OCTOBER 2017 COMPLEX FIRES

Emergency Operations Center After Action Report & Improvement Plan


County of Sonoma

June 2018

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PREFACE

The wildfires of October 2017 will be long remembered for their ferocity, speed, and the devastating impact they had on communities in Sonoma County. Like the majority of jurisdictions in California, Sonoma County had not experienced this magnitude of disaster in living memory. The scope, scale, and duration of the wildfires pushed the County's Emergency Operations Center (EOC) facility, systems, and staff well beyond their design limits and experience. Some 660 EOC staff provided over 33,000 hours of service during 47 days of activation. Many who served had personally lost their homes but all were deeply affected by the suffering and needs of the community. By looking back, we will be better prepared for the future.

INTRODUCTION

After any major emergency or disaster, a fundamental practice in the field of emergency management holds that all responding organizations should undertake some form of after-action review and analysis process. Depending on the magnitude of the incident and the organization's perception of its response and recovery operations, this effort may range from a basic "hot wash" that pulls together key participants for a brief discussion of issues that need to be addressed and ideas for improvement, to a formal and comprehensive after-action review.

A key factor in the response to any major event in the Sonoma Operational Area is the function of the County's Emergency Operations Center (EOC). An EOC is the centralized location where emergency management coordination and decision making can be supported during a critical incident, major emergency, or disaster. When activated, the EOC provides support for many critical tasks related to communications, coordination, resource management, and executive leadership. The County's EOC also directly supports all the cities and special districts within the County and serves as the coordinating point for state and federal agencies.

The role of local government in response to a major regional wildfire event is unlike any other disaster. In most disaster incidents, the Standardized Emergency Management System (SEMS) provides established guidance on how local agencies lead the response and receive support from the state. The EOC's role is not to manager but to support Incident Commanders in the field. The EOC does not direct response activities but does coordinate support functions such as public information, care & shelter and logistics.

This report summarizes the key strengths of the County's EOC as well as the challenges it faced during the response phase and initial recovery from the fires. The intent of this report is to document and recommend those actions needed to ensure that the capabilities and resources of the County's EOC are strengthened.

METHODOLOGY

In the aftermath of the October 2017 LNU Complex Wildfires, the County of Sonoma has undertaken or participated in several after-action assessment efforts, which indicates the County's strong commitment to identify its strengths, limitations, identify lessons learned, and build a comprehensive strategy for improvement moving forward. These after-action efforts include:

- November 27, 2018: Request by the County Administrator to the California Governor's Office of Emergency Services (CalOES) to assess the Public Alert and Warning Program
- December 19, 2017: Care & Shelter Task Force After Action meeting
- January 19, 2018: After Active Review session, Sonoma County Office of Education
- January 29, 2018: Staff presentation to the Board of Supervisors on Alert & Warning Recommendations prepared by the Fire and Emergency Services Department (FES)
- February 27, 2018: Board of Supervisors Infrastructure Recovery Workshop
- April 15, 2018: Submittal of official CalOES After-Action Report as required by the Standardized Emergency Management System (SEMS) using the Local Government Template
- June 11, 2018: This EOC After-Action Review & Improvement Recommendations Report
- Various: Internal Department staff reviews

