LESSONS LEARNED
From School Crises and Emergencies

READINESS AND EMERGENCY MANAGEMENT FOR SCHOOLS TA CENTER
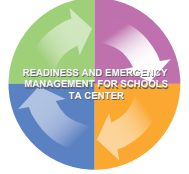
COMMUNICATION AND COLLABORATION DURING NATURAL DISASTERS: THE LESSONS LEARNED FROM PAST EXPERIENCE

The Incident

Wildfire knows no boundaries. Hundreds of thousands of citizens in San Diego County were impacted in some way by the wildfires of 2007. In 2003 and again in 2007, the San Diego region experienced Santa Ana winds blowing from the East with conditions just right to produce wildfires of amazing strength and proportions. When wildfires occur in San Diego, there are often multiple fires burning throughout the southern California region, if not the entire state. This stretches the state's well-developed mutual aid system to the limit.

The wildfires, consisting of seven separate fires within San Diego County, began on Oct. 21, 2007, during a major Santa Ana wind event that lasted for three days. These winds, sometimes called Devil's Breath, are characterized by warm temperatures, relatively low humidity, and increased wind speeds. As the Santa Ana winds are channeled through the mountain passes, they can approach hurricane force. The combination of wind, heat, and dryness turns the chaparral found throughout the region into explosive fuel.

Many have called these wildfires *firestorms*. Due to the force and nature of the Santa Ana winds, these wildfires are highly unpredictable, more so than wildfires that occur in other parts of the nation. They move like a storm front, extremely quickly, and can shift in direction randomly as the winds change. This leads to much unpredictability in terms of what areas are safe or not. A quick shift in the wind can result in a previously unharmed area suddenly facing danger. In 2007, the Santa Ana winds blew up to 70 mph. This, combined with temperatures into the 90s and extremely low humidity, created the worst possible fire conditions.

If it's this big and blowing, with as much wind as its got, it'll go all the way to the ocean before it stops ... We can save some stuff but we can't stop it.—Kirk Humphries, captain of the San Diego fire department, Oct. 23, 2007. Source: http://abcnews.go.com/US/wireStory?id=3767141

The October 2007 wildfires were the largest in San Diego County history. An estimated 515,000 county residents were evacuated, the largest single fire evacuation in the nation's history. The seven fires resulted in 10 civilian deaths, 23 civilian injuries, and 93 firefighter injuries. More than 6,200 fire personnel fought to control the wildfires.

The San Diego County Office of Education

The San Diego County Office of Education (SDCOE) is a service organization providing a range of services to 42 separate local education agencies (LEAs), each of which has its own superintendent and school board. Overall, San Diego County has 700 schools and 500,000 students. Districts range in size from the San Diego Unified School District with 140,000 students to tiny districts with less than 100 students.

This *Lessons Learned* publication focuses on the response and recovery efforts to the wildfires by the San Diego County Office of Education (SDCOE) and its school and community partners. Their story involves collaboration and communication between the SDCOE and local school districts as well as between the SDCOE and county support agencies in their collective response to the wildfires and to recovery in the aftermath. Lessons learned from this experience can help school districts everywhere better respond and recover from a similar natural disaster.

In September 2007, the SDCOE gathered the resources and set up its Emergency Operations Center (EOC) to ensure it had adequate space for such an undertaking. SDCOE planned to set up the EOC again for the implementation of a tabletop drill[1] on Monday, Oct. 22, but when the fires began on Sunday, Oct. 21, SDCOE staff arrived on Monday morning to a functional EOC/Incident Command System (ICS) rather than a tabletop drill. Information Technology (IT) staff had arrived on site early that morning to set up the EOC so that it was functional for the emergency at hand. SDCOE did have a formal emergency management plan; however, due to the fires' impact on many of the individuals who were originally planned to be in the EOC, secondary and tertiary personnel staffed the EOC. Few of these individuals had practiced tabletop drills or any exercises associated with the SDCOE EOC.

The working relationships with the 42 school districts in the county, as well as many local support agencies, were critical during the wildfires. The EOC served as a gathering place during the emergency. It coordinated information resources and response and recovery actions across the school districts. Additionally, it served as a point of contact for interfacing and coordinating with other agency EOCs throughout the county during the wildfires.

The collaboration and communication among SDCOE, the school districts, and the county support agencies are of primary interest in planning future response and recovery efforts in the event this type of natural disaster recurs. These efforts resulted in a collective response from the school districts during the wildfires, along with collaborated efforts in the aftermath, and translate into lessons learned for the field.

