil-water alert.” Boiling municipal water in Ramona will not make it safe for human contact or consumption. Residents can find additional information online at www.sdcountyresponse.com, or by phone at 211.

1744 A request was made to the Sheriff’s Department to make announcements in several areas in Ramona: ”Do not use water. Call Ramona Water District.” This assignment was given to Astrea to fly over three separate areas. Many of the areas were burned so residents may or may not be in the area. The Incident Command in Ramona was also given this information and will have units on the ground make the same announcements.

Sheriff’s Department aviation operations consisted of the following response:

Astrea 5 (HELCO)	3.7 flight hours	Witch Fire	worked with CAL FIRE
Astrea 7	4.2 flight hours		



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Copter 10	0.1 flight hours	Witch Fire
Copter 12	0.5 flight hours	Harris Fire

Additionally, there were OAEOC briefings and press conferences conducted; press releases issued; and Situation Status Reports and OAEOC Action Plans developed on October 27, 2007.

Although the Poomacha Fire continued to burn in northeastern San Diego County into November 2007, the majority of operations after October 27, 2007, focused on recovery operations. The Ramona Water District requested the Sheriff's Department issue a reverse 911 call after 2000 PST on October 29 to advise Ramona residents that their water supply was safe to drink.

Summary of logistical activities for October 28 through November 9, 2007:

- 44 pallets are ordered to support water delivery operations in Ramona.
- One semi-trailer of ice is ordered for Red Cross Warehouse #2.
- One refrigerated trailer is ordered to support recovery operations in Ramona.
- Pet supplies and personal hygiene items are purchased from Wal-Mart to support Dulzura shelter operations.
- One 40-foot connex container is provided to Campo.
- Four porta-potties with wash facilities are provided to the Highway 94 staging area.
- Tetanus vaccines and syringes are provided to Ramona and Dulzura.
- Two roll-off dumpsters are provided for recovery operations in Ramona.
- Two water delivery trucks are requested to support 1,200 cattle in Dulzura.
- 200 gallons of diesel fuel are ordered to support power generation in Potrero.
- 500, 40-pound bags of ice are ordered to support Dulzura recovery operations.
- 330 porta-potties and 16 washing stations are ordered for Ramona.
- 400, 20-pound bags of ice are ordered for Ramona.
- Sprint/Nextel Cell-on-Wheels (COW) are requested for fire-damaged towers in Deer Horn Valley.

The OAEOC remained activated with minimal staffing until November 9, 2007, and OES personnel supported recovery operations in Dulzura, Barrett Junction, Potrero, and Intermountain communities impacted by both the Harris Fire and the Witch Creek Fire.

ADDITIONAL AVIATION OPERATIONS

The Sheriff's Department continued to conduct aviation operations on the following dates:

Sunday, October 28, 2007

Astrea 1	0.5 flight hours		
Astrea 7	4.6 flight hours		
Copter 10	3.5 flight hours	Witch Fire	15 water drops
Copter 12	4.3 flight hours	Harris Fire	28 water drops

Monday, October 29, 2007

Astrea 1	0.5 flight hours		
Astrea 3	2.0 flight hours		
Copter 10 (Recon)	2.7 flight hours	All Fires	
Copter 12	0.4 flight hours	Harris Fire	

Tuesday, October 30, 2007

Copter 12	2.3 flight hours	Harris Fire	10 water drops
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After Action Report

CHAPTER 1: REGIONAL RESPONSE

1 ADVANCED PREPARATION

1.1 Public Awareness Campaign

1.1.1 Improvements Since 2003 Fires

1.1.1.1 Plans

- A countywide public awareness campaign was started in the summer of 2006. Although the campaign was an all-hazards approach to public emergency preparedness, it provided important information that residents could easily apply to a wildland fire event.

1.1.2 Impact to 2007 Fires

The San Diego County Office of Emergency Services (OES) started a public awareness campaign in July 2006. The goal of the campaign was to encourage residents to take proactive steps to prepare for emergencies by, among other things, completing a family disaster plan. The written document, officially named the *Family Disaster Plan and Personal Survival Guide*, was created as an all-hazards campaign and included information that could apply to a wildland fire scenario. The campaign began with the county sending 1.2 million survival guides to residents. This was followed by a media campaign to emphasize the plan's importance in disaster preparation and encourage the public to use it, as necessary.



The county created the www.ReadySanDiego.org website, which includes all forms of media to get the word out to the public; it also includes interactive web pages for kids with puzzles and games to encourage kids to become involved in family preparedness planning. Additionally, OES solicited child involvement through a “Preparedness Starts with You” school campaign, and Fallbrook Union and Vista Unified School Districts held poster contests to encourage children to take preparedness materials home.

Public Service Announcements (PSAs) were provided to residents through a variety of sources, including radio, television, sporting events scoreboards, city buses, highway department signs, and other creative media outlets. The county attempted to reach every segment of the



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community, which included specially tailored PSAs for the military, Community Emergency Response Teams (CERTs), and pet owners.

A new campaign aimed at local businesses (the “Ready San Diego Partner Program”) was started in September 2007 aimed at encouraging businesses to adopt an all-hazards approach to preparedness. As part of this program, local businesses register to participate in ongoing public/private partnership efforts and receive Business Emergency Response Team (BERT) training sponsored by OES. Prior to the 2007 fires, 49 businesses had registered to participate; 18 businesses have registered since the fires.

Although the plan and website were not established specifically for or during the wildland fires of 2007, they did provide residents and businesses with important information that was useful for preparedness, evacuation, and recovery.

1.1.3 Successes

- Approximately 1.2 million residents received the all-hazards *Family Disaster Plan and Personal Survival Guide*.
- An estimated 300,000 residents took action towards emergency planning as a result of the county’s information and promotional campaign.
- The guide is available in four languages: English, Spanish, Vietnamese, and Tagalog via the Ready San Diego website. It was also distributed to special populations in Braille and audio recordings.
- Local businesses, professional sports teams, museums, and media outlets donated time, money, radio and television advertising, and promotional items to disseminate preparedness information to the public.
- The “Preparedness Starts with You” school campaign allowed children to get involved in preparing their families for all hazards.

1.1.4 Areas for Improvement

- None

1.2 Countywide Improvements Since 2003

Foresight and flexibility are two key characteristics of a successful emergency management program. San Diego County has prepared exhaustively for the most probable emergencies while maintaining the agility to adapt to the changing needs and circumstances that will inevitably arise during a disaster. During the 4 years following the 2003 fires, San Diego County officials engaged in a number of activities to build upon the lessons learned during those fires and to further preparedness and response efforts of their personnel. These activities were funded in conjunction with homeland security grants. The following provides an overview of the preparedness improvements since 2003.



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1.2.1 Plans

- Continuity of operations (COOP) plans were written and exercised for all 57 San Diego County departments and agencies.
- A county Joint Information Center (JIC) plan was developed and exercised.
- Community protection and evacuation plans were developed in coordination with the Fire Safe Councils to assist small jurisdictions in all of San Diego County. These plans identified evacuation routes, safe areas to go when unable to evacuate, and water sources (e.g., pools, water tanks).
- County and regional partners completed a recovery plan that addresses short- and long-term restoration plans for communities impacted by disaster to include debris removal and financial assistance.
- A draft volunteer management plan was written but has not been finalized.
- The Operations Section for the Unified Disaster Council Committee developed a special populations plan and assisted in the development of the evacuation plans.
- A memorandum of understanding (MOU) between San Diego County OES and 211 San Diego was established to ensure that 211 liaison personnel are provided to the JIC to assist with public inquiry and rumor control functions.
- A memorandum of agreement (MOA) between the California Department of Forestry and Fire Protection (CAL FIRE) and OES was established to ensure a fire service liaison is provided to the Operational Area Emergency Operations Center (OAEOC) during wildland fire events.
- A Regional Evacuation Plan was developed and approved by the Unified Disaster Council.

1.2.2 Training

- The county instituted regional, annual staff training for all OAEOC sections (one OAEOC section per quarter). Training was made available to personnel from county departments, incorporated and unincorporated cities, and special districts.
- County probation officers and Radio Amateur Civil Emergency Service (RACES) personnel were trained as field liaisons.
- Approximately 200 county OES personnel were trained as shelter managers and workers with a specific focus on special needs shelters.
- County personnel were trained on evacuation plans.
- The county instituted an OES staff duty officer training program with formal qualifications and a requirement to go through board certification.
- The county conducted more than 40 preparedness exercises between 2003 and 2007, which were vital to OAEOC staff training and for identifying gaps and deficiencies in existing plans, policies, and procedures.



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1.2.3 Equipment

- OAEOC equipment upgrades were made that included new video teleconferencing capability and electronic status boards built to enhance communications and information management. (Please refer to section 8, *Technology and Automation*, for additional details.)
- The county purchased two mass-notification systems:
 - Reverse 911, which was purchased and operated by the San Diego County Sheriff’s Department.
 - An emergency notification system called AlertSanDiego, which was purchased and operated by OES. AlertSanDiego has the capability of calling every household in the county in less than 3 hours.
- The county purchased additional Geographic Information System (GIS) equipment, software programs, and plotters.
- The county upgraded to more capable 800-megahertz (MHz) radios and provided them to response personnel.
- All professional OES staff personnel were issued notebook computers with wireless cards, which allow them to work remotely if needed.
- The county purchased the WebEOC crisis information management system, which was used countywide in city EOCs and agency Department Operations Centers (DOCs). At the height of the 2007 fires, approximately 400 individual users were logged into the system.
- OES obtained six satellite telephones.
- Nextel provided a “go kit” with 25 phones to be used by OES staff during response operations.
- The county completed a \$20 million renovation of the Regional Communication System, which expanded the communication capacity in eastern San Diego County. The system successfully supported 264 agencies throughout the 2007 fires response.
- The county purchased two firefighting helicopters.
- The county purchased 20 new firefighting vehicles, including water tenders, engines, and rescue vehicles.



1.2.4 Staffing

- OES staff is twice the size it was in 2003. This growth is primarily due to funding made available through homeland security grants. Current staffing levels are as follows:
 - 3 senior emergency services coordinators



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- 6-7 emergency services coordinators
- 3 finance personnel
- 1 part-time GIS coordinator
- 1 full-time public information officer (PIO)
- Student interns
- Trainees

1.2.5 Brush and Vegetation Management / Fire Safe Community Design Concepts

- Approximately \$52.5 million has been spent in San Diego County to reduce hazardous fuels such as 500,000 dead, dying, and diseased trees. The strategy was to first identify at-risk areas and prioritize geographical regions according to the greatest risk. Next, the focus was placed on removing the dead, dying, and diseased trees that posed the greatest risk due to their proximity to homes, roads, and evacuation routes.
- Improvements to building codes for building in the Urban Wildland Interface (UWI) areas were made, as well as improvements in the requirements for vegetation management in new major subdivisions by requiring Homeowners Associations to maintain fire-safe open spaces.
- The county has also adopted codes requiring brush clearing and weed abatement for private land owners. The Weed Abatement Ordinance requires the clearing of combustible vegetation in a 100-foot radius around all structures, including those on public lands. The local fire district conducts initial inspections.
- Additionally, the county recently adopted guidelines that require wildland fire and fire protection review of all discretionary land use applications. The guidelines require that all new subdivisions have a Fire Protection Plan that must be approved by the county and the local Fire Authority.



1.2.6 Public Education and Personal Preparedness

- A *Family Disaster Plan and Personal Survival Guide* was mailed to every household in the county, providing residents with step-by-step instructions for protecting their homes and families.
- OES launched an extensive disaster preparedness public education campaign that included television, radio, and billboard announcements. The campaign was recognized in 2007 with an award from the International Association of Emergency Managers.



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- The San Miguel Consolidated Fire Protection District (the District), with assistance from a Federal Emergency Management Agency (FEMA) grant, established a Community Education Program that, in the last 2 years, provided disaster preparedness and evacuation planning information to more than 10,000 urban interface homes and businesses.
- The District, in partnership with the American Red Cross, co-presented family disaster planning seminars to all District employees and, to date, more than 600 community members.
- The county has launched numerous public education campaigns about fire safety and defensible space.
- Preparedness wheels designed especially for people with disabilities were developed and distributed.

1.2.7 Other Improvements

- San Diego County is the only jurisdiction in California to receive Emergency Management Accreditation Program (EMAP) certification.
- A Three-Year Preparedness Exercise Program was developed and presented with the “2005 Best in Category” award by the National Association of Counties.
- The OAEOC completed a reorganization and revision of staffing positions to include separating the planning and intelligence functions from the Plans/Intel Section. The reorganized OAEOC now has five general staff sections: Planning, Operations, Logistics, Finance/Administration, and Intelligence.
- OAEOC position binders were created to include position checklists, instructions on telephone and WebEOC use, instructions on how to log onto the computers, seating charts, and contact numbers for personnel.
- The county established a functional JIC that provided the opportunity to conduct joint, city-county press briefings during the 2007 fires with agency representatives disseminating the same coordinated message. Joint press briefings and coordinated messaging did not occur during the 2003 fires.
- The OAEOC established a GIS Section that now has a dedicated room, with dedicated plotters and other equipment, as well as trained staff to create tailored GIS products. The GIS Section and equipment did not exist during the 2003 fires.





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- The county established field liaison personnel to gather and provide information back to the OAEOC. Field liaison personnel were deployed to the Harris, Poomacha, and Witch Creek fires, and were integrated into the Incident Command at each location.
- The county continued to develop the CERT program. There are now 26 CERT teams in comparison to one team in 2003. Several hundred CERT members responded to the 2007 fires.
- The Medical Reserve Corps (MRC) was enhanced. MRC personnel responded during the 2007 fires and provided support to evacuation shelters.
- The OAEOC staffed all five general sections. Please see Appendix D for the Organizational Chart for the Level 3 activation.

1.3 Increased Fire Readiness

Due to the ongoing drought and forecast for upcoming red flag conditions, OES staff and county agency personnel engaged in increased readiness activities the week prior to the fires. These activities included the following:

- Reviewing and establishing critical fire-related milestones
- Identifying alert stages
- Reviewing notification procedures
- Double checking staff phone numbers
- Identifying available staff and checking vacation schedules
- Identifying personnel to fill key OAEOC positions if activation was required
- Ensuring that fire agencies pre-position equipment and assets
- Assessing fire agencies' staffing levels and pre-identifying "draw down" to ensure COOP at base levels

2 EMERGENCY OPERATIONS CENTER

2.1 OAEOC Management and Operations

2.1.1 Improvements Since 2003 Fires

2.1.1.1 Plans

- Numerous positive changes were made to the organizational structure.
- Formal agreements were developed between San Diego County OES and CAL FIRE to provide liaisons to the OAEOC during large-scale wildfires.



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2.1.1.2 Training

- The OAEOC participated in numerous preparedness exercises, including the San Diego County Biological Full-Scale Exercise (FSE) conducted in March 2007.
- WebEOC training continued for personnel, and specific, annual training was conducted for each functional section (e.g., Planning Section).

2.1.1.3 Equipment

- Significant improvements were made to the OAEOC facility, including remodeling seating areas, acquiring new furniture, creating a functional JIC, introducing GIS mapping capabilities, and improving security features surrounding the perimeter.
- The county purchased a new, web-based emergency management system (WebEOC) that was successfully utilized in recent emergencies and exercises.

2.1.2 2007 Fires Overview

The initial 2007 wildfire (Harris Fire) started at approximately 0923 Pacific Standard Time (PST) on Sunday, October 21, 2007, and was fueled by Santa Ana winds. RACES reported the fire to OAEOC personnel at approximately 0955 PST. Upon initial notification of the wildfire, emergency management personnel began to monitor the situation and consider activation if needed. At 1116, the OAEOC was activated to a Level 1 and, within minutes, AlertSanDiego notified emergency management personnel to respond to the OAEOC. As the incident progressed, more personnel were requested to respond to the OAEOC—at 1347, Level 2



activation was achieved. The county proclaimed a local emergency at 1448. The initial wildland fire, the Harris Fire, was minimally contained when fire danger increased with the start of another large wildland fire, the Witch Creek Fire. As a result, the OAEOC activated to a Level 3 at approximately 1602 on Sunday, October 21, 2007.