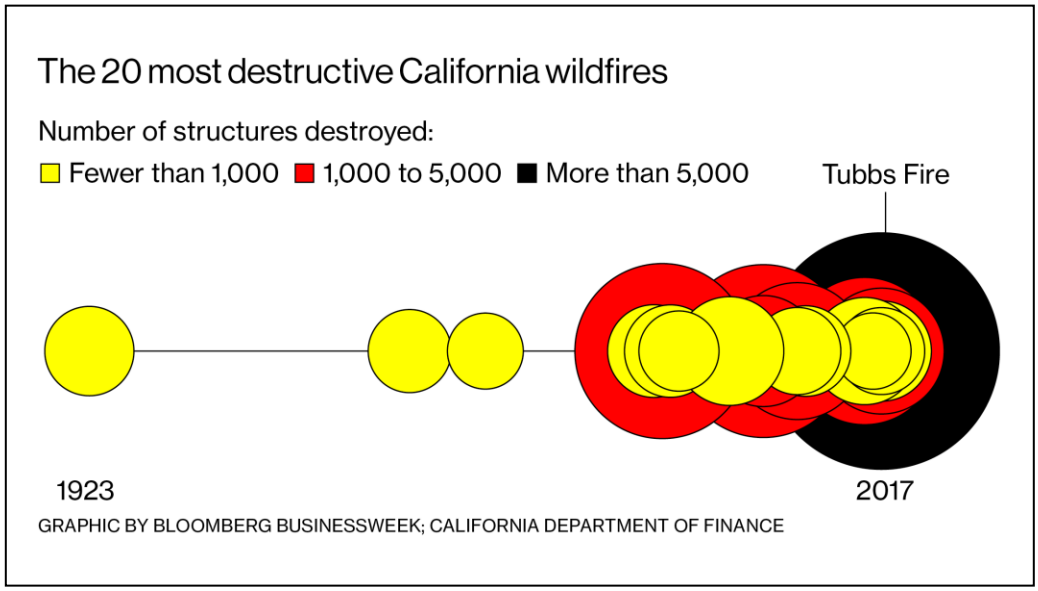
Development of this after-action report included the following steps to achieve the County's stated objective of fully assessing the operation of the County's EOC during this event:

- Contract the firm of HR Matrix to interview EOC staff and collect data
- Conduct individual interviews with 72 key EOC staff and selected stakeholders
- Survey additional EOC staff and selected external stakeholders (47 responded)
- Hold outreach and engagement sessions with community organizations and stakeholders
- Review existing plans, including the Operational Area Emergency Operations Plan and EOC references
- Review correspondence and media coverage related to the event. After data and input had been collected and analyzed, Division of Emergency Management (DEM) staff developed this report.

REPORT FORMAT

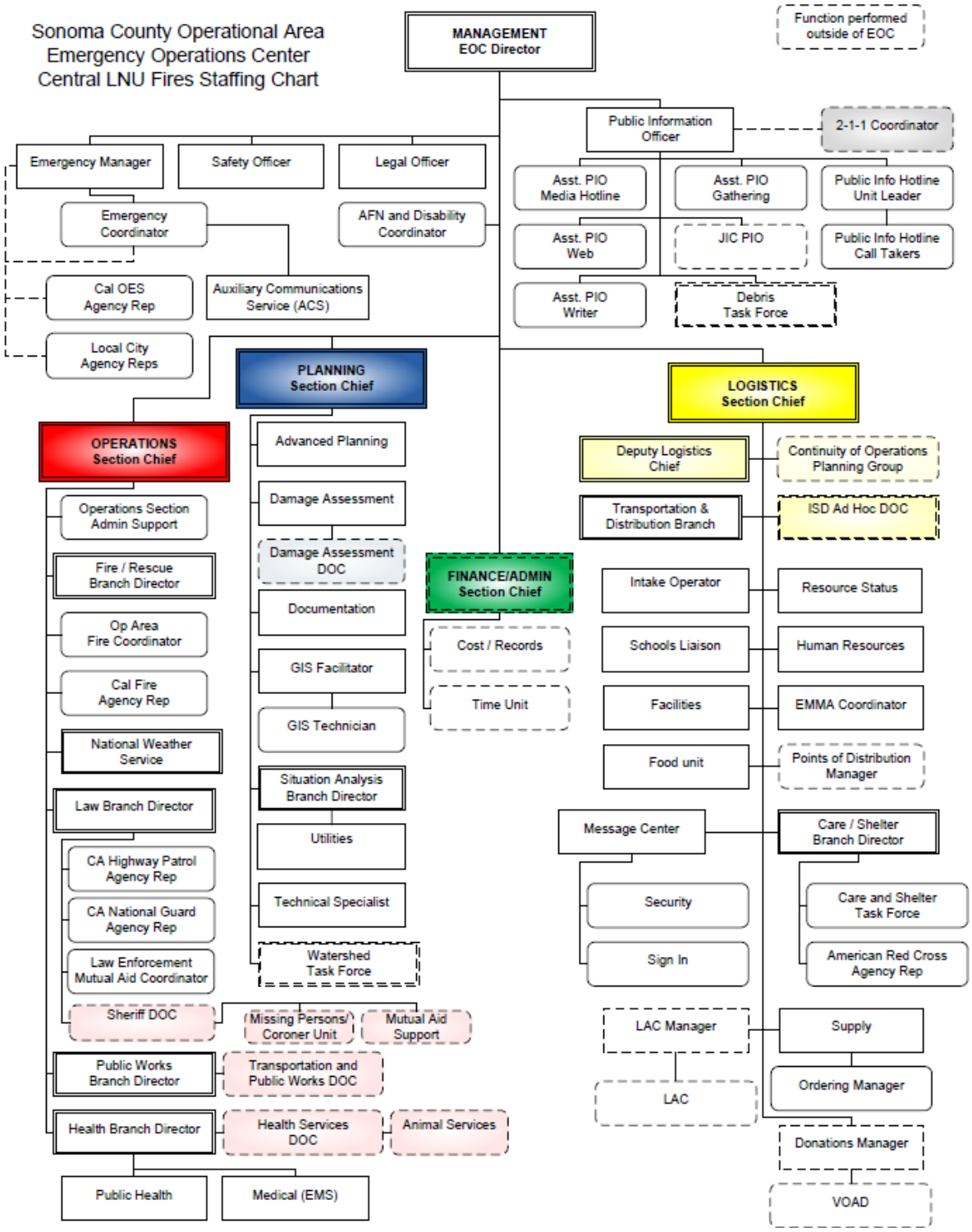
This is report is organized by key EOC Functional Areas and Capabilities. Key findings and recommendations are presented along with illustrative quotes from EOC staff and stakeholders in each area. The attached Improvement Plan serves as a summary of key recommendation and potential action agents.