The Importance of Collaboration

Layers of collaboration among agencies during the wildfires assisted with response and recovery. At one level was SDCOE's collaboration with the Operational Area Emergency Operations Center

1 A tabletop exercise simulates an emergency situation in an informal setting; it is designed to elicit participant discussion. *School Crisis Management Exercise Development Guide*. (2001). Virginia Department of Emergency Management

(OAEOC), the main emergency operations center for the county during the wildfires. At another level was SDCOE's collaboration with the 42 school district superintendents in the county. Through a conference line, the county superintendent established twice-daily communication with the 42 district superintendents. The initial calls resulted in a consensus among the superintendents to close schools countywide on Tuesday, Oct. 23. During a later call, the superintendents collectively decided to close all the schools in San Diego County for the remainder of the week. This was partly due to the poor air quality, the ever-changing nature of the wildfires, the need for transportation for evacuees (i.e. school buses), and the need for schools to serve as evacuation shelters. Throughout the duration of the fires, 19 schools in the county served as shelters for evacuees.

Each morning's conference call with the superintendents generated a task list for the SDCOE to implement on behalf of the districts. A SDCOE staff member served as liaison with OAEOC, the Red Cross, and the Sheriff's Department for gathering information. This was primarily done by phone but also via a real-time, Web-based emergency management system. This interagency collaboration gave the SDCOE the most accurate and clear picture of what was happening within each school district and also ensured that the SDCOE received the most up-to-date information available.

SDCOE Emergency Operations Center during wildfires.
Photo courtesy of Tom Sarmiento of the San Diego County Office of Education

LESSONSLEARNED

LESSONS LEARNED TO ENSURE COLLABORATION

- Integrate the Incident Command System (ICS) three deep into district and school emergency management plans (meaning, assign roles and have two back-up names also assigned for each role to ensure responsibilities are fulfilled if individuals are absent or unavailable).
- Practice setting up your organization's Emergency Operations Center (EOC) in collaboration with your Information Technology (IT) department. Incorporate IT support staff into your ICS logistics section three deep.
- Identify at least three points of contact in each of the following: your local law enforcement agency, fire department, American Red Cross, and county office of emergency services to ensure collaboration during crisis situations.
- Integrate outside agencies into trainings and other events. Schedule semiannual collaborative tabletop and/or simulated drills with the local law enforcement agency, fire department, and other support agencies (e.g., American Red Cross and offices of public health and mental health).
- Work with district and school staff to ensure that they have adequately prepared their homes and families for an emergency. Staff may be required to report to duty during an emergency, especially if they are part of the district or school incident management team.
- Paying staff during an emergency can be challenging if the district relies on paper checks. To ensure continuity of payroll functions, encourage direct deposit for all staff.
- Collaborate with other agencies to coordinate and manage donations. Assign a point person at the district level to manage incoming donations and ensure they are distributed where they are most needed.

These joint efforts also assisted during the aftermath and recovery from the wildfires. Although no schools sustained significant damage, students and staff in approximately 15 out of the 42 districts in the county lost their homes as a result of the wildfires. SDCOE was able to provide information about available mental health services in the community on their Web site, as well as assist school districts to acquire additional outside resources. For example, SDCOE provided school districts with a crisis response intervention for mental health services. This intervention provided a list of steps to identify the need for emotional support for students and staff (via survey). The SDCOE focused on those 15 districts in which students' and staff's homes burned.

Additionally, the twice-daily conference calls of superintendents, facilitated by SDCOE, resulted in all of the districts agreeing to implement the same step-by-step cleanup process, thereby eliminating any disparities among districts. Perhaps most importantly, these collective meetings were a means to coordinate among school districts the needs of displaced families so that students could enroll in new schools with as much support as possible from the new school district.

Invest in your people.—Jess Martinez, Readiness and Emergency Management for Schools program coordinator, Student Services Division, SDCOE

The Importance of Communication

Good communication was also essential during the wildfires. SDCOE representatives emphasized how advancements in technology since the 2003 wildfires significantly improved how well they could communicate with the school districts, their own staff, their own students, and outside support agencies. Because of the unpredictability of the wildfires, school districts needed the capacity to make quick decisions if a shift in wind direction sent the fire towards a new area. Of vital importance to communication throughout the crisis were the twice-daily conference calls with the 42 school district superintendents described above, mass notification systems, the SDCOE's instructional television channel, the SDCOE Web site, and the real-time, Web-based emergency management system.