Operational periods at the OAEOC were from 0700–1900 for Shift A and from 1900–0700 for Shift B. Personnel from San Diego County OES were able to fill most of the crucial OAEOC leadership positions, including Operations

Sections Chief. Additional personnel were requested and utilized through the Emergency Managers Mutual Aid (EMMA) agreement. Response operations continued around the clock for several days, but by the following weekend (on Saturday, October 27, 2007), the OAEOC began to downsize staffing and begin short-term recovery operations. Deactivation of the OAEOC took place on Friday, November 9, 2007, at approximately 1400.



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2.1.3 Successes

- San Diego County OES personnel were able to fill a majority of the key leadership roles and functions within the OAEOC.
- The newly created field liaison positions provided crucial information back and forth between the OAEOC and the Incident Command Posts (ICPs).
- Activation of the EMMA agreement provided additional personnel familiar with emergency management to fill necessary positions within the OAEOC.
- Restructuring the OAEOC Organizational Chart provided a more seamless and organized response.
- Pre-planning began to take place between Public Health, special needs advocates, hospitals/clinics, and numerous volunteer agencies regarding evacuation and shelter operations.
- Contributions from the private sector were critical in the response efforts, including providing supplies to evacuation shelters and giving food/crates to evacuees with family pets.



2.1.4 Areas for Improvement

- The existing protocols for fire notification from CAL FIRE to San Diego County OES should be updated.
- The 12-hour operational period (before and after which shift changes occurred) was long, and formal shift-change procedures were not always followed.
- A centralized function for care and shelter operations and/or special needs populations should be more fully integrated.
- There was confusion regarding the roles and responsibilities of the Medical Operations Center (MOC)—specifically, how it communicated with the OAEOC.
- The OAEOC may consider taking advantage of the availability of trailers that could provide sleeping areas and showers, which could reduce dependence on hotels and motels and also reduce safety issues presented by OAEOC staff driving while fatigued.



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2.2 JIC/211/OES Website

2.2.1 Improvements Since 2003 Fire – JIC

2.2.1.1 Plans

- Annex L, the emergency public information component of San Diego County's Operational Area Emergency Plan was updated in 2006.

2.2.1.2 Training

- Routine training and drills were conducted for PIOs and 211 San Diego staff members.
- Two-day training on the JIC system and role responsibility was conducted for 20 regional PIOs in 2007.
- Routine WebEOC training was conducted for PIOs to ensure fluid communication flow during an emergency.

2.2.1.3 Equipment

- Multiple flat screen monitors were purchased and installed in the JIC for increased media visibility.

2.2.1.4 Communications

- The emergency management software WebEOC was procured and implemented in the JIC.

2.2.1.5 Other

- The county added a full-time public information specialist to the OES staff.

2.2.2 Improvements Since 2003 Fire – 211 San Diego

2.2.2.1 Training

- The county conducted the 2007 San Diego County Biological FSE and San Onofre Nuclear Generating Station (SONGS) exercise.

2.2.2.2 Equipment

- A generator was purchased with a \$120,000 county OES grant to ensure adequate power was supplied to all communications systems for 211 telephone specialists.

2.2.2.3 Other

- In July 2005, 211 was established as a non-profit organization to provide around-the-clock community, health, and disaster information.



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- The county established an MOU with OES to provide a staff position in the JIC and to act as a rumor control and liaison for OES and Volunteer Organizations Active in Disaster (VOAD).

2.2.3 2007 Fires Overview

The JIC is the primary coordination location for collection and dissemination of public information during an emergency. The JIC works in coordination with the OAEOC, 211 San Diego, subject matter experts, and the media to ensure accurate and timely information is provided to the public. The JIC and 211 San Diego both began emergency operations on Sunday, October 21, 2007, with around-the-clock operational coverage.

The JIC was operational for a total of 11 days and was comprised of approximately 8–10 county PIOs and a 211 San Diego liaison. PIOs were assigned specific functions within the JIC to include gathering information and writing press releases, conducting phone interviews with the media, and updating county websites. Information was primarily gathered from WebEOC significant events boards and from CAL FIRE personnel in the OAEOC. The information was then incorporated into press releases. Press releases were posted on the JIC WebEOC board and then e-mailed to appropriate media outlets. The JIC maintains and routinely updates a



media distribution list to ensure information is disseminated efficiently. Approximately 210 press releases were disseminated to the media and public. Furthermore, the county website, www.sdcountyemergency.com, contained all press release information in addition to field reports, incident maps, health information, power outages, evacuation orders, and other critical emergency information. Prior to the fires, County web site hits were in the range of 300,000 to 600,000 per day. On Monday, October 22nd, hits increased to 10 million—a factor of approximately 25 times. Website hits

increased significantly when national media outlets, such as CNN, started linking to the county website. Due to this surge in traffic, the website experienced a period in which response was extremely slow. The County Technology Office took immediate steps, and split the emergency website from the main county web site, and hosted it on its own separate server later on Monday, October 22nd. To ensure adequate capacity, the website was re-hosted to additional larger servers during the week, eventually reaching a capacity of 8 times the original capacity of the initial server.

The Federal Communications Commission established the 211 dial code as a community-based information hotline; 211 San Diego is the primary agency authorized by the California Public



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Utilities Commission within San Diego County to provide community information. Throughout the disaster, 211 San Diego functioned as an interactive communication asset with personnel routinely gathering information from the JIC, WebEOC, private sector corporations, and other informative resources to get information to county officials and the public in a timely manner. Initially, general fire information was collected and stored in binders and was updated every 30 minutes. However, new software was developed within a week of operations to support the automation of information. San Diego Futures Foundation assisted this effort by donating 50 computers to the 211 San Diego facility.

During a typical weekday, 211 San Diego operators answer an estimated 500 calls within a 24-hour period. Within the first operational day of the fires, approximately 6,000 calls were made to 211, which reached its peak of 44,000 calls on October 23, 2007. By the end of the operational period, a total of 140,000 calls had been answered by 35 staff members and approximately 1,200 volunteers. A full-time volunteer manager was assigned to help coordinate the influx of volunteers and to ensure a 30-minute training session was completed. Approximately 80% of 211 staff were bilingual. In addition, 211 has access to 156 languages through the use of a translation assistance group. The volume of incoming calls caused some phone networks to be over subscribed. Within 3 operational days, IBM Corporation assisted in doubling 211's network size, and AT&T added six additional T1 lines at the 211 facility. Furthermore, 211 San Diego and the Department of Child Services jointly implemented a virtual call center.

2.2.4 Successes

2.2.4.1 Joint Information Center

- Routine and frequent joint press conferences by city, county, and State personnel were conducted during the firestorms.
- GIS maps were readily available throughout the JIC and were a valuable tool for PIOs, media personnel, and residents.
- Multiple methods of information distribution (211, county websites, WebEOC, and e-mail) were used to ensure the timely flow of information.
- The efficient flow of information allowed the JIC to send more than 200 fire updates to the media. These updates were also posted on the emergency web page for public viewing.

2.2.4.2 211 San Diego

- The integration of personnel and communication equipment allowed for a 7,000% increase in the 211 information distribution capacity.
- Technological infrastructure—including rebuilding the network and adding new phone lines, new computers, and improved databases—were implemented during 211 disaster operations.



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- An increased number of dedicated 211 volunteers were established during the wildland fires.
- The 211 Emergency Operations Plan (EOP) was validated.
- The virtual call center concept was validated and implemented for the first time.

2.2.5 Areas for Improvement

2.2.5.1 Joint Information Center

- The JIC required additional PIOs to fully support communication efforts.
- A master list of evacuated communities, repopulated communities, boil-water orders, and shelters needs to be available in the JIC.
- The JIC needs to identify and establish a media monitoring position to address media inaccuracies.

2.2.5.2 211 San Diego

- The 211 call center did not start up operations in an efficient manner due to an initial lack of volunteers and insufficient infrastructure.
- Transferring raw information from WebEOC and translating it into public information was difficult.
- Draft and finalized media releases were not found on WebEOC where 211 personnel were previously trained to look for them.
- Information concerning outlying communities was not always available on WebEOC.

3 GEOGRAPHICAL INFORMATION SYSTEM

3.1 Improvements Since 2003 Fires

3.1.1 Plans

- San Diego County created the GIS Emergency Group to strengthen GIS community cooperation.
- A GIS Emergency Group Standard Operating Procedure (SOP) was developed to standardize GIS operations conducted in San Diego County.
- GIS positions were established within OES for day-to-day operations and OAEOC response during an incident. GIS staff and resources were established at departmental DOCs and the MOC.

3.1.2 Training

- There was participation in numerous county-level OAEOC disaster preparedness exercises.



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- Personnel completed Incident Command Training to include Incident Command System (ICS) 100; ICS 200; Independent Study (IS) 700; and National Incident Management System (NIMS), which enhanced understanding of the support role GIS plays in the ICS structure.
- A county GIS analyst was trained as a GIS specialist for incident response.

3.1.3 Equipment

- WebEOC and mapping of Reverse 911 were used to improve evacuation tracking. WebEOC allowed communication and sharing of GIS data and maps among county and city GIS specialists.
- GIS used advanced imagery, mapping, and fire sensor technology available from the U.S. military.
- San Diego County's "Firemapper" technology was replaced with newer GIS fire-perimeter mapping resources.
- A local geospatial data structure was downloaded and maintained to lessen the dependence on network connections.
- Personnel identified key on-line mapping resources from various State and Federal agencies that could provide key information during an incident.
- Personnel created mapping templates for OES.
- A WebEOC "GIS Significant Events" board was created to communicate GIS activities and share geospatial data.
- The county purchased three engineering workstations for GIS.
- The county acquired GIS software licenses with hardware keys to lessen the dependence on network connections.
- The county purchased a large format plotter for hardcopy reproduction of maps in the OAEOC.
- The County Department of Planning and Land Use (DPLU) purchased, and is in the process of outfitting, a GIS trailer that can be deployed to incidents, although it was not ready for deployment during the 2007 fires.
- A GIS room was established within the OAEOC.

3.2 2007 Fires Overview

A GIS representative reported to the OAEOC early on Sunday, October 21, 2007. First responders, RACES personnel, and San Diego County Sheriff's Department deputies deployed in the field provided initial GIS mapping information. GIS personnel were prepared to implement their new SOP, which was being finalized the week prior to the fires. By late afternoon, two county GIS analysts were deployed to the Harris and Witch Creek fires.



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By Monday, October 22, 2007, the OAEOC had a GIS Information Technology (IT) staff of four-to-five people who worked 12-hour shifts. The team primarily consisted of a GIS unit leader and three-to-four analysts/technicians. In addition, San Diego County's GIS manager handled operational logistics, such as scheduling people for shifts, arranging for off-site analyses, and communicating with military personnel. The sheriff's GIS staff also worked closely with the OAEOC GIS Unit to map fire perimeters during the initial days of the incident.

Throughout the incident, the GIS Unit provided the common operating picture (COP) for the seven fires that were burning throughout the county, five of which were considered large in scope and size. The COP incident information included fire perimeters; active fire areas from the Modis Satellite; evacuated areas; evacuation shelters; road closures; and Local Assistances Centers (LACs). Other location information included community names; freeways and major roads; a Thomas Brothers' page grid; Indian reservations; military lands; and U.S. Department of Agriculture (USDA) Forest Service lands.



Incident geospatial information was shared with GIS operators throughout the county on the WebEOC GIS Significant Events board. Maps and data tables were shared with non-GIS personnel on WebEOC through the File Library Map and Incident Data Boards. GIS staff located in other jurisdictions, agencies, and utilities were provided with the geospatial data and COP maps via e-mail if they did not have access to WebEOC. Incident information and/or maps were also shared with the State of California, FEMA, San Diego State University (SDSU), the U.S. Department of Defense (DoD), and the media.

The decision by the OAEOC director, county PIO, and GIS unit leader to release maps to the media was made early in the incident. Portable Document Format (PDF) files of OAEOC maps were available for download on the www.sdcountyemergency.com website. The county PIO communicated the existence of the maps to the media and public. These maps served to provide the public with an overview of the fires.

Incident geospatial information was used for a variety of purposes throughout the fires. Perimeter data was used to help determine evacuations; evacuation data was combined with demographic data to estimate the number of people evacuated, shelter sizes, and locations; the County Department of Environmental Health (DEH) used fire perimeter, evacuation data to identify hazardous materials in the path of the fires and used environmental health GIS layers to map and assess health issues in the area of active fire or power outages; evacuation boundaries were used to track repopulation of communities; government facilities data was overlaid with fire perimeters to determine potential impacts of services; parcel, assessor, and housing unit information was provided to incident teams in the field; and fire imagery from different aerial



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platforms was provided to incident teams, policy members, and hazardous material teams. In addition, the county's Health and Human Services used the data to determine care facilities that were threatened or needed to be evacuated, and mapped health-related incidents.

By Tuesday, October 23, 2007, the SDSU Department of Geography; the Center for Information Technology and Infrastructure Visualization Center; and the local public broadcasting station, KPBS, had established websites on their servers that provided geospatial information on the fires. These sites helped alleviate some of the traffic on the overloaded county website. Throughout the incident, SDSU had a staff of 25–35 people working around the clock to maintain the websites, collect data and imagery, and coordinate with the OAEOC GIS staff. News organizations also utilized the data and set up their own sites.



By Wednesday, October 24, 2007, assistance from the U.S. Geological Survey (USGS) and State OES was provided in the form of “QuickBird” satellite imagery of pre-fire conditions. Additionally, Federal agencies tasked this asset and others to collect imagery of the fires. Also at this time, the SDSU Visualization Center was contacted by representatives from NASA and Google that were providing imagery from the Predator “Ikhana” Unmanned Aerial Vehicle. The Visualization Center facilitated bringing Ikhana's imagery to the OAEOC, which became part of the COP within the operations center. Naval aircraft, capable of providing night vision and laser Global Positioning System (GPS) technology, were used to provide and verify fire-related information during hours of darkness. For example, government infrastructure data was provided to naval aircraft to identify any infrastructure damage as well as information about the location of active fire lines. This technology proved to be very beneficial in the case of the San Miguel 500-Kilovolt (KV) power substation. Initial indications were that the fire was not approaching the substation; however, through the use of night-vision technology, a Navy pilot could see that the fire was close to the substation and was then able to relay that information back to the OAEOC. The OAEOC then notified CAL FIRE to send a strike team to defend the substation. Post-fire GIS maps show the substation as an unburned area surrounded by burn. Had this substation burned, much of San Diego County could have lost power.

The use of GIS for mapping evacuation areas contacted via the Reverse 911 system received mixed reviews. There was a desire to develop GIS maps of the areas that were called using the Reverse 911 and AlertSanDiego systems, so that we had GIS maps of the areas called for evacuation; however, there were delays in mapping because the information from Reverse 911 is not GIS-compatible, and therefore has to be disseminated via computer printout and uploaded manually into the system. The new AlertSanDiego system has the capability to produce data in a GIS-compatible format, but that portion of the system was not fully integrated.



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Realizing the need for post-fire aerial imagery for damage assessment and the long-term monitoring of burned areas, the San Diego County OAEOC ordered a high-resolution, geo-referenced, multi-spectral aerial image acquisition of the burned areas. A contract was issued with a private firm that had aircraft available to complete the mission. Imagery was acquired over all the fires within the county on the weekend of November 3, 2007. Delivery of geo-referenced image tiles began on November 8, 2007. Because the imagery does not have any licensing restrictions with the private firm, it could be made available to any and all agencies, as well as to the general public. The use and availability to others proved to be difficult due to the size and tiling scheme of the data. Due to this fact, the county amended the contract several weeks after the fires to have the imagery orthorectified, compressed, and mosaiced.