It is important to note that people generally recall negative experiences more often and with greater clarity than positive ones. The application of this "bad is stronger than good" psychological principal can be seen in most post-disaster reviews, including this one. The broad scope of input received for this report tends to run to identification of challenges, frustrations with process or equipment, and the personal negative emotions experienced during the crisis. Although this report has attempted to identify and bring forward many of the strengths present in the EOC operation, it has been done in the context within the larger body of input.



EOC ORGANIZATION

The EOC organization was heavily adapted and expanded for this event (additions shaded in diagram below). Many positions were staffed by multiple individuals. At the peak, some shifts had 200 staff.



EVENT BACKGROUND

In the evening of October 8, 2017, multiple fires broke out in neighboring Napa County. The largest – the Tubbs Fire – started at 9:43 p.m. near the Town of Calistoga. Winds quickly fanned the fires and drove them westward into the eastern hills and mountains of Sonoma County. As the fire gained in elevation, the winds increased, speeding the spread of the largest fire (the Tubbs Fire). Burning debris flew ahead, igniting fires ahead of the main conflagration. Residents overwhelmed dispatch centers with calls.

Shortly before 11:30 p.m., REDCOM (the joint fire communications dispatch center) contacted the Division of Emergency Management (DEM) of the County Fire & Emergency Services Department. The DEM duty officer dispatched a Battalion Chief to the dispatch center to help triage calls. Thirty minutes later, the County EOC was activated with the first three staff present. The initial assessment indicated this outbreak was no ordinary wildfire and the situation was quickly deteriorating.

The EOC Director ordered a full EOC activation. REDCOM, Sheriff, City of Santa Rosa and DEM staff activated the SoCoAlert system, the Sheriff's office posted warnings on its Nixle public information system, and deputies sounded sirens and went door-to-door to warn residents. Fire agencies from throughout the County and the Bay Area quickly responded but were challenged by the scope and speed of the fire.

County staff encountered challenges in responding to the EOC, including the time of night, damage to cell phone networks, volume of incoming emergency calls, loss of power in affected areas, road closures, significant traffic congestion, and staff who had to evacuate themselves. Many staff lost their homes in the first hours.

In just 4 hours, the Tubbs Fire raced 12 miles, quickly burning through unincorporated areas and into the City of Santa Rosa in the Fountaingrove and Coffey Park neighborhoods as well as into the unincorporated communities of Larkfield and Wikiup. Simultaneously, the Nuns fire entered the County from the southeast, destroying hundreds of homes and threatening the communities of Shell Vista, Glen Ellen, Kenwood and the City of Sonoma.