LESSONSLEARNED

Mass notification systems. Fifty-two percent of the school districts in the county at that time had functioning mass notification systems. This enabled the districts to easily send out unified messages to parents and staff about school closures, donations needed for school evacuation sites, and when school reopenings would occur. The mass notification systems were also highly useful in informing households of what work students could undertake and complete at home. Messages could even be personalized by a specific teacher to his or her students.

For those districts without a mass notification system, SDCOE served as an information hub. Because SDCOE was conference-calling twice each day with all of the district superintendents, SDCOE was able to release unified announcements to the media on behalf of the districts. Those districts without a mass notification system could relay important information to its students, parents, and staff through the media via SDCOE.

SDCOE's instructional television channel (ITV). The SDCOE utilized its instructional television channel during the wildfires to send out updates to the county on the status of the fires. In particular, they established a crawl at the bottom of the screen with continuously updated information about the fires.

SDCOE Web site. The SDCOE Web site was an information resource during the wildfires for SDCOE staff, school districts, parents, students, and the community in general. It provided information on reopening of schools; guidelines for temporarily displaced students; tips for parents; links to the OAEOC site; and important information on other topics. It also provided extremely valuable educational resources. Lessons were provided for students and were translated into Spanish wherever possible. In addition, the Web site presented mental health assistance on such topics as advising parents on how to talk with their children if they manifested fear about the wildfires. The individual school district Web sites also proved useful in keeping parents informed with daily updates on school closures and expectations.

Real-time, Web-based emergency management system. This system was the catalyst for information sharing throughout the county at all levels. Personnel with access to an Internet-capable computer could view OAEOC status boards, Geographic Information Systems (GIS) maps, status reports, and a plethora of emergency management information pertaining to the fires. This system also was useful to public information personnel seeking to disseminate a consistent message to the media and public. The county's Joint Information Command (JIC) center used the system to coordinate unified press releases to the media. Public information officers (PIOs) at all levels, including the PIO from SDCOE, were able to upload their information to the system where it was used by JIC personnel to compose unified press releases for dissemination to the entire county.

Case Study: Live Oak Elementary School: Parent-Child Reunification

Fallbrook Union Elementary School District chose to keep their schools open on Monday, Oct. 22, 2007. However, by 9 a.m. that day, the winds had changed direction and the town of Fallbrook was suddenly in danger. Live Oak Elementary School was notified by its superintendent shortly after 9 a.m. that a mass notification call had been made to parents to pick their children up from school immediately. With a school attendance of 675 students that day, school administrators rapidly took action to implement parent-child reunification efforts. Initially, the multipurpose room was utilized for parent pickup. Tables were set up according to last names (A-I, J-R, S-Z). Staff checked parent identification; parents completed a slip; and a runner then retrieved the child from his or her classroom. However, as the lines grew it became unclear who was checking in versus who was waiting for their children. Thus, the school administration quickly modified its strategy. They allowed parents to go directly to their student's classroom, and the teacher used the emergency cards stored in the classrooms to check students out. This sped up the parent-child reunification process so that by 11 a.m., only 25 students remained. Those students were taken by bus to another school that was designated as the school district's evacuation site.

LESSONS LEARNED TO ENSURE COMMUNICATION

- Establish a district conference call phone line. This enables all district superintendents to communicate collectively during a crisis.
- Acquire a mass notification system to communicate with staff and parents. During a crisis, regularly update staff and parents through this system and the Internet.
- Conduct semiannual mass notification tests to staff and students to ensure accurate contact information.
- Develop contact lists. Ensure that the list includes contact information for key individuals in each district or school, with multiple points of contacts, including work phone, cell phone, home phone, and e-mail.
- Designate key district and/or school staff as the holders of contact lists containing contact information for superintendents, principals, alternates, and other key district staff. Update the list quarterly and provide copies to the local law enforcement and local emergency management agencies.
- Have the holders of contact lists keep copies at work, home, and in their personal vehicle. This ensures that at the onset of a crisis they have the means to contact each other immediately—this models the *scalability of ICS*.[*]
- Develop decision trees. School districts may be required to make quick decisions. Decision trees need to be kept current so that everyone who is part of the decision-making process can be in communication with one another as soon as a crisis begins. Further, decision trees are critical because the movement of such wildfires is highly unpredictable. The fact that a wildfire is in one part of the county does not mean a school in another part does not have to be on alert.
- Always have an amateur radio unit in your EOC. Amateur radios may be outdated, but they are also the last type of communication to fail.
- After an incident, remember to debrief, identify lessons learned and weaknesses in the emergency management plan, and revise the plan accordingly. Just because the crisis is over does not mean the emergency management process has ended.