On October 28, 2007, the OAEOC began to focus on damage assessments efforts. The Department of Planning and Land Use (DPLU)-GIS supported approximately 25 damage assessment teams (three people per team), which used hand-held GPS and paper forms to capture data directly from the scene. The assessment teams' use of GPS allowed for the assessment of 350–500 homes per day compared to 50–100 homes per day by teams using laptop, computer-based GIS programs. However, although more homes can be assessed using the GPS collection process, the information is not as detailed or as accurate as the laptop,

computer-based GIS information. Since GPS provides a broad overview of damage and a general location of where the damage occurs, the State of California OES and Environmental Systems Research Institute (ESRI) representatives have recommended the GPS data collection process as a model for the State of California.

The OAEOC moved into the recovery phase on Wednesday, October 31, 2007. GIS services continued and assisted the OAEOC with information concerning debris removal, structural damage assessments, grant writing, road damage assessments, final draft fire perimeter maps, and final evacuation area data and maps. Other agencies that benefited from GIS mapping during the recovery phase included Agriculture; Weights and Measures; Department of Public Works; DEH; DPLU; Sheriff's Department; Parks Department; Health and Human Services Agency; District Attorney's Office; and Registers of Voters.

3.3 Successes

- Quick release of maps and imagery to the press and public helped keep the public informed with the best available information and calmed possible fears due to misinformation.
- The draft GIS SOP was implemented and tested during the fires.



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- The GIS ICS provided a clear chain of command structure within the OAEOC and local jurisdictional GIS staff.
- Outstanding cooperation between OAEOC GIS staff and Federal and State agencies facilitated the use of technologies normally reserved for military or intelligence communities.
- Support from Google and NASA was instrumental in obtaining up-to-date imagery.
- DPLU-GIS damage assessment teams' use of a "teleform" and hand-held GPS process to collect data from the field was very beneficial. State OES and ESRI suggest recommending this as a State model.
- Pre-mapping of special needs facilities assisted in the successful evacuation of 2,100 people from skilled nursing facilities.
- Use of the Thomas Brothers' map overlays enhanced the ability to interpret and locate the information portrayed.
- The ability of OAEOC and the public to access GIS maps and imagery via the San Diego State University high-speed Internet website helped to provide information more widely.
- Mapping of evacuation areas using Reverse 911 text-based information was beneficial.
- GIS support distributed to city, county, State, and Federal agencies aided the response.
- The lack of licensing restrictions on the high-resolution, multi-spectral imagery allowed the county to make the data available to other agencies, organizations, and the public.
- WebEOC was available and used among County and City of San Diego GIS staff for viewing, posting, and sharing geospatial data and maps.
- DEH environmental health specialists used intranet/web-based GIS to identify and assess health and safety issues from the office to the field.

3.4 Areas for Improvement

- Some GIS staff members from jurisdictions, agencies, and utilities were not trained in WebEOC and were not aware of information-sharing protocols with the OAEOC.
- Some jurisdictions performed GIS mapping on stand-alone computer systems without access to the Internet. This delayed the dissemination of data between them and the OAEOC.
- There was no standardized terminology among response organizations regarding housing areas, landmarks, and other geographic-specific locations.
- Information on WebEOC became redundant due to multiple users uploading identical data.
- Each jurisdiction conducted damage assessment independently. It is unclear if jurisdictions were using the same criteria for the assessments, and the resulting geospatial data sets could not be integrated due to varying attributes and spatial geometry differences.



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- GIS personnel need to be able to continue to track incident information if it moves beyond the boundaries of San Diego County.
- Although the OAEOC GIS Unit was in contact with Federal and State agencies regarding data and imagery being collected, it was unclear what was being made available and when. Better coordination of possible imagery and data acquisition between local, State, and Federal partners needs to happen prior to an incident.
- During and after an incident, local imagery and data needs should be better described.
- The GIS Emergency Group needs to continue training and revise/update the standard operating procedures that are defined by the group.

4 ANIMAL SERVICES

4.1 Improvements Since 2003 Fires

4.1.1 Training

- A strike team training program has been developed, and pre-identified strike teams are established. Strike teams consist of 10 officers and 2 lieutenants and enable a more efficient animal evacuation response.
- Community awareness programs and educational seminars have been implemented for CERTs.
- A weekly micro-chipping clinic was developed to include national registration for all animals in San Diego.

4.1.2 Communications

- Improved relationships with the San Diego Humane Society allowed for efficient communication flow and a coordinated response.

4.2 2007 Fires Overview

The County of San Diego's Department of Animal Services is the lead agency for a disaster of any kind involving animals. The County of San Diego's Department of Animal Services began emergency operations on Sunday, October 21, 2007, and concluded operations on Friday, October 26, 2007. The operations were based out of the Animal Services dispatch office, which functioned as a DOC. Animal Services also provided one representative to the OAEOC as well as field response officers.

During the first day of operations, Animal Services personnel assumed their designated roles throughout the county to ensure sustained animal services operations. A total of five animal shelters were established: Lakeside Rodeo Grounds, Jamul Ranch, Gillespie Field, Fiesta Island, and Del Mar Fairgrounds. Throughout the disaster, Animal Services personnel, assisted by San Diego Humane Society personnel, provided animal evacuation assistance to individuals living in



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unincorporated areas and contracted cities. Animal Services personnel also provided care and feeding support at the established animal shelters, coordinated animal resource needs at Red Cross shelters, and provided long-term care and feeding to animals unable to evacuate in Ramona, Jamul, and Fallbrook. Following the conclusion of the fires, Animal Services personnel assisted in reuniting animals with their owners. The success of the mass care and sheltering of animals can also be attributed to large donations of animal crates, food, and other essential animal supplies provided by organizations such as PetSmart, PetCo, and Carter's Hay and Grain. Overall, approximately 400 animals were brought into three county animal shelters; more than 3,000 animals were rescued, relocated, temporarily housed, and returned to owners in the field; and an estimated 5,000 animals per day were fed and cared for at evacuated owners' properties for up to 5 days after the disaster.

During operations, Animal Services personnel experienced difficulties in sustaining effective communications and efficiently tracking resources. These difficulties were attributed to a shortage of communications equipment and the need for mobile command posts. Animal Services personnel had access to 800-MHz radios, but their Humane Society counterparts did not. This communications deficiency was remedied in the past by collocating Animal Services and Humane Society field personnel, but the scope and scale of the 2007 fires and the requirement to conduct simultaneous operations at multiple locations throughout the county did not allow for collocation.

Additionally, Animal Services personnel lacked access to the resources afforded by a mobile command post. Access to WebEOC, GIS products, and other types of automation were not available at established temporary animal shelters. Although Animal Services personnel were able to care for, shelter, and feed evacuated animals, they indicated that their operational and administrative efficiency and effectiveness was hampered due to the lack of a mobile command post.



A greater number of animals were evacuated sooner and over a longer period of time compared to the 2003 fires. This was largely due to the dedicated and trained Animal Services staff. Animal Services is comprised of 30 full-time Animal Services officers. Of the 30 officers, 10 officers and 2 lieutenants went through strike team training in order to enhance operational response time and evacuation coordination. During the fires, strike team operations were highly effective and well coordinated. Personnel not assigned to strike teams worked 12-hour shifts. Due to limited staffing, Animal Services worked in conjunction with the San Diego Humane Society to utilize approximately 60 trained animal rescue reserve members, local law enforcement mounted patrols, and Humane Society of the United States (HSUS) staff. Staffing was required at all five designated animal shelters with two individuals supporting the Del Mar



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Fairgrounds shelter site. Moreover, Animal Services and Humane Society staffs were deployed throughout the county to ensure the care and feeding of non-evacuated animals.

4.3 Successes

- The development and implementation of a strike team concept resulted in organized and efficient animal evacuations.
- Animal Services effectively conducted routine community education programs to help better prepare the community.
- Animal Services personnel effectively provided long-term care for animals whose owners were unable to return home.
- Animal Services successfully reunited animals with their owners.

4.4 Areas for Improvement

- Animal Services personnel deployed to the field did not have access to computers and other critical communication tools, which did not allow for efficient tracking and information flow.
- No mutual aid agreements were established with animal evacuation sites throughout San Diego County.

5 CONSTRUCTION AND ENGINEERING

5.1 Improvements Since 2003 Fires – San Diego County Water Authority

5.1.1 Plans

- The San Diego County Water Authority maintained the mutual aid agreement executed in 1992 and updated in 2002 with 19 of the 24 member agencies in San Diego County.
- Since 1996, the Water Authority has maintained participation in regional and statewide mutual agreements with the Metropolitan Water District of Southern California (MWD) and through the California Water Agency Response Network (CalWARN).
- The Water Authority revised EOPs and developed an Integrated Contingency Plan, incorporating NIMS, to include hazard-specific action plans.

5.1.2 Training

- The Water Authority conducted NIMS training for its staff.
- Water Authority personnel attended county OES training in EOC operations, ICS, and recovery planning.



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- The Water Authority conducted tabletop exercises with Water Authority ICS unit leaders and interagency exercises with the 24 member agencies as well as other regional and State agencies.
- The Water Authority coordinated bi-monthly meetings with water agencies' emergency coordinators that included discussions of emergency topics and training.

5.1.3 Equipment

- The Water Authority implemented a web-based notification system (MIR3) for employee and stakeholder notifications.
- The Water Authority adopted the web-based emergency management system (WebEOC) provided by the county OES.
- The Water Authority purchased personal emergency kits for first responders.

5.2 Improvements Since 2003 Fires – San Diego Gas & Electric Company

5.2.1 Plans

- SDG&E modified and implemented EOC procedures based on information contained in the After Action Report (AAR) for the 2003 fires. These modifications enabled EOC personnel to operate more effectively.

5.2.2 Training

- SDG&E conducted routine training and exercises that assisted EOC personnel in reinforcing their roles and responsibilities.

5.2.3 Equipment

- SDG&E implemented plans with vendors that aided in the procurement of needed generators.

5.2.4 Other Improvements

- SDG&E applied lessons learned from the 2003 fires.
- Through the use of mutual assistance contracts, five different utility companies from across the country provided crews to assist in power restoration activities.

5.3 2007 Fires Overview – San Diego County Water Authority

The Water Authority is a public agency, under the County Water Authority Act, serving the San Diego region as a wholesale supplier of water since 1947. The Water Authority works through its 24 member agencies to provide a safe, reliable water supply to support the region's \$130 billion economy and the quality of life of 3 million residents. The Water Authority imports water from



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MWD for distribution to its 24 member agencies. The Water Authority's member agencies include a public utility, three irrigation districts, four water districts, six cities, nine municipal water districts, and a Federal agency.

The Water Authority activated its EOC on Monday, October 22, 2007. On Tuesday, October 23, 2007, a Water Authority representative was present in the OAEOC to support operations of the Construction and Engineering Branch. A Water Authority representative continued to provide around-the-clock support in the OAEOC for the first week of the event. The Water Authority EOC remained fully activated the first week of the fires and continued operations with reduced level of activation during the second week.



The Water Authority provided and coordinated mutual aid assistance to water agencies impacted by the fire, primarily Ramona Municipal Water District and Fallbrook Public Utility District. Assistance was also given in Potrero at the request of the OAEOC. Coordination of mutual aid assistance by both the Water Authority and the OAEOC resulted in effectively maintaining water systems in the county.

One example is the procurement of generators to support the reestablishment of water services in several burned areas. Water Authority personnel manually adjusted the flow of water in a timely manner when electronic means were not operational.

Approximately half of the Water Authority staff (100–150 personnel) deployed to support field and EOC operations. Approximately 75 Water Authority staff members were affected by residential mandatory evacuations, thus affecting the size of available work force.

5.4 2007 Fires Overview – San Diego Gas & Electric Company

Sempra Energy is the parent company for the Sempra Energy Utilities (SDG&E and Southern California Gas Company), which provide electricity and natural gas to customers in San Diego County. SDG&E activated its EOC in monitor mode on Sunday, October 21, 2007, in response to the first fire, with a full activation on Monday, October 22, 2007, and maintained that level of activation for 3 weeks. Southern California Gas Company activated its EOC and maintained a full activation for the first week, and a limited activation for the second 2 weeks. Sempra Energy activated its Crisis Management Center to monitor the activities of the utility companies.

Approximately 100 personnel staffed these EOCs, and two personnel (one per shift) staffed the SDG&E liaison seat in the OAEOC for the first 12 days of the OAEOC activation. Additional personnel were deployed countywide to command centers, ICPs, community outreach centers, crews conducting damage assessments and restoring power lines, and staffing electric company call centers. Although the primary function of electric company personnel was to restore power to the affected areas of the county, the assistance provided by company personnel in other areas was invaluable.



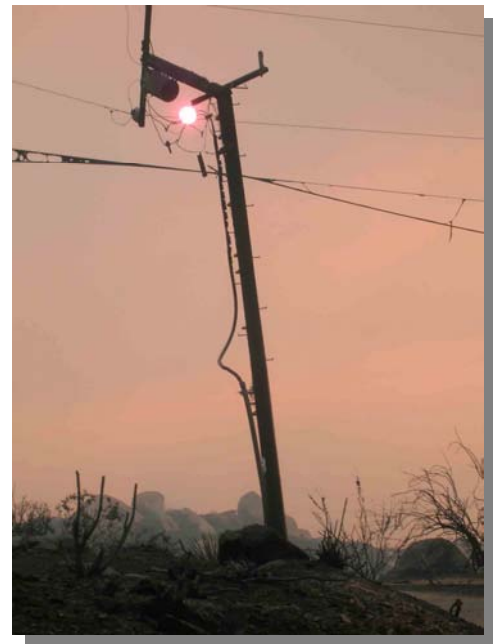
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There are two major transmission lines that provide power to the county. During the fires, both lines had fires burning underneath, which presented the imminent loss of power to the entire county. The SDG&E representative in the OAEOC worked with the military fire liaison to get helicopters to drop fire retardant in the area of the active transmission line, and crews expedited the maintenance required to bring the other transmission line back into service. In addition, SDG&E personnel began looking for whom they needed to provide power, and identifying priority customers (e.g., hospitals). Had the crews not been able to bring the inactive line back into service when they did, and if the helicopters had not been available, approximately minutes later, significant parts of the county would have been without electricity.

At the height of the firestorms, 80,000 customers were without power due to critical infrastructure being destroyed including key transmission lines. Through the use of mutual assistance, five different utility companies provided crews to assist in restoration of services. Once damage assessments had been completed, crews engaged in restoration activities that included reconstruction of burned lines and the use of helicopters to aerially drop poles to restore lines.

Due to the extensive damage suffered in the rural areas of the county, Sempra Energy has donated \$5 million dollars to help those communities rebuild. As the details of the donation are still being established, an example of how the money is expected to help would be to assist rural customers offset the cost of replacing private property power lines destroyed during the fires.



5.5 Successes – San Diego County Water Authority

- Water Authority representatives at the OAEOC were effective in working with the OAEOC in the Operations' Construction and Engineering Branch, and were called on to provide support to the Planning and Logistics sections.
- The Water Authority's mutual aid agreements with member agencies and the MWD were utilized and worked well in supplying the resources needed.
- Water Authority staff and member agencies showed impressive dedication to the mission of providing safe and reliable water, working long hours under unfavorable conditions, despite physical and mental hardships, and displacement due to evacuations.
- Key Water Authority personnel exhibited familiarity with ICS roles and responsibilities.
- Previously developed relationships with outside agencies aided cooperation and readiness to respond.