With winds gusting in excess of 65 mph and more than a dozen notable fires in various locations, first responders and EOC staff were challenged to identify where the fires were and what areas were threatened. A few hours after the EOC was activated, the Tubbs Fires swept past north of the EOC itself, jumping highway 101 and burning further into the City of Santa Rosa in the Coffey Park community. As the fire burned into Santa Rosa - just one-half mile from the EOC – it forced the closure and evacuation of Kaiser and Sutter hospitals.

Tubbs Fire sweeping into Coffey Park October 9, 2017
Credit: Christian Spangenberg

The County and the City of Santa Rosa opened shelters but most shelters and respite centers were opened *ad hoc* by local community groups and organizations. Resource requests to support these shelters and to support first responders overwhelmed the County's EOC logistics function. Additional mutual aid fire, law enforcement, and EMS resources were requested, but many resources were already committed to other fires including Napa County.

For the next week, fires continued to threaten large areas of the County, with evacuations still under way as late as day 7. At various points during the first week, over 100,000 residents – 1/5 of the County – were evacuated due to actual or potential fire.

By the time the fires were contained on October 31, they had become the most significant County disaster in living memory and the single most destructive wildfire event in California's history. More than 110,000 acres of land was scorched. An estimated 100,000 people were evacuated from their homes, more than 4,000 found shelter in one of 25 evacuation shelters established by community groups and local government. 6,686 structures were destroyed, of which 5,143 were houses, apartments, and mobile homes. Other categories included 112 barns, at least 80 commercial buildings, 37 school buildings, and a church. Estimated damages and costs at the time of this report are approaching $10 billion. 24 people died as a result of the fire.

The EOC was active continuously for 41 days from October 8 to November 17 and more than 600 people served over 12 hours at one time or another in the EOC. Most staff worked 12-14 hour shifts. The County shut down non-essential functions in order to move people and resources into the response effort. The County worked closely with many partners including the California Governor's Office of Emergency Services (CalOES), California Department of Forestry and Fire Protection (CAL FIRE), the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers (USACE), and dozens of others. Hundreds of volunteers mobilized to assist and shelter the displaced, both human and animal.

The events that unfolded on October 8 and 9 were catastrophic and the response by federal, state, County, city, community organizations, and partner agencies was immense and fundamental in preventing further destruction, death, and suffering.

The following timeline outlines key events and EOC activity:

October 8, 2017

9:43 PM	Tubbs fire begins near Calistoga
10:30 PM	Fire crosses into Sonoma County
10:51 PM	S.O. Nixle alerts for multiple fires
10:51 PM	S.O. Nixle alerts Porter Creek/Petrified Forest Road area
11:00 PM	Call for mandatory evacuation of Porter Creek/Petrified Forest Road area
11:32 PM	REDCOM notifies DEM Duty Officer
11:37 PM	First SoCoAlert from Sheriff's Dispatch
11:44 PM	Fire & Emergency Service representative dispatched to REDCOM

October 9, 2017

12:00 AM	Call for mandatory evacuation of area between Calistoga and Santa Rosa
12:05 AM	County EOC activated; begins 24/7 operations
12:40 AM	City of Santa Rosa EOC activated
1:07 AM	First SoCoAlert warnings sent from REDCOM
1:55 AM	First SoCoAlert warning sent from Santa Rosa EOC
2:00 AM	Fire burns into Fountaingrove area and Larkfield-Wikiup
2:20 AM	Local Emergency Proclaimed by County Administrator
3:00 AM	Fire crosses Highway 101 and "fire tornadoes" sweep into Coffey Park area
3:55 AM	First SoCoAlert sent from EOC (Remote)
4:00 AM	Fire continues to threaten north side of Santa Rosa
~6:00 AM	EOC fully staffed
	State Proclamation of Emergency signed by Governor
	First shelter opens

October 10, 2017

Local Emergency Proclamation ratified by Board of Supervisors
Federal Declaration of major disaster signed by President
CALFIRE Incident Command Post established at Sonoma County Fairgrounds