[*] The ICS is able to be expanded or contracted as needed to fit the operational requirements of a particular incident. *The Incident Command System: A 25-Year Evaluation by California Practitioners*. (2000). National Fire Academy. http://www.usfa.dhs.gov/downloads/pdf/tr_00dc.pdf (last accessed Aug. 14, 2008).

Lessons Learned

Mark students in some way to identify them as having been properly checked out. Using a colored bracelet or hand stamp is a fast, effective way to distinguish students on the property who have been properly checked out.

Utilize mass communication systems. The district's mass communication system was invaluable in providing parents with updates as to the status of the schools and where students would be transported to if evacuation occurred before their parents could reach them.

Ensure that emergency contact information is updated. It is essential to periodically check students' emergency contact information to ensure that parents or guardians can be reached via the mass notification system in the event of a school emergency.

Case Study: Carlsbad High School: Setting Up And Running An Evacuation Shelter

The superintendent of Carlsbad Unified School District was notified on the evening of Oct. 22, 2007 that the American Red Cross planned to use the high school as an evacuation shelter. On Tuesday morning and afternoon, staff and volunteers in the area assisted with the set-up of Carlsbad High School to serve as a shelter. By Tuesday evening, evacuees began to arrive. The superintendent waited for Red Cross assistance all night, but by Wednesday morning, the school realized that Red Cross resources were overextended. District and school staff established a check-in booth as well as an area for people to drop off supplies and donations. District staff, including custodians, food services, and school resource officers (SROs),

LESSONSLEARNED

were on hand to assist with building maintenance, food preparation, and safety. The director of student services developed a schedule with shifts for volunteers. Although initially they lacked many of the necessary items to run an evacuation shelter, by Wednesday afternoon, the school shelter was turning excess items away. The community response was unprecedented. At the height of the crisis, they provided shelter for over 200 evacuees. By Friday morning the shelter was closed, leaving a large footprint on the school, but with the help of staff and volunteers, the school reopened for students the following Monday.

Lessons Learned

Be prepared in event that American Red Cross resources are overextended. Given the magnitude of the wildfires and the number of people evacuated, the Red Cross was simply stretched beyond their means in October 2007. Schools identified as potential evacuation shelters cannot always depend upon Red Cross resources. It is suggested that school districts that may serve as evacuation shelters develop two plans: one if they are on their own, and one if they have the leadership and support of the Red Cross. Potential evacuation shelters should also have a phone contact at the Red Cross.

Communication is essential. A mass communication system was utilized during the wildfires not only to send out information to parents about the status of the schools but also to update the community on the evacuation shelter, volunteer help, and supplies needed for the shelter. The response was tremendous.

School leaders are natural incident commanders. School leaders, such as principals, have the natural internal disposition and leadership capabilities to manage an evacuation shelter during a crisis.

Create a binder of essential materials. Create a binder of materials that would pass from one shift manager to the next. Make sure the binder contains phone numbers of important contacts, a set of master keys for the school, an internal leadership phone tree, and job descriptions for volunteers.

Utilize community resources. The help of a shelter volunteer who was the owner of a local emergency supply store was critical in the acquisition and allocation of supplies from volunteers. Bedding essentials and towels were donated from local hotels. Local churches were essential in finding safe havens for the frail and elderly.

Designate who serves each role at the shelter. Strategize a method to designate who is a volunteer versus who is an evacuee. Using different colored wristbands or having volunteers wear vests would simplify the distinction and ensure that only those individuals who should be there are there.

Evacuee transition process. Be sure to track evacuees when they leave. While checking out, offer evacuees the option to leave information about their next destination on their check-out form. This will ensure that you can pass on any information should a friend or relative contact the shelter after the evacuee has left.

Case Study: Valley Center High School: Running an Evacuation Shelter for a Large Number of Evacuees

The Valley Center-Pauma Unified School District closed schools on Monday, Oct. 22, 2007, due the close vicinity of the fires. The high school principal was notified on Monday morning that Valley Center High School would become an evacuation shelter. Although the American Red Cross was expected to run the shelter, school staff that lived close to the school set up the shelter in its absence. By lunchtime on Monday, approximately 300 evacuees were present. On Tuesday, the Poomacha fire broke out, which resulted in the evacuation of the town of Valley Center. Between 5 a.m. and 7 a.m., approximately 1,000 evacuees arrived. The influx of evacuees in such a short amount of time was overwhelming, but the shelter volunteers rose to the task to ensure the evacuees' well-being. A church next door to the school was opened, and many evacuees resided in their cars parked on school property. During peak periods, the shelter provided food and housing for over 2,000 evacuees. At the height of the wildfires in the area, all of the roads around the school were blocked by fire. Community members donated supplies, and other schools in the district were solicited by volunteers for supplies and perishable foods. The Red Cross arrived on Tuesday night, but their resources were limited, so the school continued to run the shelter