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5.6 Successes – San Diego Gas & Electric Company

- Two utility company EOCs were rapidly activated, and lessons learned from the 2003 fires were applied.
- Mutual assistance crews from across the country were arranged.
- Community outreach activities were conducted.
- SDG&E restored power to affected areas ahead of schedule. Within 10 days after SDG&E had access to the damaged areas, power was 97% restored; it was 100% restored within 13 days.
- Having an SDG&E representative in the OAEOC was invaluable and provided the opportunity to share information between electric companies and other agencies.
- SDG&E crews were able to gain access to evacuated areas due to the ability to work with law enforcement agencies in the OAEOC.
- Interfacing with the GIS unit in the OAEOC and the ability to obtain the most updated maps enabled SDG&E and Southern California Gas Company to determine where crews could begin restoration activities.

5.7 Areas for Improvement – San Diego County Water Authority

- Awareness in the operational area, particularly by fire and law enforcement, that water agencies are first responders and must gain access to facilities and their EOCs must be raised so that restoration of water is not impeded by barricades.
- To avoid confusion and the dissemination of misinformation to the public in future water quality events, State and county public health representatives need to agree on a procedure for approving public health messages prior to issuance.
- Ramifications for repopulating an area when services are not fully restored need to be determined. Agency responsibilities prior to release for repopulation need to be defined. Preparedness documents need to clarify that water agencies do not provide public health facilities or potable water in an emergency event; the documents need to indicate who will be responsible for these items.

5.8 Areas for Improvement – San Diego Gas & Electric Company

- Comprehensive plans for enabling residents to return to their communities were not available, resulting in conflicting priorities influencing key decisions.
- A more elevated role of SDG&E officers in the policy group is needed in order to provide key information regarding utility clearance and restoration.
- There was a lack of clarity or understanding regarding SDG&E's policies for loaning generators.
- Establishing a consistent branch coordinator for the Construction and Engineering branch would have aided in continuity of communication within the branch.



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6 LOGISTICS

6.1 Improvements Since 2003 Fires

6.1.1 Training

- The Logistics Section conducted routine WebEOC training to ensure efficient information sharing during a disaster.

6.1.2 Other

- Manual requisition and log forms were created for purchasing and contracting.
- The OAEOC was redesigned to include enhanced communications equipment and improved staffing organization.
- Purchasing and Contracting implemented a policy to ensure routine updating of pre-identified vendors.
- County OES implemented the automated Resource Tracker module of WebEOC in 2007.

6.2 2007 Fires Overview

The OAEOC Logistics Section began initial operations on October 21, 2007, and continued operations until November 9, 2007. Throughout its activation, the Logistics Section was responsible for managing incoming resource requests, maintaining situational awareness of resource inventory, coordinating resource distribution, and acknowledging resource delivery. The Logistics team was comprised of county OES staff, facility operations personnel, Purchasing and Contracting personnel, buyers, and off-site personnel at the primary warehouse.



Logistics personnel used WebEOC task tracker and telephones to conduct operations. They received requests for resources in numerous ways, including telephone, e-mail, and face-to-face communications in the OAEOC. Logistics personnel worked with the primary warehouse to assess available resources for incoming requests. The warehouse was used to store donated and purchased goods—although it was often difficult to distinguish between these two types of goods. If available, resources were sent from the warehouse to the requesting location. Requests outside of normal operations often came from other

OAEOC sections and were then processed by Logistics. Emergency vendors were contacted to obtain necessary resources that were not available in the warehouse. The resources were then sent directly from the vendor to the area in need. An estimated total of 978 resource requests



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were made during the OAEOC activation, including requests for water, food, medical supplies, bedding, communications equipment, and evacuation vehicles. Although OAEOC Logistics personnel, emergency vendors, and warehouse staff worked together to effectively distribute resources, there was no mechanism to confirm resources arrived at the requesting sites. Furthermore, invoices for purchased resources were difficult to track.

6.3 Successes

- Water was efficiently obtained and distributed to areas in need (e.g., Ramona).
- The county and the city of San Diego effectively coordinated logistical support and operations at the Qualcomm Stadium mega-shelter.
- County communication networks were well utilized and allowed for efficient notification of personnel and accurate information sharing.
- Purchase cards were appropriately used at LACs.

6.4 Areas for Improvement

- The county does not have resources (e.g., beds, food, clothing) to support county staff at the OAEOC that were unable to return home during the disaster.
- An informal process was in place, but a formalized process for the forward-staging and deployment of resources during a disaster was not in place prior to the fires.
- Regional warehouses should be identified to better spread resources throughout the county.
- Additional rented trucks were not available immediately following the disaster declaration to aid in resource mobilization and distribution.
- Additional training is needed within the region in the use of WebEOC's resource tracker module.

7 EMERGENCY MANAGERS MUTUAL AID

7.1 Improvements Since 2003 Fires

7.1.1 Plans

- Recent revisions were made to the EMMA plan and guidance, resulting in a more usable document.
- The EMMA plan and guidance are easily accessible on the State of California OES website.



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7.2 2007 Fires Overview

The EMMA plan is intended to “support disaster operations in affected jurisdictions by providing professional emergency management personnel.” Due to the developing emergency and need for additional emergency management staff in the OAEOC, the EMMA request was initiated. The OAEOC requested the initial five personnel from the Southern Regional EOC (S-REOC) on Monday, October 22, 2007, at approximately 1030 PST. The positions requested were a Plans Section chief, Logistics Section chief, situation status unit leader, and deputy Operations Section chief. The S-REOC approved the request and forwarded it to the State Operations Center (SOC) at approximately 1145. The SOC authorized EMMA activation and was tasked with providing logistical support for the deployment of EMMA personnel, per the plan. Within 2 hours, EMMA support was offered from San Luis Obispo, Yuba, Sutter, and Butte counties. After the proper approvals, San Luis Obispo County was able to provide two people; Yuba, Sutter, and Butte counties each provided one person.

The first contingent of EMMA personnel arrived to support OAEOC operations in the late evening hours of Monday, October 22, 2007, although some staff did not start duty until the first shift (Shift A from 0700–1900) on Tuesday, October 23, 2007. On Wednesday, October 24, 2007, an additional two staff members were requested through EMMA. The request was made from the OAEOC to the S-REOC through the Response Information Management System (RIMS). Positions requested were a deputy Operations Section chief and a Planning Section chief from Friday, October 26, 2007, to Sunday, October 28, 2007 (Shifts B from 1900–0700). As a result of the request, personnel from Santa Clara and Kern counties responded. Activation of EMMA personnel from San Luis Obispo County lasted until Monday, October 29, 2007, and Inland Region (Yuba, Butte, Sutter counties) personnel left on Friday, October 26, 2007.



7.3 Successes

- Activation of the EMMA plan resulted in seven additional personnel supporting crucial OAEOC activities, including staffing the Operations Section, the Planning Section, and the Intelligence Section.
- EMMA personnel were able to gain knowledge of and support a different jurisdiction’s emergency response, resulting in an opportunity to make positive changes within their own agencies.
- Personnel were given an opportunity to use an unfamiliar emergency management tool (WebEOC) that worked remarkably well and was straightforward to learn and use.



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7.4 Areas for Improvement

- OAEOC personnel did not use the forms found in the EMMA plan (specifically the “EMMA Check-in and Check-out Form” and the “EMMA Personnel Exit Survey Form”).
- There was little-to-no information provided to incoming EMMA personnel containing logistical details, such as maps of the region with the directions to the OAEOC, and county “cheat sheets” with demographic information.
- There was a lag time for EMMA logistical support due to the lack of an EMMA coordinator (Logistics Section) in the SOC during initial activation of the SOC, S-REOC, and the OAEOC on Sunday, October 21, 2007.
- There were deployment and reimbursement issues prior to and during EMMA activation, including personnel having to pay out-of-pocket for flights and not being provided a point of contact to report to upon arrival.
- Not all EMMA personnel were provided with the necessary documentation in a timely manner. These materials include phone extension lists and directions to use WebEOC, and how to properly function in the OAEOC.
- A commitment period of a minimum of 7 days to a maximum of 14 days is too long for most personnel to realistically respond under the EMMA plan.

8 TECHNOLOGY AND AUTOMATION

8.1 Improvements Since 2003 Fires

8.1.1 Training

- Technology and automation was used during quarterly OAEOC exercises.
- WebEOC training was conducted on a monthly basis for countywide EOC/DOC personnel.

8.1.2 Equipment and Technology

- The county procured the WebEOC emergency management system to replace E-Team.
- Reverse 911 and AlertSanDiego public notification systems were purchased and integrated into the county’s notification procedures.
- The 211 San Diego system replaced the county’s high-volume information phone line recording that provided emergency information to residents.
- Redundant systems for Internet access were established.
- There was large-scale operational use of the county’s emergency information website, www.sdcountyemergency.com.



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- OAEOC went through a major renovation, including technological, organizational, and information upgrades.

8.2 2007 Fires Overview

Technology and automation played a major role in the successful response to the 2007 San Diego County Firestorms. The fires provided an opportunity to employ and test the OAEOC's technological enhancements and its upgraded information-sharing capabilities. OAEOC personnel at all levels used information technology tools to command, control, and share emergency management information with personnel in the field and at local, regional, and State EOCs.

The technology that received the most use and praise from OAEOC staff was WebEOC. WebEOC was the catalyst for information sharing throughout the county at all levels. Personnel with WebEOC access could view OAEOC status boards, GIS maps, status reports, and a plethora of emergency management information pertaining to the fires from any Internet-capable computer. WebEOC even allowed an employee of the San Diego Water Authority to monitor the situation and provide information while vacationing in Italy. ESI, the design team that created WebEOC, stated that the 2007 San Diego County Firestorms were the largest operational use of WebEOC in its history. OAEOC staff members reported that the system's performance exceeded their expectations.

WebEOC proved especially useful to public information personnel seeking to disseminate "one message" to the media and public. The county's JIC used WebEOC to coordinate unified press releases to the media. PIOs at all levels were able to upload their information to WebEOC where it was used by JIC personnel to compose unified press releases for dissemination to the entire county.



Technology played a key role in the successful delivery of evacuation notifications. Reverse 911, AlertSanDiego, and 211 San Diego allowed the county to quickly notify residents of the need to evacuate. This technology was not available during the 2003 fires, during which residents had to rely on an archaic high-volume phone line with an audio recording and information that was harder to keep current. The 211 system also served as a clearing house for "rumor control" and eased the workload of dispatchers and first responders by lessening the numbers of phone calls from the public on the 911 system.

The 211 San Diego call center answered nearly 109,000 calls from residents in need of timely information about shelters, evacuations, road closures, and the progression of the fires. During the week of October 21–28, operators and volunteers answered questions, such as:



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“Can you please give me more details about the evacuation?”

“Where should I go?”

“What do I do with my animals?”

“How do I get assistance to move my mother?”

The average wait time was 1.36 minutes for the entire week, and during peak call times, the average wait time never exceeded 4 minutes. Although wait times were longer in the beginning stages of the fires, San Diego County provided personnel and equipment to quickly increase the 211 San Diego call capacity. The service provided by 211 San Diego is a critical resource during disasters, allowing 911 operators to answer emergency calls.

Video screens and monitors were used extensively throughout the OAEOC to project WebEOC-based information to OAEOC staff. Data displayed included GIS maps; information on shelter status, road closures, evacuation routes; and other emergency management information. OAEOC staff members were able to monitor status boards projected on the video screens and WebEOC on their computers at the same time. Screens and monitors were also used for video conferencing and to broadcast news conferences in the OAEOC.



A “hub and spoke” concept was used to relay information from multiple organizations into the OAEOC and provide a better span of control for information sharing. For example, the MOC served as the “hub” for all hospitals. Information flowed from hospitals (“spokes”) to the MOC who would then act as a “clearing house” for information to be loaded onto WebEOC. The County Water Department used the same concept to relay information from all county water districts to the OAEOC via WebEOC.

Overall, technology and automation played a major role in the response to the 2007 fires. Improvements to the OAEOC, the procurement and employment of WebEOC, use of Reverse 911 and AlertSanDiego, GIS mapping, radio upgrades, wireless Internet enhancements, and other technologies all contributed to the county’s successful response and recovery.

8.3 Successes

- At the peak of the disaster, WebEOC allowed approximately 1,400 concurrent users to upload information and served as a “virtual liaison” between the OAEOC and all users.
- WebEOC enabled the ability to track status boards, maps, and other pertinent information in real time.



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- Reverse 911, AlertSanDiego, and 211 San Diego were used to provide evacuation notifications and other emergency information to the public.
- The county JIC was established, and WebEOC was used for local PIOs to send information for inclusion in a unified press release.
- Video teleconferencing was used throughout the operational area, including a number of video conferences with the Governor.
- An open, wireless Internet system was established that eliminated computer compatibility issues within the OAEOC.
- Acquisition of a second map plotter decreased the time required to produce high-quality GIS products.
- Contracts with Sprint Nextel and other communication companies allowed for the county to obtain additional phones (40 donated by Nextel) and portable cell towers (deployed by Sprint Nextel and AT&T). Portable cell towers also benefited the general public in making cell phone calls in areas impacted by the fires.



8.4 Areas for Improvement

- Although the JIC used WebEOC to obtain information from PIOs countywide, press releases were posted to the JIC website and not WebEOC.
- Some of the available status boards on WebEOC were not used, such as the fire status board.
- CAL FIRE did not integrate its information directly into WebEOC.
- Some unincorporated area agency personnel did not attend WebEOC training prior to the fires and were unable to operate the system during the fires.
- Video teleconference times were not always coordinated across the operational area.
- The State only accepts mission requests via RIMS. Some OAEOC personnel were not familiar with RIMS, but with training, were able to process requests.
- Status boards on WebEOC contained duplicative information that ultimately cluttered some boards.
- By Day 3 or 4, some WebEOC status boards had stopped updating and refreshing. A full Microsoft Internet Explorer temporary file folder was determined to be the cause. Periodic deletion of temporary files remedied the problem.
- The resource manager function of WebEOC was not used to track donations received from the public and private sector. Therefore, accurate tracking of what was donated, where donations were going, or who to contact was not done in WebEOC.



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- SDG&E temporarily cut power to the OAEOC grid without notification. The OAEOC video projectors used to broadcast status boards were not connected to generator power. They inadvertently shut down and took several minutes to start up when power was re-established.
- The community of Warner Springs in northeastern San Diego County did not receive Reverse 911 calls. It was discovered that there are several, but relatively small, anomalies in the 911 database provided by the phone companies that result in problems in geo-coding some homes for Reverse 911. In particular, homes that are in one community, but their post office address is in another, are problematic. In addition, there are some communities, like Warner Springs, that have a Riverside County Area Code, which also presents problems for the mass notification system. Some residents on Indian reservations that do not have formal street addresses are another example of homes that are difficult to identify in the mass notification system.

9 VOLUNTEER AND DONATIONS MANAGEMENT

9.1 Improvements Since 2003 Fires

9.1.1 Plans

- The San Diego County Office of Emergency Services and Volunteer San Diego developed an MOU and disaster response plan with 211 San Diego and the American Red Cross to better define roles and responsibilities during a disaster.
- Volunteer San Diego developed a spontaneous volunteer management plan to help better coordinate volunteers arriving at disaster scenes.

9.1.2 Training

- Twenty-five CERTs received the standard 24-hour CERT training. In 2003, San Diego County had only one CERT.
- The MRC participated in several point of dispensing (POD) exercises and additional training.
- The county incorporated volunteer organizations into numerous mass-casualty exercises, including the 2007 San Diego County Biological FSE.

9.1.3 Other

- Improved relationships were fostered with Goodwill and the county OES. An MOU is currently being developed to establish Goodwill as the primary donations collection agency during a disaster for the pre-owned personal items donated.
- The MRC increased volunteers with the acceptance of the 2003 Office of the Surgeon General Grant.