October 13, 2017

Rapid Evaluation Safety Assessments begin

October 14, 2017

Local Assistance Center established and opened

October 17, 2017

Housing Strategy and Planning Begins

October 21, 2017

First re-entry restricted to residents only
First Commodity – Points of Distribution (C-PODs) activated and re-entry of burn areas begins

October 23, 2017
First unrestricted re-entry

October 24, 2017
Public Health Emergency Proclaimed

October 25, 2017
EOC transitions to 12 hour day-time operations

October 26, 2017
All Re-entry C-PODs sites closed

October 27, 2017
CALFIRE Incident Command Post closed

October 28, 2017
EOC Re-entry support ends
Rapid Evaluation Safety Assessments end

October 31, 2017
FEMA closes incident

November 1, 2017
All entry restrictions lifted
100% containment of fires

November 2, 2017
All County sponsored shelters close
Business Recovery Center opens

November 5, 2017
Disaster debris cleanup begins

November 11, 2017
Local Assistance Center transitions to Disaster Recovery Center

November 17, 2017
EOC deactivated

November 27, 2017
Demobilization of EOC

Issues in Common

Although addressed in other areas of this report, there were several common issues and capabilities that identified as impacting multiple EOC functions.

Finding: The EOC lacked solid situational awareness information and processes.

Due to the speed and dynamic nature of the fires – especially in the first 12 hours – EOC staff were challenged to determine the scope and impact of the fires. The number of fires and the inability to communicate effectively and consistently with public safety agencies on the ground created confusion and uncertainty as to how large the fires were and how quickly there were spreading.

The military uses the term "fog of war" to describe the challenges of operating with less than a full understanding of the situation. Although common in most disasters, the challenges in developing situational awareness in these fires were extraordinary. This inability to fully understand current conditions negatively impacted response efforts.

Finding: Previous disasters had not prepared the EOC staff or County for this incident.

Sonoma County has experienced a dozen large emergencies in the last 20 years including flooding on the Russian River as well as smaller wildfire incidents. Most have been slow onset events with highly predictable impact areas and effects. Most County preparedness efforts have been focused on addressing these more probable but lower impact hazards. Emergency plans, staff training, and the EOC itself have drawn on this past experience. However, these experiences proved insufficient in addressing the challenges of this disaster.

Finding: Although many EOC staff had been trained and/or participated in exercises, the scope of the disaster required use of additional, untrained staff.

Although the County had identified and provided some training for at least two complete EOC shifts of EOC staff, the magnitude and duration of the disaster required many more additional County and stakeholder staff. This effectively made trained staff a minority. The County's Emergency Staff Development Program is intended to identify, train, and exercise County staff that may be assigned roles in a disaster – including EOC staff. However, although it was approved as part of the Emergency Operations Plan in 2015, the program is not mandatory and participation is uneven. Very few staff have completed all the assigned or recommended training. There is no provision for orienting new staff to the EOC or providing just-in-time training.

Finding: Staffing the EOC was a consistent challenge.

Identifying and obtaining EOC staff was a significant challenge due to the loss of communications systems, evacuations, uncertainty as to which positions needed filling, competing demands for key individuals, sustained operations, fatigue and expanding missions. An expanded pool of potential EOC staff is needed for major or sustained incidents.

The EOC initially established 12-hour shifts (day and night) to maximize staff availability. However, this schedule remained in place for three weeks. This produced physical and mental fatigue in staff given the shifts were effectively 14 hours including the briefings. Staff fatigue contributed to higher turnover rate and the need to recruit additional personnel. The sustainable shift plan in the EOC Operations Manual was not considered.

Finding: Staff experience varied greatly and significantly affected operations.

Staff reported that some EOC teams were skilled at establishing a cooperative environment where staff should "work together, work cooperatively, take care of yourself, keep calm, carry on." These management groups were skilled at being able to pull people together, stay focused, and make decisions. Others were not as effective, knowledgeable, or skilled in emergency management operations which resulted in a power struggle in decision-making. This also led to staff not understanding how the unique nature of the incident and the specific role of the EOC differed from regular County processes and culture. Staff reported that the shift change briefings varied for each team in flow, communication, style, content, and depth of information shared.