LESSONS**LEARNED**

through breakfast Wednesday morning. When school resumed a week later, there were still approximately 300 evacuees in the school gym. The Red Cross was hesitant to close the shelter; however, the school needed to resume its normal operations, so a date was set for shelter closure. Local churches were essential in ensuring that the final evacuees and those who lost their homes in the fires were cared for.

Lessons Learned
Carefully plan allocation of food resources when there are large numbers of evacuees. When food resources became scarce and the district knew a school would be designated as a shelter, school staff acquired all the perishable foods from the other schools in the district to feed the evacuees. This ensured that the food would be used. Food services staff also quickly learned to hold back food until there was enough prepared to feed a large number of the people. Otherwise, evacuees thought the food was running out and a sense of panic set in.

Run the shelter with the culture of your community in mind. Valley Center is a predominantly agricultural community. Many evacuees showed up at the shelter with their horses, dogs, and cats in tow. No animals were turned away, and evacuees were allowed to keep non-biting pets with them in the shelter.

Utilize evacuee volunteers. Many evacuees, including students, offered their time to run and manage shelter operations. Students were used as interpreters for non-English speaking evacuees, helping to convey important information about the status of the fires. Volunteers were also utilized for cleaning bathrooms, the primary shelter area, and the kitchen areas. Use of the evacuees for shelter management served dual purposes—it kept the evacuees busy and engaged, and it provided a needed service for the effective operation of the shelter.

Have essential services on hand. The local fire department sent a crew to the shelter every 2 hours to update evacuees on the status of the fires. The crew stationed a unit outside the shelter to assist the elderly. By Tuesday, there were 12 ambulances stationed outside the shelter to assist those with medical conditions.

Ensure security of evacuees. The school, in collaboration with a local church, established four, sometimes five, security teams that roamed the school campus throughout the night to ensure the safety of the evacuees and their belongings.

Set meeting times and establish short-term goals. School leadership staff and a core group of shelter volunteers met every other hour and set short-term goals for the next two hours. Working in these short-term increments helped to keep everyone on task and not overwhelmed with the large number of evacuees they were sheltering.

Ensure accessibility of school staff to other evacuated areas. Once Valley Center was evacuated, the National Guard set up roadblocks and special permits were needed for access. When school staff tried to travel to other schools, restaurants, and grocery stores to get food, this became an issue. Passes that school staff could post on their windshields to get them access through these checkpoints would help in future crises.

Conclusion
Natural disasters such as floods, hurricanes, earthquakes, wildfires, and tornadoes can strike a community with great force and leave it devastated. The October 2007 San Diego wildfires consumed approximately 369,000 acres or about 13.6 percent of the county's total land mass. Additionally, the fires destroyed an estimated 1,600 homes, 800 outbuildings, 253 other structures, 239 vehicles, and two commercial properties.[2] 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. However, the lessons learned by the San Diego County Office of Education point to the importance of collaboration and communication between SDCOE and the school districts as well as between the SDCOE and the county support agencies. These lessons may be used not only to help mitigate future damage from wildfires in this area but also to develop generalized lessons for the field.

_____
2 *2007 San Diego County Firestorms After Action Report*. (2007). Office of Emergency Services, San Diego County. http://www.co.san-diego.ca.us/oes/docs/2007_SanDiego_Fire_AAR_Main_Document_FINAL.pdf (last accessed Aug. 14, 2008).

LESSONS**LEARNED**

Collaboration and communication are essential; no one agency can successfully manage a crisis alone. The SDCOE's lessons learned regarding the handling of a natural disaster emergency should assist schools and school districts nationwide to further collaborate with local agencies, establish contact lists prior to a crisis, develop decision trees, require direct deposit of personnel paychecks, and acquire mass notification systems.

The citizens of San Diego County are seasoned veterans of wildfires. Having experienced two major wildfire events in the past five years, it is fairly certain that these natural disasters are a part of life for the citizens of San Diego County. The San Diego Office of Education, the school districts, the county support agencies, and perhaps most importantly, the citizens of San Diego County themselves should be commended for their incredible, compassionate, and organized response to the October 2007 wildfires.