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9.2 Overview

Volunteer and Donations Management is a coordinated effort between volunteer and donations agencies that requires the logistical support of the OAEOC during a disaster. The 2007 fires necessitated the collaboration of Volunteer San Diego, the American Red Cross, the Salvation Army, CERTs, the MRC, and many others. During the fires, volunteer and donations management was organized within the OAEOC Logistics Branch. On October 21, 2007, the first fire evacuees were forced from their homes and initial requests were made to the OAEOC for goods and supplies to support the evacuees. Requests for goods continued into the second week of November. By October 22, 2007, donations from the community and local organizations began to inundate local shelters and volunteer agencies.

Throughout the county, 45 shelters were opened, including two mega-shelters at Qualcomm Stadium and Del Mar Fairgrounds, as well as various faith-based and city shelters. The large number of shelters dictated the need for hundreds of volunteers and donations. To satisfy the need for volunteers, Volunteer San Diego deployed 3,500 volunteers and had a total of 8,862 registered volunteers. Volunteer San Diego is comprised of both affiliated volunteers and spontaneous, unaffiliated volunteers. While there were numerous spontaneous volunteers at the beginning of the firestorms, the desire of the spontaneous volunteers diminished by about the third day, and there is no accountability currently in place for the spontaneous volunteers. The American Red Cross processed 2,400 new volunteers, providing background checks and a formal 2-hour training course focused on mass care and shelter operations. In total, there were 3,000 Red Cross volunteers with 2,200 volunteers deployed to shelters. The Salvation Army deployed 700 volunteers; CERTs used 600 volunteers; and the MRC deployed 70 volunteers. The combined efforts of these volunteer organizations resulted in an approximate total of 7,000



volunteers assisting in care and shelter needs, plus numerous other community-based groups whose numbers were not captured. Although volunteer agencies worked in coordination with the OAEOC Logistics Branch, there was no specific lead or coordination position to unify volunteer efforts.

Support from the community and its willingness to donate goods was a huge success. However, collection, tracking, and dispensing of the donated goods proved to be problematic. Donation management efforts were coordinated out of the OAEOC Logistics Branch. Although the OAEOC used a WebEOC task tracker, the lack of a community-wide, formal system to track what goods were being donated and where goods were most needed resulted in some disorganization. Donated goods arrived at shelters, retail stores, and three LACs. The media served as a valuable communication tool to inform people where donations centers were located and what financial donations were preferred.



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9.3 Successes

- Response activation of the MRC resulted in over 70 volunteers providing more than 700 hours of care.
- Volunteers were trained and deployed to shelters in a timely manner.
- The community provided large quantities of volunteers and donations.
- The media was an effective communication source for promoting Volunteer San Diego and asking for financial donations rather than physical goods.

9.4 Areas for Improvement

- Volunteer agencies and county personnel have not implemented a formal tracking system for donated goods.
- Finalization of the county's Donations Management Plan is needed to better allocate donated goods to various agencies based upon need and supply.
- The credentialing program to validate spontaneous health volunteers should be enhanced.
- Volunteer and donation agencies need to improve cross communications and enhance good working relationships.
- Additional education, outreach, and training needs to be conducted in the healthcare community to establish a county-wide strategy for health workers during a disaster.

10 MEDICAL EXAMINER

10.1 Improvements Since 2003 Fires

10.1.1 Plans

- A phone tree was developed for notification and recall of staff during emergency situations.
- A protocol to pre-stage an investigator or field office ahead of the fire was developed for use during the fires, unlike in 2003.
- In 2006, Annex F: Medical Examiner Operations of the County Operational Plan was revised to include a protocol for forming teams of investigators to continue routine support operations during crisis operations.

10.1.2 Training

- County personnel participated in numerous mass-casualty exercises, including planning for the Golden Guardian 2007 exercise in Anaheim.
- A senior Medical Examiner staff member is on the San Diego County exercise planning team as a subject matter expert.



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10.1.3 Equipment

- All vehicle radios were upgraded to digital, and digital hand-held radios were procured for each investigator and command staff member.
- Two additional Medical Examiner radio channels were added, as well as access to all countywide radio channels.
- Through an OES Department of Homeland Security Grant application, \$190,000 has recently been obtained for the procurement of a mobile morgue vehicle by and for the Medical Examiner.
- Through the generosity of the Sheriff's Department, an older-model ambulance was outfitted to serve as a Medical Examiner Command Center vehicle.
- Acquired through grant funding, the portable Dental Electronic X-ray Imaging System (DEXIS) enables field collection and processing of dental x-rays for identification.
- Equipment for use in fire deaths, as well as other mass-fatality events, is now stocked on the premises, available to be loaded into vehicles in minutes. This equipment includes shovels, goggles, respirators, sifters, and heavy-duty body bags.
- Individual protective equipment has been obtained for each investigator, including protective coveralls, safety helmets, and heavy-duty gloves.

10.1.4 Infrastructure

- The design of a new Medical Examiner's facility was completed. The facility will significantly enhance current capabilities to handle a disaster with multiple casualties. This new facility is currently scheduled to be operational in September 2009.

10.2 2007 Fires Overview

The San Diego County Medical Examiner's Office began initial activities as a result of the fires on Sunday, October 21, 2007, at approximately 1400 PST and maintained emergency operations through Saturday, October 27, 2007. The Medical Examiner's Office was contacted on Sunday as a result of the first deceased body due to the wildfires, and quickly sent an investigator into the field. Furthermore, the office dispatched investigators to both north and south county early in the emergency in order to ensure access to the scene before fire restricted movement within the affected areas. On-scene firefighters and law enforcement officers usually find deaths as a result of fires, and the Medical Examiner's





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Office is dispatched directly to the scene, not coordinated through the EOC.

On Sunday, October 21, 2007, at approximately 1900 PST, the OAEOC requested initial estimates on the amount of fatalities as a result of the fires. According to projected numbers, the Medical Examiner's Office was anticipating approximately 200 fatalities. However, fatality numbers were ultimately far lower than anticipated. During the incident, there was significant concern that the capacity to handle normal, "routine" deaths and those from the fires would quickly overwhelm present capabilities. By the end of the incident, there were 10 fatalities as a direct result of the fires at six different scenes throughout the affected areas.

Starting on Monday, October 22, 2007, the Chief Medical Examiner and the Operations administrator provided support at the OAEOC as liaisons. There was a clear chain of command within the Medical Examiner's operations; field-level investigators reported to the senior investigator who then reported to the Operations administrator. There were Medical Examiner's staff members at the EOC from Monday, October 22, 2007, through Saturday, October 27, 2007, and they provided specific support focused on Medical Examiner operations. These operations included providing information on the number and identification of decedents (direct and indirect), assisting with press releases, determining the cause of death, and identifying the manner of death. In addition, investigators provided support with evacuations as they did during the 2003 fires. The Medical Examiner's Office was not evacuated during this fire response, so the alternate facilities that have been identified were not needed.

10.3 Successes

- The alternate morgue facility (with a 50-body capacity) was arranged through a north county mortuary, but it was not used.
- Investigators were dispatched ahead of the fire before the fire blocked access to and from the area; these investigators were able to provide real-time information back to the Medical Examiner's Office.
- Refrigerated trucks, used for additional morgue capacity, were requested on standby through private vendors.
- Approximately 25% of the Medical Examiner's Office staff was personally affected by the fires and the resulting evacuations; however, all staff members were committed to being in the office for support.
- Medical Examiner's Office operations were initially reactive following the identification of the first victim but became proactive throughout the disaster.
- Press releases were developed with county assistance and used a newly developed form that separates direct and indirect fire-related fatalities.

10.4 Areas for Improvement

- The county should ensure continued participation of the Medical Examiner's Office in exercises and training, as applicable.



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- Medical Examiner investigators in the field do not have adequate equipment to provide data back to the Medical Examiner's Office staff and the Chief Medical Examiner. Specifically, they do not have real-time video capability, surveillance equipment, or a system to do a "data dump" back to the office.

11 LIAISON OPERATIONS

11.1 Improvements Since 2003 Fires

11.1.1 Plans

- An MOA was created to ensure that fire service liaisons are provided to the OAEOC.
- Field liaison positions were created and personnel were trained to provide situational awareness back to the OAEOC and act as "information collectors."

11.1.2 Training

- Emergency management personnel participated in numerous all-hazard exercises, including the May 2005 Countywide High-Explosives Functional Exercise (FE) in which OAEOC operations were successfully evaluated.

11.2 2007 Fires Overview

Liaison operations as a result of the wildfires began within the initial few hours of the emergency on Sunday, October 21, 2007. Some of the first liaison positions to be activated were the field liaisons, who comprise personnel from the San Diego County Probation Office and RACES. The field liaisons' foremost duty is to report information from the scene back to the OAEOC; however, during the wildfires it was noted that the field liaisons were also an asset to the



on-scene incident commander by providing information from the OAEOC back to the ICPs. Field liaisons were deployed to the three largest wildfires (Witch Creek, Harris, and Poomacha) and operated around-the-clock during the critical first days, scaling back to the hours of 0600–1900 daily as conditions improved.

By Monday, October 22, 2007, the military liaisons were arriving at the OAEOC to provide assistance. Military liaisons represented most, if not all, military branches, including the Marines, Navy, Coast Guard, Army National Guard, and Air Force. The resources acquired through the

military liaisons were crucial to the response operations, including Coast Guard helicopter flights, cots provided by the Marines, and Air Force drones providing aerial reconnaissance data.



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The California Army National Guard (CANG) provided hundreds of individuals who were used to augment law enforcement resources and provide logistical support in the field. Non-military liaisons were also located in the OAEOC and represented agencies including the U.S. Forest Service and Immigration and Customs Enforcement. Liaison operations were ongoing throughout the response period and ceased when the OAEOC transitioned from response to recovery operations.

11.3 Successes

- Liaison personnel were provided to the OAEOC by appropriate agencies and contributed to the success of the wildfire response operations.
- Military liaisons provided a conduit to a variety of critical resources including thousands of cots for shelters, feed for livestock, and aerial reconnaissance flights.

11.4 Areas for Improvement

- Some agencies provided too many liaison personnel during the wildfires, which resulted in inadequate space in the OAEOC and redundant personnel responsibilities.
- It was unclear which agencies were represented in liaison positions. OAEOC check-in procedures were not as formal as required.
- Some field liaisons did not have access to computers and were unable to monitor the situation or provide updates to WebEOC from the scene.
- It was unclear how liaisons were notified (or requested) to respond to the OAEOC, or if some self deployed as a result of the incident.

12 ENVIRONMENTAL HEALTH ISSUES

12.1 Improvements Since 2003 Fires – Air Pollution Control District

12.1.1 Plans

- The Air Pollution Control District (APCD) developed and implemented a COOP plan to help maintain continuous performance of its essential functions during an emergency.

12.1.2 Training

- APCD participated in routine OAEOC training.

12.1.3 Communications

- APCD incorporated additional public information links on the county air pollution website.
- APCD improved and expanded internal phone trees.



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12.2 Improvements Since 2003 Fires – Department of Environmental Health

12.2.1 Plans

- DEH developed a COOP plan to ensure essential functions were operational during a disaster.

12.2.2 Communications

- DEH implemented the County Alert Service System (CASS) emergency alert notification system.

12.2.3 Operations

- DEH developed a fully operational DOC with communications capabilities and essential supplies to work in conjunction with the OAEOC.

12.3 2007 Fires Overview – Air Pollution Control District

The San Diego County APCD is the primary government agency that regulates sources of air pollution within San Diego County. APCD began operations in the OAEOC on Sunday, October 21, 2007, and maintained operations through Thursday, October 25, 2007. During firestorm



operations, APCD provided a staff member in the OAEOC at all times. In addition to OAEOC operations, personnel worked out of APCD facility offices until fire threats forced them to evacuate. Throughout their operational period, APCD personnel were deployed to the field to monitor nine routine air monitoring areas, four real-time areas, and five heavily populated areas downwind from the fires. Air quality samples from these testing areas were taken daily and analyzed in conjunction with the California Air Resources Board. Also, APCD personnel had a full-time meteorologist in the OAEOC to provide predicted

weather outlooks to the OAEOC director and provide informative weather statements to county personnel regarding fumes from the fires. The meteorologist continued to provide weather outlooks for approximately 1 week after the APCD operational period. Furthermore, APCD personnel directly, and in collaboration with the Public Health officer, provided ongoing health safety statements to the media, the general public, and schools.

12.4 2007 Fires Overview – Department of Environmental Health

DEH is the lead agency responsible for protecting the environment and protecting environmental health in San Diego County. During the fires, DEH adjusted normal operational duties for field



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and hazardous materials (HazMat) personnel to meet county environmental and public safety needs. DEH activated its new DOC on October 22, 2007, and provided staff members to the OAEOC on October 21, 2007. DOC operations included environmental health GIS staff who communicated with OAEOC GIS staff for shared geospatial data and mapping. In addition, HazMat teams provided logistical support to the OAEOC and all fire ICPs. DEH also provided staff to various shelters throughout the county for additional support, as needed. Furthermore, DEH inspected all shelters to ensure food and water safety.

During operations, DEH worked with Emergency Medical Services (EMS) and the Public Health officer to identify necessary boil-water orders and other pertinent health alerts. There were at least 28 boil-water orders issued for approximately 7,000 residents. Reverse 911, press releases, and water district web pages were used to help notify returning residents of the “Do Not Drink the Water” order in Ramona. Approximately 27 small water systems lost power and were out of service due to the fires. DEH worked with the State of California to identify the impact of the wildfires on large water systems. In addition, DEH maintained communications with OAEOC Policy Group personnel to inform them of environmental issues. Lastly, DEH provided information on water quality, food safety, and hazardous materials during the wildfires response and recovery.

12.5 Successes – Air Pollution Control District

- APCD directly, and in collaboration with the Public Health Officer, maintained and provided up-to-date health safety information to the media, the general public, and schools.
- APCD personnel were in constant contact with the California State Air Resources Board (ARB) when the fire began, enabling them to obtain five portable monitoring stations from ARB within 24 hours into the area during the firestorm. APCD personnel coordinated with ARB to get the monitoring stations delivered, located, and calibrated.
- APCD provided beneficial weather outlooks for the OAEOC director.
- APCD personnel were appropriately used to collect informative data from the field.
- APCD facilitated the rapid utilization of out-of-state equipment, needed in remediation operations without delays to obtain permits.

12.6 Successes – Department of Environmental Health

- DEH efficiently established and executed DOC operations.
- DEH established excellent working relationships with San Diego fire and law enforcement personnel.
- DEH provided detailed environmental health updates to the Public Health Officer.

12.7 Areas for Improvement – Air Pollution Control District

- Additional back-up systems are needed to ensure electronic information can be accessed on various types of equipment.



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12.8 Areas for Improvement – Department of Environmental Health

- DEH needs to ensure routine training is provided for PIOs in the JIC.
- DEH needs to ensure multiple electronic back-up systems are available.
- Critical HazMat data needs to be placed on a secured OAEOC database for easier access during an emergency.
- DEH needs to coordinate routine briefings in the OAEOC to ensure efficient information sharing.

13 COMMUNICATIONS

13.1 Improvements Since 2003 Fires

13.1.1 Plans

- A Regional Communications System (RCS) Storm Plan was designed and developed to identify opportunities to manipulate communication system activities and discard non-critical communications.
- In July 2006, the Tactical Interoperable Communications Plan (TICP) was designed and developed. TICP assessed interoperable communications capabilities among Federal, State, and local agencies and incorporated both law enforcement and Unified Command components.

13.1.2 Training

- RCS Division-funded radio classes began in July 2007, and to date nearly 300 personnel have attended the training. Radio training enhanced end users' system and operational knowledge, skills, and abilities to effectively use RCS and radios. Additional training is planned for the remainder of the fiscal year.