Finding: The EOC organizational structure and culture differs significantly from day-to-day County operations.

Due to the need for expedited decision-making and resource allocation, the EOC is organized using the Incident Command System (ICS). ICS is a para-military model emphasizing delegation of responsibility and uniform reporting relationships. Outside of public safety however, this model is not widely used by County departments. As staff move from their regular duties into the EOC, this requires a significant shift in how they work and relate to one another.

Staff are assigned to EOC positions without regard to regular reporting relationships. Individuals with unique skills or abilities may be assigned positions of significant authority – sometimes being asked to direct actions of their regular supervisors. Notably, department head may need to focus on department operations rather than serving as EOC staff. This can produce some confusion regarding roles – especially when staff are torn between EOC tasks and department responsibilities.

Finding: EOC staff was frequently not aware of existing emergency response plans.

Due to the large number of EOC staff with little or no training, most were not familiar with and had no experience with existing emergency response plans including debris management, Commodity Points of Distribution, or Volunteer Management. This often resulted in staff duplicating planning efforts.

Finding: The importance of the liaison officers was not fully realized within the EOC.

The EOC did not initially have an assigned liaison officer to reach out to stakeholders such as cities, special districts, or community-based organizations. Cities were often unable to reach into the EOC and connect with the appropriate function to share information or request resources – they gained an impression there were “pockets of decision-makers.” County supervisors were initially unable to consistently communicate with EOC leadership.

An Emergency Coordinator was assigned to serve as Liaison on Day 3. The emergency manager served a limited liaison function by conducting daily or twice-daily calls with partners, which worked well for resource sharing.

Assigning an FES representative to REDCOM worked well, enabling good communication between EOC Operations and REDCOM. Given the scope and range of agencies seeking to coordinate with the EOC, a Liaison team could have either provided direct communications or established relationships directly with other EOC staff (such as shelter organizations).

Finding: The EOC facility cannot adequately support the staff in major or extended duration incidents.

The EOC facility was originally constructed in 1974 and has had only modest renovations and improvements since. The wildfires highlighted critical deficiencies in the EOC facility including inadequate workspace and walkways, inflexible workstations, constrained floor plan layout, legacy communications systems, outdated equipment, poor noise mitigation, poor lighting, underpowered HVAC system, antiquated emergency generator, insufficient storage, incomplete ADA compliance, and minimal staff support facilities. The HVAC system cannot screen for smoke.

These deficiencies hampered the response coordination effort and were a significant stressor for EOC staff. See also, the *EOC Facility* section of this report.

Issues in Common: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. The lack of Situational Awareness impacted operational coordination and planning.	• Revise the County's Emergency Operations Plan (EOP) to place additional emphasis on situational awareness and provide additional technology, staff, and processes to better enable real-time information sharing between the EOC and field locations. • Consider deploying additional agency representatives to Incident Command Posts.	FES, Emergency Council
2. The scope and intensity of the disaster exceeded previous disaster experiences.	• Revise the County's EOP, training and exercise programs, EOC facility, and supporting resources to address the demands of major and sustained disaster events.	FES, Emergency Council

3. The demand for EOC staff exceeded availability of trained staff. EOC staff were incompletely trained and exercised.	• Revise the Sonoma County Emergency Staff Development Program. • Strengthen staff training/exercise requirements and performance reporting. Make participation in the program mandatory. • Consider committing up to 1% of staff time for selected County staff to preparedness training and exercises. • Consider incorporating EOC assignments into annual performance evaluations. • Evaluate potentially adopting California EOC Staff Credentialing Standards. • Develop EOC procedures to orient new staff and provide just-in-time training. • Consider forming an EOC Leadership Team to guide staff development. • Increase FES resources to coordinate and provide EOC staff development training and exercise opportunities. • Participate in a joint Integrated Emergency Management Course with the City of Santa Rosa.	FES, CAO, BOS, all departments
4. EOC staffing faced many challenges and led to incomplete coverage.	• Develop an EOC Staffing Manager position to focus on identifying and preparing staff for each shift.	FES, HR
5. Liaison positions were not initially or sufficiently staffed.	• Identify the expanded scope and number of Liaison Officers needed in major or sustained events. • Recruit and train function-specific liaisons as needed. • Provide dedicated phone numbers for senior County and city officials.	FES, CAO, BOS, cities
6. The EOC facility is inadequate for major or extended duration events. Current equipment and systems do not support high intensity or sustained staff functions.	• Identify a new EOC facility or a significant reconstruction of the current facility as a priority in the County's Capital Improvement Plan (CIP). • Absent immediate CIP progress, implement improvements to critical EOC systems,	BOS, FDM, FES

	technology and equipment. • Provide additional FES staff to maintain the EOC as a functional "warm" facility requiring no additional set-up upon activation. • Equip and validate an alternate EOC facility.	