13.1.3 Equipment

- A \$23 million communications enhancement project includes increased capacity at simulcast zones, as well as 800-MHz radio caches.

13.2 2007 Fires Overview

The San Diego County / Imperial County RCS began initial disaster operations Sunday, October 21, 2007, and maintained emergency operations through Sunday, October 28, 2007. Beginning on Monday, October 22, 2007, technologists from the San Diego County Sheriff's Department assumed their designated roles within the RCS Division to ensure that communications throughout the county remained operational. During the disaster, technologists monitored the fire activities and arranged for fuel deliveries to sites utilizing emergency generators; performed



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on-site equipment repairs; provided technical assistance for programming and repairs in fire camps; installed temporary generators at sites; deployed the Transportable Radio Facility (TRF); pre-positioned cache equipment; interfaced RCS equipment with military equipment; and performed many other valuable communications operations. During the fires, 19 transmitter sites were powered by emergency generators, and 4 transmitter sites burned. Despite these challenges, the entire RCS network remained operational and available for use throughout the emergency.

Summary of Communication Response:

- On average, RCS handles 3.2 million requests for channel assignments (“calls”) a month with 1,950 delayed assignments (“busies”).
- From October 21–26, 2007, RCS handled 1.2 million calls with 46,572 busies averaging a delay of 4.1 seconds.
- On the busiest day, October 22, 2007, there were 264,048 calls with 33,021 busies and an average delay of 5.6 seconds.
- Overall, this represents a 71% improvement over the figures from the 2003 fires where there were 104,605 busies with an average duration of 19 seconds.

Throughout the 2007 wildfires, communications remained operational and effective. The RCS wireless network deployed an additional 380, 800-MHz radios that were used by cooperating and assisting agencies throughout San Diego County. In addition, RCS technologists successfully incorporated local resources into the California State communications structure. California integrated the use of RCS as a logistical network for the first time. Furthermore, through the use of WebEOC, the interoperability communications coordinator efficiently provided communication frequencies and coordinated military, Federal, and State assets as needed. Lastly, RCS technologists succeeded in programming 800-MHz radios and providing them to Drug Enforcement Agency and Border Patrol helicopter personnel aiding in firestorm operations.

Successful RCS operations were due in large part to a dedicated and well-trained staff. Approximately 21 technologists performed operational duties around the clock for 7 days. Communications personnel worked 12-hour shifts supporting OAEOC and field communications



operations. Specifically, day- and night-shift infrastructure technologists provided communications maintenance and logistical support to the fire camps and transmission sites. These technologists performed daily checks on generators at the transmission sites to ensure continued operations. This was the first time fire camp technologists serviced the communications equipment needs as part of the Unified Command. Support for operational area communications was provided by two interoperability communications coordinators that provided 24-hour communications support



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throughout the emergency. Although the communications coordinator position was not staffed at the OAEOC, communications were well maintained through the use of WebEOC and the command, control, and communications network.

13.3 Successes

- Operational communications were effectively maintained despite four transmitter sites being burned and 19 transmitter sites being powered by emergency generators.
- The RCS Division successfully met all county requests for communications support.
- RCS personnel deployed in a timely manner and were appropriately trained for disaster operations.

13.4 Areas for Improvement

- RCS needs to continue to develop and update the RCS Storm Plan.
- RCS should develop a process to identify and standardized appropriate opportunities to adjust communication systems.
- RCS should increase the capacity of the remaining 19 transmitters as frequencies become available, using on-hand surplus equipment to the level required for major incidents.

14 SHELTER OPERATIONS

14.1 Improvements Since 2003 Fires

14.1.1 Plans

- The County Operational Plan was updated to include a Care and Shelter Annex (Annex G).
- An MOU was established with the Humane Society for animal sheltering.
- An MOU was established to designate Volunteer San Diego as the lead agency to handle spontaneous volunteers. At the time of the fires, the MOU had not been signed yet, but the spontaneous volunteer management plan had been completed.

14.1.2 Training

- A shelter training program was developed to provide the cities within San Diego County with the knowledge and training necessary to establish local shelters. The cities of Escondido, Poway, and Oceanside have completed the training program.
- County shelter teams were created and trained.
- Shelter training courses were conducted for CERT members, Red Cross volunteers, and county Public Health personnel.
- The Red Cross conducted disaster kitchen training for local volunteers.



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- Annual training was implemented for Public Health nurses to assist the Red Cross in shelter operations.

14.1.3 Communications

- The county purchased two mass-notification systems: Reverse 911 and AlertSanDiego, which were used to notify residents of the need to evacuate and provided shelter information.
- The 211 San Diego system was established to assist with providing information to the public regarding shelter locations.

14.2 2007 Fires Overview

Shelter operations were coordinated from the OAEOC Care and Shelter Branch and worked in conjunction with the American Red Cross DOC. Shelter operations began on October 21, 2007, with seven shelters opened for evacuees. Two of the seven shelters were later forced to evacuate. By October 22, 2007, approximately 500,000 people from at least 346,000 homes were under mandatory evacuations. Approximately 10 shelters were opened to support the mass evacuees. By mid-week, a total of 45 shelters and evacuation centers were operational, 20 of which were established as Red Cross shelters and 25 supported by faith-based organizations and jurisdictions. The 45 shelters included two mega-shelters at Qualcomm Stadium and Del Mar Fairgrounds, special needs shelters, pet shelters, and evacuation sites (e.g., parking lots). Although the establishment of 45 shelters throughout the county met the needs of evacuees, there were coordination issues that hindered operations. First, the OAEOC Care and Shelter Branch did not initially have sufficient staff with shelter operations experience. Secondly, internal tracking of shelters on WebEOC and the National Shelter System proved problematic during the initial days of the disaster. As a result, posting shelter information to the internal tracking board was not as timely as desired. Despite these difficulties, the OAEOC Care and Shelter Branch worked efficiently with the Red Cross DOC and the various city EOCs to provide adequate shelter facilities for thousands of evacuees.



Throughout shelter operations, OAEOC personnel leveraged technology to provide information on shelter operations. The use of WebEOC enabled the OAEOC to coordinate shelter operations with jurisdictional EOCs. Through WebEOC, jurisdictions easily accessed information pertaining to shelter location, status, and capacity. In addition to WebEOC, 211 San Diego was an interactive communication tool used to gather and relay critical shelter information to both the



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county personnel and the public. Shelter-related information was easily extracted from WebEOC and/or the JIC and provided to 211 San Diego.

Qualified personnel located at the OAEOC, the American Red Cross DOC, and the various city EOCs accomplished the command and control of evacuation operations. In the field, approximately 4,000 Red Cross personnel—augmented by 70 MRC volunteers, and 25 county workers—staffed positions in two shelters opened in the county. Moreover, the Red Cross trained an estimated 2,400 spontaneous volunteers to assist during shelter operations, only 800 of which were deployed. In addition to spontaneous volunteers, health/medical services volunteers offered their services at several shelter sites. In most cases, shelter managers could not employ these volunteers because they could not verify volunteers' credentials to provide medical services.

The combined efforts of county and Red Cross personnel, as well as spontaneous volunteers, enabled the timely establishment of 45 shelters throughout the county. This resulted in the estimated 500,000 evacuees having access to numerous shelter options for appropriate care and shelter.

14.3 Successes

- Throughout the county, 45 shelters were established, including two mega-shelters (Qualcomm Stadium and Del Mar Fairgrounds), special needs shelters, and animal shelters.
- Community and county shelters efficiently transitioned into Red Cross shelters.
- Transportation resources, including ambulances and buses, were well coordinated.
- Previous training and exercises helped to build successful working relationships.
- Ten American Red Cross teams from Mexico were used to assist with evacuees and translation barriers.

14.4 Areas for Improvement

- Shelter operations (as specified in Annex G of the County Operational Plan) need to be incorporated into future training and exercise opportunities.
- Coordination between Reverse 911 and the Care and Shelter Branch is needed during a mass-evacuation incident in order to provide advanced notice for shelters.
- Additional bilingual and sign language staff and volunteers are needed during a mass-casualty incident.
- Better coordination is needed for spontaneous volunteers arriving at shelters.



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15 COORDINATION WITH THE MILITARY

15.1 Improvements Since 2003 Fires

15.1.1 Training

- Preparation activities took place for Golden Guardian 2007 and Golden Guardian 2008.

15.1.2 Other

- An MOA has been established between Commander Naval Air Forces Reserve and Commander Navy Region Southwest to allow Commander Navy Region Southwest the authority over Commander Naval Forces aircrafts during a fire disaster.
- Routine training was developed and conducted on an internal notification process to inform the military chain of command that Commander Naval Air Forces Reserve aircrafts will be used for firefighting response.

15.2 2007 Fires Overview

The military began firefighting response coordination with San Diego County on Monday, October 22, 2007 and continued support efforts until Sunday, October 28, 2007. The Navy was informed of the need for its support to the county fires through the Defense Support to Civil Authority (DSCA). DSCA allows civilians to request immediate response and assistance from the military. In response to the DSCA request, the Navy deployed three Navy Emergency

Preparedness Liaison Officers (NEPLOs) to the OAEOC. In addition, Navy Region Southwest activated and staffed the Naval Operations Center with numerous duty officers on a 24-hour schedule. The Naval Operations Center maintained communication with the NEPLOs at the OAEOC to ensure efficient communication sharing.



Following the initial DSCA notification, personnel at Commander Naval Air Forces Reserve in San Clemente were alerted to the need for fire air support by Commander Navy Region Southwest.

In addition to airborne firefighting response, the military also provided ground support. Through the pre-establishment of an MOA with the county, a minimum of three Federal fire trucks were operational during the fire response. Furthermore, the military developed a Task Force Bulldozer Team. The Task Force Bulldozer Team used bulldozers, trucks, water tanks, and other equipment to assist CAL FIRE with approximately 15 miles of secondary fire lines. Initially,



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personnel supporting the Task Force Bulldozer Team had little-to-no training; however, the Navy developed and conducted a field training program during the first day of the fires to ensure personnel were certified to assist in fire response.

During the fires, power outages at the San Onofre Nuclear power plant and damages to SDG&E lines threatened to cause a rolling black out throughout the county. The State notified the Navy that power outages were likely and that ships may be affected. To help alleviate the loss of power, ships returned to port and operated off their own power sources. The ability to operate off of independent power sources helped the county to maintain enough power to prevent rolling blackouts.

Military personnel and their families are a large part of the San Diego community. During the fires, the Navy opened evacuation shelters at Naval Base Coronado, Naval Base Point Loma, and Naval Station San Diego to support Navy families forced to evacuate. However, better coordination between civilian shelters and military shelters is needed. Many Navy families were unaware of the available shelters on the bases. Furthermore, military personnel deployed from the area were unable to efficiently contact family members who were not located at a military shelter. Through better coordination, military and civilian shelters can work together to ensure military shelter information is more readily available and to allow more space in civilian shelters.

The Navy also provided 1,400 cots to local shelters and opened the Balboa Navy Hospital to receive patients from civilian skilled nursing facilities. Furthermore, the Marine Corps provided 6,000 cots and 15 tents to Qualcomm Stadium; 2,000 cots to Del Mar Fairgrounds; and 2 trailers to help deliver their resources.

15.3 Successes

- Field personnel were trained during the first day of the fires and created a Task Force Bulldozer Team to assist with secondary fire lines.
- Through a pre-established MOA, the county and State effectively utilized Federal fire trucks.
- The ability of Navy ships to access their own power supply when in port helped with the region's power shortage during the fires.
- Close coordination with Camp Pendleton facilitated a successful evacuation of Fallbrook residents through the U.S. Marine facility.

15.4 Areas for Improvement

- The Naval Regional Operations Center needs additional WebEOC accounts.
- There currently is no process to ensure appropriate coordination and communication between civilian evacuation centers and military evacuation centers.



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CHAPTER 2: REGIONAL RESPONSE RECOMMENDATIONS

Recommendations related to regional response to the 2007 San Diego County Firestorms are as follows:

- Create a support unit leader position in the Operational Area Emergency Operations Center (OAEOC) to oversee various support functions (e.g., WebEOC training, runner/controller duties).
- Review protocols for notifying the OAEOC of an initial fire, specifically if red flag warnings or Santa Ana wind conditions are to be taken into consideration for notification of all wildland fires (rather than only “significant” ones).
- Within the OAEOC Care and Shelter Branch, include a coordinator and at least one additional support person (focused on shelter management), as well as a special needs position dedicated to the OAEOC.
- Create formalized staff check-in and check-out procedures, including a checklist of key items that will be briefed to incoming staff and written protocols for shift arrival (to arrive no less than ½ hour prior to a shift) and departure.
- Review recovery/repopulation procedures and ensure they continue to meet all safety concerns while maintaining flexibility and expediency.
- Add more Internet connection lines in the Joint Information Center (JIC).
- Establish a position for a public safety liaison in 211 San Diego during emergency operations.
- Integrate the new AlertSanDiego Geographic Information System (GIS) capabilities with the GIS technologies in the OAEOC.
- Provide the GIS Emergency Group SOP to other jurisdictions and agencies so they can better understand the county’s response and can formulate their response in accordance.
- Improve coordination with agencies and utilities that can provide mapping capabilities pertaining to their assets and infrastructure. Examples include the California Department of Transportation (Caltrans) for road closures, San Diego Gas & Electric Company (SDG&E) for power outages, and the San Diego County Water Authority for water supply.
- Identify and acquire necessary equipment to support mobile command post operations for animal evacuation operations.
- Establish mutual aid agreements with animal evacuation sites.
- Provide additional laptops, landlines, and headsets to the Logistics Section at the OAEOC.
- Update and improve the resource list on WebEOC.
- Continue to refine mass-notification databases so that as many unique homes (e.g., those homes with addressing anomalies) are in the system. This may entail and overlap city and county systems. Ensure the SOP addresses the community of Warner Springs.



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- Continue WebEOC training and outreach to county fire agencies.
- Establish a volunteer coordinator position within the OAEOC to communicate with all volunteer agencies regarding spontaneous volunteers.
- Ensure that field liaisons have easily identifiable credentials. In addition, an official county vehicle would help to ensure access to restricted areas. Laptop computer and wireless Internet capabilities should be available for use by field liaison personnel.
- Pre-identify agencies, based on the type of incident, for which liaison personnel may be needed. Suggest that agencies only send one person per shift, unless otherwise requested.
- Identify and train assessment teams to be available at shelter locations in order to better communicate resource needs to the OAEOC.
- Revise Annex G of the County Operational Plan to include all necessary areas that will be addressed during a disaster in respect to care and shelter.
- Expand coordination with local military, and continue to conduct joint regional training and exercises with the military, including the Golden Phoenix and Golden Guardian annual exercises.
- Establish a series of regional shelter caches, to include cots, blankets and comfort kits, to supplement the capabilities of the Red Cross.



CHAPTER 3: MEDICAL OPERATIONS

1 MEDICAL OPERATIONS CENTER

1.1 Improvements Since 2003 Fires

1.1.1 Plans

- A Tactical Interoperability Communications Plan (TICP) was developed and designed specifically for the Medical Operations Center (MOC).
- Continuity of operations (COOP) and continuity of government (COG) plans were finalized within the past 2 years.

1.1.2 Training

- Training has been recently completed with the EMS duty officer positions at the MOC.
- Numerous all-hazard exercises have been conducted, including the March 2007 San Diego County Biological Full-Scale Exercise (FSE) and annual participation in hospital drills with full activation of the MOC.