Post-Fires Re-Entry Community Meeting October 19, 2017

Management Section

The Management Section is responsible for overall management and administration of the incident. Management Section includes the Management Staff and General Staff. The Management Staff provides the specific support necessary to accomplish the EOC Management functions.

Finding: **Section Chiefs were not clearly identified.**

It was not consistently clear from day to day who was serving as a Section Chief. This ambiguity was confusing for staff, and they did not know who was making the leadership decisions for the operational period or understand their leadership styles (some were risk averse and some made quick decisions). The Section Chiefs seemed to be distant and less forthcoming with information. Staff were not informed of the staffing schedule, making it difficult to communicate. An organization chart with names or a seating chart would have been beneficial to this group.

Finding: Some Section Chiefs were familiar with their role.

Some of the EOC Section Chiefs had previous training or response experience, allowing them to work effectively under pressure. Chiefs with experience were often clearly distinguishable from those without. Previous section-level collective team training and exercises enable these chiefs to quickly marshal and maintain team effectiveness. Some Section Chiefs proved to be truly exceptional, clearly rising to the occasion and demonstrating skills and abilities that would enable them to work in the most demanding events.

Staff understood the tremendous pressure the Section Chiefs were under, especially in such a dynamic environment; however, it often took longer to accomplish the objective as a result of unclear directions. Clear communications and compliance with basic procedures would have increased productivity and efficiency.

Finding: Operational Tempo improved over time.

The EOC staff are coordinated by several processes and tools – key among them is developing and adhering to a schedule in order to synchronize efforts. This schedule helps develop a rhythm called the operational tempo. The operational tempo improved over time through development of an agenda and clarification of purpose of the Section Chief meeting. The meetings were conducted to provide significant updates, communicate important decisions, or address roadblocks that needed attention. The meetings also became more efficient when they were limited to 30 minutes. The meetings would be

interrupted by people talking, inquiries about the relevance of information presented, as well as questions regarding whether the information presented had been verified.

The Operational Tempo as laid out in the EOC operations guide and the 'Planning P' action planning process tool were not formally utilized. The 'Planning P' is a graphic representation the planning process which enables staff to schedule and coordinate planning activities.

Finding: Staff need clearly defined Section priorities that are measurable across operational periods.

Through the action planning process, section chiefs regularly meet to identify and prioritize objectives for their sections. This enables continuity of planning across shifts and the changes in staff. These section chiefs meetings are also key to ensuring unity and synchronization of effort. The transition between shifts is managed by the use of the formal shift change briefing which is conducted by the section chiefs. However, this process was not consistently adhered to.

Role of and Interface with Elected Officials

Finding: County Supervisors were not integrated into the emergency response and EOC operations.

The elected Board of Supervisors bear the burden and ultimate responsibility for the County's programs, funding, services, and capabilities including those needed during response to major emergencies or disasters. The board exercises the core executive authority that drives the County government on a day-to-day basis. However, in a proclaimed local emergency, the executive authority shifts to the designated Director of Emergency Services to expedite decision making, enhance spending authority, and clarify reporting relationships.

Per the County's Emergency Operations Plan, the roles of the County Supervisors is to serve as a policy group for all emergency activities in the Sonoma County Operational Area. County Supervisors are also inherently tasked with the role of crisis communication, community engagement, and leadership. Their actions influence community members, as well as employees, and directly affect the County's ability to protect lives, property, and the environment. This influence is key in communicating with constituents, community organizations, and other elected officials.

Prior to this event, the Supervisors had received infrequent and modest orientations or explanations of potential roles and responsibilities but had not been formally trained or exercised in those roles.