1.1.3 Equipment

- Establishment of the MOC, also known as the Emergency Medical Services (EMS) Department Operations Center (DOC), has been accomplished in recent years. It includes advanced communications systems, teleconferencing capabilities, and the functionality (e.g., seating, screens, fax) of an Emergency Operations Center (EOC).
- The MOC has been updated with Geographic Information System (GIS) capabilities, including the ability to pre-identify key locations such as hospitals, schools, and skilled nursing facilities.
- Personnel have access to a computer-based incident management system (WebEOC) that is customized for the MOC—more importantly, it is linked into the Operational Area Emergency Operations Center (OAEOC) WebEOC system.

1.2 2007 Fires Overview

Response operations for the MOC began on Sunday, October 21, 2007, at 1445 Pacific Standard Time (PST) and continued essentially around-the-clock until Monday, October 29, 2007. On the first day of the wildfires, the MOC focused on gathering information and anticipating possible hospital and skilled nursing facility evacuations. Additionally, the MOC sent out alerts to hospital emergency preparedness coordinators through the County Alert Service System (CASS) at 1724 PST. EMS also sent representatives to the OAEOC (at Level 2) on Sunday, October 21, 2007, to provide assistance and medical subject matter expertise. Representatives in the MOC included EMS personnel; ambulance coordinators; GIS personnel; hospital coordinators (up to



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four); community health clinics; Medical Reserve Corps (MRC) personnel; Emergency Medical Alert Network (EMAN) personnel; Information Technology (IT) support; Public Health nurses; American Red Cross representatives; and clerical support.



By Monday, October 22, 2007, the MOC was planning for evacuations that were inevitable due to the advancing wildfires. A total of 12 nursing homes and 3 hospitals (one psychiatric facility) were evacuated, which was a significant undertaking resulting in the movement of more than 2,000 patients. On Tuesday, October 23, 2007, the MOC coordinated shelter operations as well as use of the MRC that deployed approximately 70 medical personnel to various locations. On Wednesday and Thursday, October 24 and 25, 2007, respectively, the MOC was tasked with repatriation issues (i.e., returning

patients to medical facilities) and medical system analyses. By Monday, October 29, 2007, the MOC was able to scale back operations and be staffed from 0700–2400.

1.3 Successes

- The MOC managed the evacuation of 3 hospitals and 12 skilled nursing facilities, which constitutes approximately 2,000 patients, in one day. The MOC provided a centralized coordination point for planning and response. Many patients were sent to a “like” facility, and those sent to temporary facilities were provided care in those locations.
- Communication systems (CASS and EMAN) were successful in getting critical information to hospitals, clinical providers, and first responders in a timely manner.
- The use of WebEOC significantly improved communication ability in the MOC and with hospitals and outside agencies.
- Pre-identified GIS data (i.e., locations of hospitals and skilled nursing facilities) assisted with the quick evacuation of facilities and potentially saved human lives.
- Community partner coordination and representation within the MOC was a significant accomplishment and included ambulance coordinators, Public Health personnel, hospital liaisons, volunteer organizations, and clinic coordinators.
- New staff members were afforded hands-on training during the wildfires and were also able to assist with incident management by using WebEOC.
- The MOC was proactive throughout the emergency by contacting facilities in advance of evacuation orders, encouraging them to get plans ready, and utilizing prehospital EMS supervisors as field liaisons.
- A full-time medical director was available in the MOC to provide crucial guidance and regulatory protocols.



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- Employing the MRC to assist at shelters was essential to the success of the emergency response.
- Activation of the Pharmacy Emergency Response Team provided the mechanism to deliver critical medical supplies and medications, as well as pharmacy staff, to evacuation shelters.
- Amateur Radio Emergency Services (ARES) was used as a back-up form of communication at the MOC and at area hospitals to assist with evacuation operations.

1.4 Areas for Improvement

- There was insufficient support staff available for medical personnel at the OAEOC.
- Shelter and medical management operations lack an adequate command and control structure.
- Medical logistics was often handled by medical personnel at the OAEOC rather than the Logistics Section at the OAEOC.
- The MRC volunteers need more formal processes, and training in shelter operations should be enhanced.
- Providers, including hospitals, clinics, and skilled nursing facilities, are unfamiliar with Federal guidelines concerning reimbursement of expenses incurred as a result of the wildfires (e.g., ambulance fees).
- Evacuees from medical facilities were in need of a “patient push pack” that would include basic necessities that could be used in an emergency including water, food/snacks, and personal needs such as diapers and masks.
- The best location (DOC or MOC) for the Public Health Nursing representative needs to be determined.

2 HOSPITAL EVACUATIONS

2.1 Improvements Since 2003 Fires

2.1.1 Plans

- Hospitals have written evacuation plans that address the coordinated removal of patients.
- Protocols were developed to provide guidance for ARES so hospitals would have a back-up communication system during emergencies.

2.1.2 Training

- Numerous evacuation and emergency drills were conducted with hospital participation, including the March 2007 San Diego County Biological FSE.
- Hospital Incident Command System (HICS) training takes place frequently.



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2.1.3 Equipment

- CASS, a notification system used by EMS personnel, includes a hospital emergency contact group.
- Hospitals have purchased equipment through Federal grants such as the Hospital Preparedness and Protection grant. Items purchased included surge tents (some were used during the wildfires), emergency generators, etc.

2.2 2007 Fires Overview

The initial request for information to the hospitals took place on Sunday, October 21, 2007, at 1515 PST by way of a CASS / Quality Assurance Network Collector System (QCS) alert. The report inquired about ambulance and hospital capacity in advance of anticipated medical evacuations and the potential for significant injuries and deaths resulting from the wildfires. Hospitals and skilled nursing facilities in fire-affected areas began pre-planning for evacuations with assistance from the MOC, beginning the evening of Sunday, October 21, 2007.

Due to the escalating situation, the evacuation of Pomerado Hospital began in the early morning of Monday, October 22, 2007, and was completed by 1048 PST. Additionally, Aurora Mental Health facility began to place patients at another facility that same morning and relocated 40 patients. By the afternoon of Monday, October 22, 2007, Fallbrook Hospital also began evacuating patients to other facilities. As a result of the wildfires, three hospitals (two acute care hospitals and one psychiatric facility) and twelve skilled nursing homes were evacuated, resulting in the transport of approximately 2,000 patients.



The central coordination point for medical evacuation was the MOC. However, the evacuation of patients required coordination with an array of agencies including base hospital nurse coordinators, Ambulance Strike Teams (ASTs) staffed with emergency medical technicians (EMTs), paramedics and critical care nurses, and transportation companies (including school bus providers). Hospitals and skilled nursing facilities were repatriated with the assistance of MOC staff, Public Health Services, ASTs, other departments within the County of San Diego Health & Human Services Agency working alongside the California Department of Health Services. Some were opened as early as Thursday, October 25, 2007, while others were closed for a week or more.



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2.3 Successes

- Evacuation of skilled nursing facilities and hospitals was accomplished in an organized and timely manner.
- Coordination and communication between MOC staff and the medical facilities requiring evacuation was outstanding.
- Hospitals and skilled nursing facilities were proactive with evacuations rather than using a “wait and see” approach.
- Patients that were evacuated to temporary facilities were given necessary care and were at temporary facilities no more than 40 hours.
- ARES assisted hospitals during the wildfires by providing redundant communications capabilities; this was particularly helpful due to the fact that ARES representatives were also stationed at the MOC.

2.4 Areas for Improvement

- Some bus drivers providing transport of evacuated patients were unfamiliar with roads and highways in some parts of the county, which resulted in some confusion regarding directions to temporary facilities and highways closures.
- Some evacuated patients were in need of an “evacuation push pack” of items (e.g., water, food, diapers) for use during the transport, which took hours for some due to traffic congestion.
- There needs to be continued evacuation planning with adjacent counties in the event that out-of-county evacuation is required.
- Hospital evacuation plans should address evacuation of patients beyond the boundaries of the hospital or to temporary facilities.
- Some medical facilities only stored medical records electronically, which resulted in significant problems attempting to print them during the evacuation orders.
- A need for a “summary sheet” of patients that included their originating facility, medical conditions, temporary facility location (or multiple locations if they moved more than once), and other essential information.

3 SPECIAL NEEDS POPULATION

3.1 Improvements Since 2003 Fires

3.1.1 Plans

- Informal agreements have been created with transportation providers, but no formal documentation, such as mutual aid agreements, has been developed.
- The MRC was newly established in 2003 but more operationally capable during the 2007 fires.



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- Special needs planning has improved between the American Red Cross, the MRC, Public Health, Aging and Independence Services, OES, and numerous volunteer agencies.
- Cooperation with the San Diego County Association for the Deaf has improved and led to the use of a sign language interpreter during the 2007 fires' news conferences.
- Development of "Preparedness Wheels Designed Especially for People with Disabilities" has been used as the primary method for outreach for this targeted population.

3.1.2 Training

- Public Health nurses have trained with the American Red Cross in preparation for supporting shelter operations.
- Shelter operations and special needs training have been provided to members of the county shelter team program.

3.1.3 Equipment

- Improved GIS capability allowed for the identification and mapping of medical care facilities (e.g., hospitals, SNFs).

3.2 2007 Fires Overview

As a result of the wildfires that began on Sunday, October 21, 2007, numerous agencies that provide assistance to special needs populations were pre-planning for an emergency response. However, the response came from multiple directions because there is no single EOC or agency that has overall command and control of special needs population planning. Personnel representing special needs populations were located in the EMS DOC, otherwise referred to as the MOC; OAEOC; San Diego City EOC; Southern Region EOC (S-REOC); as well as some medical facility EOCs. Agencies involved with coordinating special needs populations included the County Health and Human Services Agency; EMS; the Ombudsman Program; Community Care and State Licensing & Certification; the San Diego County OES; Hospice; American Medical Response (AMR) Transport; the American Red Cross; and the Metropolitan Transit System (MTS).

Due to the severity of the approaching wildfires, many special needs population residents (e.g., those in skilled nursing facilities) had to be evacuated to shelters and temporary evacuation points. The evacuation of special needs populations was aided by the pre-planning that took place in recent months by OES and Health and Human Services Agency staff. Shelters were established for evacuated special needs populations, and medical resources were deployed to provide medical care at these shelters. Patients from three hospitals (two acute care facilities and one psychiatric hospital) and twelve nursing homes were also successfully evacuated. Within a few days after the fire, most special needs residents were able to return to their homes and/or care facilities.



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3.3 Successes

- GIS layering of medical facilities and license residential care facilities aided in the identification of, and communication to, those needing to be evacuated.
- The MOC was available to assist in transportation, patient accountability, and other support functions.
- The evacuation of medical facilities was aided by patients receiving reverse 911 notification in their rooms.
- The shelter at Del Mar Fairgrounds was established quickly and was able to assist patients with special needs.
- Community Care and Licensing (CCL) provided on-line information for special needs populations to include shelter locations, preparedness checklists, and other disaster-related information.
- Patients were returned to their care facilities quickly following the lifting of evacuation orders.

3.4 Areas for Improvement

- There were inadequate Public Service Announcements (PSAs) released during the wildfires addressing the opening of special needs shelters and what services these shelters would be providing (and what they would not be providing).
- There are many definitions of what classifies an individual as being a special needs patient or resident, which results in additional confusion during an emergency.
- Coordination of special needs populations took place in variety of locations, such as the MOC, OAEOC, and Health and Human Services Agency DOC.
- Approximately 75 of 300 MRC volunteers were actively used during this event. In a future response, more reliance should be placed on the utilization of MRC members.
- There was no formal, organized system for care facilities to relay information to families of patients regarding the status of evacuations and relocation to temporary locations.



CHAPTER 4: MEDICAL OPERATIONS RECOMMENDATIONS

Recommendations related to medical operations during the 2007 San Diego County Firestorms are as follows:

- Enhance the Medical Reserve Corps (MRC) deployment protocols, instructions for response, improved training in shelter operations, and a “Shelter Starter Kit” that would contain forms/materials/supplies needed for opening a shelter.
- Enhance credentialing system for convergent volunteers (i.e., ad hoc medical volunteers).
- Expand the relationship with skilled nursing facilities throughout the operational area.
- Ensure that providers receive a guidebook (or instructions) for disaster reimbursement that would specifically address reimbursement issues for the medical community.
- Formalize the “patient push pack” concept with medical facilities.
- Ensure adequate support personnel are available for the Medical Health Branch Coordinator at the OAEOC.
- Further discuss the feasibility of a hospital and skilled nursing facility patient tracking system consisting of identification bands with critical medical information.
- Further develop hospital evacuation plans to adequately address transport of patients to temporary facilities; work closely with the MOC in planning efforts.
- Continue planning efforts between special needs advocates, volunteer agencies, the MOC, the American Red Cross, the OAEOC, and various other agencies and departments.
- Identify a centralized location to coordinate special needs response operations, and ensure it includes the necessary agency representatives and support staff.



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CHAPTER 5: LAW ENFORCEMENT

1 SAN DIEGO SHERIFF'S DEPARTMENT AND REVERSE 911

1.1 Improvements Since 2003 Fires

1.1.1 Plans

- A protocol was developed to use Reverse 911 in conjunction with emergency alert systems (emergency vehicles, media, television, radio, and manual notification).
- The San Diego County Sheriff's Department established a single emergency planning unit that manages disaster and emergency planning and the Sheriff's Department Operations Center (DOC), among other functions.
- Significant efforts were made to plan for multi-jurisdictional emergency operations while developing cooperative support from the San Diego County Office of Emergency Services (OES) and municipal law enforcement agencies within the county.



1.1.2 Training

- The county participated in numerous county and regional disaster preparedness exercises, including the 2005 High-Explosives Full-Scale Exercise (FSE) as well as the 2007 Golden Guardian FSE in Anaheim, California.
- There has been significant and frequent real-world use of the Sheriff's Emergency Response Assessment Team (ERAT) personnel management system during numerous events that incorporated significant countywide law enforcement personnel.

1.1.3 Equipment

- The Reverse 911 system was purchased and implemented for emergency mass notification and important community alerts.
- Live video teleconferencing was installed and used for communication between the DOC and the OAEOC.
- To aid after-action cost recovery, the ERAT personnel management system was deployed to multiple staging areas in order to manage, support, and account for personnel.



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1.2 2007 Fires Overview

On the morning of October 21, 2007, at approximately 1030 Pacific Standard Time (PST), the San Diego County Sheriff's Department opened its DOC in response to the Harris Fire. The DOC assisted in coordinating law enforcement operations and worked with personnel from all levels of government. Through the use of WebEOC, DOC personnel provided situational updates—including fire and weather conditions, fire fighting operations, staffing levels, and operations planning—to department, area, county, and State personnel.

The San Diego County Sheriff's DOC personnel were also responsible for the mass notification of voluntary and mandatory evacuations during the fires. This was primarily accomplished through the implementation of the automated telephone notification system, Reverse 911. This was the first time Reverse 911 was used during a significant disaster. Reverse 911 effectively delivered 415,188 emergency notification recorded voice messages classified as either advisory or mandatory evacuation orders, as well as water district notifications to targeted geographical areas. Prior to the fires, the county used a Reverse 911 public awareness media campaign and disseminated press releases through the Sheriff's public information officer (PIO) to increase county household and business familiarization of the notification system.

1.3 Successes

- DOC-to-OAEOC communication was timely, assisted by technology, and adequately delivered resource requests to the appropriate operational levels.
- Law enforcement personnel maintained their rural incident command post (ICP) as fire approached from multiple directions. This action ensured continuous communication between the DOC and field incident commanders.
- Frequent participation in county preparedness exercises assisted emergency planning teams in familiarizing DOC participants with their positional roles and responsibilities.

1.4 Areas for Improvement

- Some jurisdictions did not recognize county-level law enforcement mutual aid memorandums of understanding (MOUs) outlining assistance agreements across jurisdictional boundaries.
- Policies for management and deployment of Federal resources, specifically chain of command and operational duties for National Guard resources, were not utilized effectively.
- During the initial phases of incident response, field-level supervisory staff was not adequately trained to assume Incident Command and personnel management roles.
- Incident commanders in the field did not have immediate access to situational awareness updates and could not electronically submit incident information via WebEOC.



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- Movement from the Reverse 911 system to AlertSanDiego will allow public agencies within the county to access the notification system and its 15,000-line capacity from any Internet web-based system.
- A small number of evacuation notifications were delivered to areas not affected by evacuation orders, which caused some confusion, but was quickly remedied. Power and telephone line outages prevented use of the Reverse 911 system in some areas. In these locations, manual forms of evacuation notification were used.

2 EVACUATIONS

2.1 Improvements Since 2003 Fires

2.1.1 Plans

- Collaborative evacuation plans between county emergency preparedness agencies, the Sheriff's Department, and municipalities allowed emergency responders to plan and forecast evacuation requirements well into the future.

2.1.2 Other

- The Reverse 911 system was used to supplement manual forms of evacuation, especially in hard-to-reach terrain or isolated communities.
- Relationships continued with California Highway Patrol (CHP) officers for assistance in managing, or in some cases changing, the flow of highway traffic along evacuation routes.

2.2 Overview

As the lead San Diego County law enforcement agency, the Sheriff's Department is responsible for issuing evacuation orders to unincorporated areas and to Sheriff service-contracted areas within the county. By utilizing the intelligence, planning, and guidance assistance of county emergency officials and fire department personnel, along with the experience of command personnel within the Sheriff's Department, the agency issues varying levels of evacuation orders based on emergency conditions and the threat of imminent danger.

Approximately 500,000 people were evacuated from areas within San Diego County due to the 2007 fires. Incredibly, injuries and fatalities in relation to this extremely large amount of evacuees were very low. The Reverse 911 system, along with conventional means of evacuation notification and the involvement of mutual aid through regional, county, and Federal resources, contributed to the effectiveness of the evacuations throughout the county. The county's new 211 system allowed evacuees and the general public to receive non-emergency information assistance regarding road closures, shelter locations, and environmental conditions, significantly reducing the call volume to the Sheriff's communication center.



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2.2.1 Ramona Station

Ramona was one of several cities heavily impacted by fire evacuations. At approximately 1215 PST on Sunday, October 21, 2007, Ramona Sheriff officers began conducting door-to-door fire evacuations. Sheriff teams initially began to evacuate residents west and northwest of Escondido. An ICP was established at approximately 1430 to assist Sheriff teams with evacuation coordination. Reverse 911 went into affect shortly after the door-to-door evacuation notifications had begun. This was the first time Reverse 911 was activated in the Ramona area. The Reverse 911 system triggered a complete evacuation of the Ramona area and caused severe traffic jams.



Ramona had all westbound lanes on Highway 67 and San Vicente Road open for evacuating residents. Eastbound lanes were kept clear for incoming emergency vehicles. Although CHP was available to assist the Ramona Sheriff's Department with traffic, there was not sufficient traffic control until approximately midnight on October 22. On Thursday, October 25, 2007, at approximately 0930, the Ramona Sheriff's Department assessed the Ramona community safe for re-entry from a law enforcement perspective. All Highway 67 eastbound lanes were open and all stop lights were turned to flashing red for repopulation purposes. Shortly

after repopulation efforts began, Sheriff's authorities received word from the Sheriff's DOC to immediately shutdown the repopulation due to unsafe water conditions and a lack of water for fire prevention. This resulted in jammed roads and disgruntled residents wanting to return home. Repopulation activities resumed at 1900 on October 25, 2007.

2.2.2 Valley Center Station

Valley Center was another community affected by wildfire evacuations. Evacuations began on Tuesday, October 23, 2007, through the use of Reverse 911, but pre-planning began the evening of October 21, as the Witch Creek Fire moved through San Pasqual towards Valley Center. All 22,000 residents were appropriately evacuated and no loss of life or serious injuries were reported. To assist in the evacuation process, Sheriff deputies were deployed to street lights and stop signs to wave people through intersections. There was also additional evacuation support from the CHP. Harrah's Resort and Casino was designated as a shelter site for evacuated residents as well as Pala Casino, although Pala Casino was never used. The evacuation sites were convenient locations for evacuated individuals. However, there were some miscommunications between the American Red Cross and tribal leaders on these shelters. Throughout the evacuation period, agricultural and emergency response personnel were allowed through the checkpoints with valid identification. Repopulation activities began on Thursday, October 25, 2007. The repopulation process was done incrementally in four stages. Initially, the repopulation was authorized by local law enforcement. However, this process was disrupted because there was a



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miscommunication of who had the actual authority to allow residents to return home. Eventually, notification came from the Sheriff's DOC and the OAEOC to the ICP and then to local law enforcement to proceed with the repopulation.

2.2.3 Fallbrook Station

The Fallbrook community in Northern San Diego County was another area requiring evacuation and repopulation during the wildland fires. The Sheriff's Department Fallbrook Station Command Center began operations at approximately 0430 on Monday, October 22, 2007.

Activities conducted on the first day of operations initially proved to be difficult due to law enforcement staff having been deployed to other

areas of the county. However, as the week progressed, personnel had been reassigned and at any given time there were approximately 200 personnel available to complete the mission in Fallbrook. Also on the first day of operations for the Fallbrook Station, the ability to communicate through the use of 800 MHz radios was problematic as some Sheriff's Department personnel experienced busy signals, or "honking" indicating the system was overloaded but as the week progressed, the communication system worked well

and was an improvement over the 2003 Cedar Fires. Once it was determined that the area needed to be evacuated, mandatory evacuation notices were implemented through the use of the Reverse 911 system as well as law enforcement personnel conducting door-to-door notifications to the impacted residents. As the evacuation of the area began, this caused a strain on resources because not enough personnel were initially available and some of those who did respond did not have the proper equipment needed.



Due to rural nature of the Fallbrook area and the limited road access into and out of the community, evacuation routes through Camp Pendleton were established and effectively utilized. Because Fallbrook is a rural area, there was also a need to evacuate large animals. This process was also effectively conducted and no animals were injured.

The Fallbrook Station has very experienced staff, and credit should be given to the residents of Fallbrook as well. Fallbrook is a community that has experience in dealing with wildland fires, and because of this the residents responded well. Experience and preparedness of the community attributed to a successful evacuation of the community.

2.2.4 Rural Station

The rural communities in eastern San Diego County, such as Julian, Jamul and Pine Valley, among others required evacuation in response to the Harris Fire. On Sunday, October 21, 2007, the Sheriff's Department Rural Station was operational in the field at approximately 1000. There



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were two deputies in the field who began initiating door-to-door evacuation notices. Initially, Reverse 911 was not utilized. Because this area is rural in nature, the Sheriff's Deputies, many of whom live in the area as well, know the residents in the area, which assisted with the evacuation efforts. A full platoon of additional officers was requested on day one, which eventually was not enough personnel, so an additional two platoons were requested. By day three, October 23, 2007, approximately 205 law enforcement personnel from the Regional Law Enforcement Group as well as State and Federal personnel were deployed to the area.

In order to assist with communication efforts, a Sheriff's Deputy was placed in the Fire Logistics section in the Fire Incident Command Post which enabled law enforcement personnel the ability to "stay ahead" of the fire. Due to the fast moving nature of the Harris Fire, law enforcement personnel were able to make decisions regarding evacuation needs while effectively working under the Fire Unified Command System. CHP also provided a liaison to the Fire command, which enabled the effective coordination with CHP regarding evacuation and repopulation activities.

As in Fallbrook, the communities in eastern San Diego County required large animals to be evacuated as well. The coordination of the animal evacuation helped to ensure that residents would also evacuate the area because they knew their animals would be safe.

Before areas were authorized for repopulation, CAL FIRE and law enforcement personnel continually visited the evacuation centers to ensure residents had the updated necessary information. This ensured all agency personnel were on the same page and that a consistent message was being disseminated to the public.

Throughout the operation, there was effective cooperation and communication between CAL FIRE, law enforcement, ARC personnel and community residents.

2.3 Successes

- There were few injuries and fatalities in proportion to the total number of evacuees.
- A significant number of areas were affected by evacuation orders, including areas difficult to reach by traditional means of communication. DOC personnel were innovative in their approaches to notifying residents and businesses of evacuation orders using both conventional communication systems (mass media, television, radio, emergency vehicle public address system, aerial notification) and innovative technology (Reverse 911).
- There was extensive collaboration with the American Red Cross and other disaster service organizations in order to prepare shelter locations and disseminate evacuation information (including providing the direction of safe travel and closest shelter locations).



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2.4 Areas for Improvement

- Communicating re-entry in a disaster of this magnitude proved challenging. Providing residents with pre-notification of repopulation may be a prudent step, but must be weighed against the concerns of providing the public with false expectations.
- The appropriate process and authority for repopulation in a disaster that had multiple incident command posts was not well identified.
- Evacuating and returning disaster victims blocked emergency vehicle access on many city, county, and State roadways.



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CHAPTER 6: LAW ENFORCEMENT RECOMMENDATIONS

Recommendations related to law enforcement during the 2007 San Diego County Firestorms are as follows:

- Add additional resources and manpower to the Sheriff's Emergency Planning Unit. This will allow the unit to accelerate emergency planning, increase disaster preparedness training for field deputies, and provide continual feature and capacity upgrades for Emergency Response Assessment Team (ERAT) and Department Operations Center (DOC) operations, and other Sheriff's Department technology projects.
- Develop policies for management and deployment of Federal resources, including chain of command and operational duties for National Guard resources.
- Solidify or update mutual aid agreements between law enforcement agencies both within, and adjacent to, San Diego County.
- Establish a Reverse 911 master coordinator position within the Sheriff's Department. The coordinator should be supplemented by an emergency notification team with sufficient resources to manage ingress of notification requests and egress of Reverse 911 and AlertSanDiego emergency notifications.
- Develop a re-entry plan to establish protocols, policies, and procedures for ingress of evacuees back into their local communities. The plan must account for exceptional cases encountered by law enforcement during the fires (e.g., live-stock subsistence, medication-dependent evacuees). Establishment of traffic routes that maintain emergency vehicle access should be a priority and included in the plan.



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CHAPTER 7: RECOVERY OPERATIONS

1 SHORT-TERM RECOVERY

1.1 Improvements Since 2003 Fires

1.1.1 Plans

- An Operational Area Recovery Plan was developed in April 2007.

1.1.2 Training

- San Diego County Office of Emergency Services (OES) sponsored a 2-day Recovery Training course for county emergency management personnel.
- Recovery operations have been included as objectives for preparedness exercises.

1.2 2007 Fires Overview

Short-term recovery efforts were implemented soon after fire response operations began on October 21, 2007. During a disaster, initial short-term recovery efforts concentrate on financial reimbursements needed for incident-related costs. Additional short-term recovery efforts typically focus on utility restoration; expanded social, medical, and mental health services; re-establishment of government operations; transportation route restoration; debris removal and cleanup; building safety and inspections; and abatement and demolition of hazardous structures.

During the 2007 fires' short-term recovery operations, a recovery coordinator was assigned to the Operational Area Emergency Operations Center (OAEOC) to assist with implementing the recovery organizational structure (refer to Figure 3.3 of the Operational Area Recovery Plan). The Operations Section of the short-term recovery structure focused on damage assessments that occurred within unincorporated areas of the county. Incorporated cities were responsible for the deployment of their own damage assessment teams. The significant amount of damage to businesses and residences required the establishment of four Local Assistance Centers (LACs).

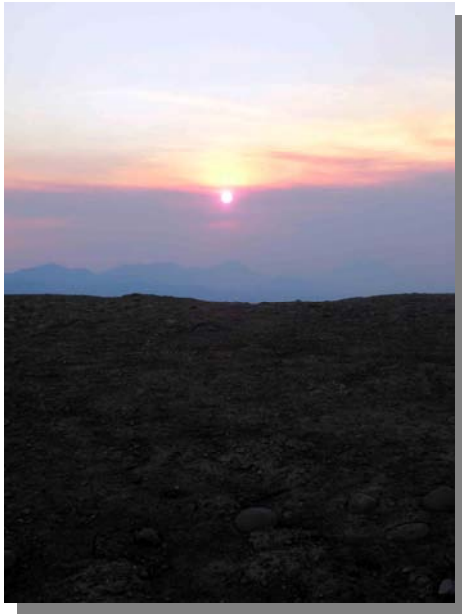
LACs provide a single point of contact for recovery information from representatives of State, Federal, and voluntary agencies, to include loan officers from the U.S. Small Business Administration. Recovery Branch personnel began planning for the opening of LACs on Day 2 of disaster response operations. LAC locations were identified after short-term recovery personnel assessed the needs of those affected by the fires. Several factors contributed to LAC locations, such as proximity to those most in need. On October 25, 2007, the first LAC open was the City of San Diego (with County of San Diego presence) LAC in Rancho Bernardo. The county opened three other LACs located at the Ramona Community School, Cuyamaca College in Rancho San Diego, and the Fallbrook Community Center. Local jurisdictions opened another four LACs that were not operated by county staff; these LACs served their local communities only.



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Although the establishment of the LACs was a success during the wildfires, there were several logistical issues that needed to be addressed by OES. The space required for an LAC was difficult to find during the disaster because many community facilities were being used as shelter locations. Moreover, once an LAC location was established, the length of time it could remain operational in that facility was problematic. This was due to the fact that once an evacuation order had been lifted, the management of facilities hosting LACs expected to return to normal business operations. However, in some cases, facilities hosting LACs (e.g., Cuyamaca College) were unable to return to normal operations.



In addition to LACs, the county used its www.sdcountyrecovery.com website to provide information on resources available to residents requiring assistance with disaster recovery. Information on the website included locations of LACs, a list of agencies and services available to residents to include those available at LACs, as well as helpful links to other fire-related information and assistance websites.

The LACs, the San Diego County www.sdcountyrecovery.com website, and the City of San Diego www.sandiego.gov/newsflash/firealert.shtml website were vital resources serving residents in need during short-term recovery efforts. In accordance with the Operational Area Recovery Plan, the responsibility of assisting residents was eventually turned over to the Federal Emergency Management Agency (FEMA), which transitioned all LACs into Disaster Recovery Centers (DRCs). The Short-Term Recovery Branch continued to assist in recovery efforts, as needed. Once the fires were contained, short-term recovery transitioned to long-term recovery efforts. Long-term recovery efforts included the shift of DRCs to Disaster Loan Outreach Centers (DLOCs). Recovery teams continued operations at an alternate facility following deactivation of the OAEOC.

1.3 Successes

- Approximately 24,000 residents used an LAC for assistance and disaster relief information.
- Enhanced coordination, working relationships, and contacts were established between the OES Recovery Branch and other OAEOC functions.
- The county recognized the need to start short-term recovery actions as soon as the incident began.
- County public information officers (PIOs) were available at the LACs to assist with media inquiries.



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- County Information Technology (IT) personnel supported LACs with computers and communications including a web-based GIS mapping tool.
- The www.sdcountyrecovery.com website was established.
- Responsibilities transitioned smoothly to FEMA representatives.

1.4 Areas for Improvement

- A standard operating procedure for the activation, operation, and deactivation of an LAC does not exist. Ensure to include information of agencies and/or departments that should be located within the LAC.
- There is a shortage of translators in relation to the number of non-English-speaking residents requiring assistance.
- Some LAC locations interfered with the primary occupant's ability to resume normal operations after evacuation orders were lifted.
- Agencies within the LAC established individual hours of operation independent of the county-released hours of operation.
- Some booklets, handouts, and other information sources were not provided in languages prevalent in the area.

1.5 Short-Term Recovery Recommendations

- Evaluate designating existing county (or other) facilities as being convertible to LACs, much the way centers are designated as emergency shelters.