During the initial response, there was no established communication mechanism for Supervisors to obtain or share information and resources with EOC leadership. The inability for Supervisors to understand and help shape the response forced the Supervisors to conduct somewhat independent activities, including public information, stakeholder coordination, and community resource management. Per the day-to-day relationships, many County departments communicated directly with Supervisors.

Finding: The expectations of County Supervisors exceeded staff capabilities.

Although Supervisors have a broad – or often, specific – understanding of the County's public safety functions, the dynamic and on-going nature of this event exceeded the EOC's ability to provide the Supervisors with accurate and timely intelligence. Supervisors expected staff to know where the fire

was on Day 1, but not even the fire teams on the ground had a complete understanding. Supervisors also represented the needs and interests of constituents, which sometimes conflicted with operational demands (for example, re-entry into areas not declared safe).

In the current EOC Public Information function, staff were unable to develop and deliver information rapidly enough to inform the Supervisors as they communicated with the community via traditional and social media.

Given their well-developed network of community contacts, Supervisors often had insight into conditions on the ground that was not available to the EOC staff. Supervisors might identify a need for resources (such as shelter supplies) but were frustrated in attempting to communicate to the EOC staff or were frustrated when their request was not immediately addressed. Better cross-leveling of status and resources between the EOC and elected officials would help each other develop a fuller context for response operations.

Finding: There was not an identified physical meeting location for elected officials.

The EOC facility does not provide meeting or work space to enable local, state, or federal elected officials to communicate or coordinate with EOC staff. Elected officials were asked not to go to the EOC, as there was no good location for them to be briefed, discuss the response with EOC leadership, or address concerns of their constituents. See also the *EOC Facility* section in this report.

Developing an EOC location that enables elected officials to meet, obtain situational briefings, develop messaging, and review response plans would enhance several operational capabilities.

Public Information Officer (PIO)

The Public Information Officer (PIO) acts under the direction of the EOC Director and Emergency Manager and coordinates city and County public information activities and acts as the Joint Information Center (JIC) for the County Op Area. The Public Information Officer ensures that the media and citizens are fully informed on public aspects of the emergency. The PIO staff and the Public Information Hotline Call Takers work for the PIO. The PIO coordinates public information with 2-1-1 Sonoma County.

EOC staff commented that the PIO section appeared organized and effective given the massive task assigned them. PIO staff were challenged to develop and maintain current and accurate information amidst pressures to release information rapidly and in spite of verification processes being hampered by limited situational awareness, particularly in the early phases of the incident. There was an initial challenge aligning the EOC PIO with the Sheriff's PIO team – it was not until Day 3 that a Sheriff's representative came to the EOC. The media line was staffed 24/7 for 3 months. The PIO Handbook is dated and requires revision.

Finding: The Emergency Public Information model is not keeping up with the new reality of social media-driven community engagement.

The mission and process used in developing the County's day-to-day public information function does not work well in the rapidly evolving world of the EOC. There is limited time to gather, verify, and analyze information. The sense of urgency also does not allow for much – if any – time to develop messaging, obtain multi-party approval, and distribute information via traditional methods (media releases, press briefings, and web site postings). The advent of social media has transformed emergency public information into a community conversation. If the County is too slow in sharing information, the community will find other sources or provide their own. The EOC PIO unit reflects the standard, more traditional, model, which cannot effectively engage the new demands of the social media environment in today's world.

The PIO section grew from three to 28 positions – this far exceeded any previous planning or event experience. This radical growth, which incorporated County staff as well as individuals from across California, exceeded the normal PIO unit management structure. The ability to monitor and meaningfully engage in social media conversations was limited, although the PIO unit did a great job building capabilities as time went on.

Finding: Location of the Joint Information Center (JIC) disrupted the Public Information function.

A JIC was established at the fairgrounds to share public information with allied responders, including CAL FIRE and the City of Santa Rosa. The location of the JIC presented challenges for the EOC PIO unit as the majority of staff and leadership went to the JIC, leaving few staff at the EOC. Connecting the two teams and synchronizing efforts and information proved challenging. This resulted in the EOC PIO unit staff scrambling to identify priorities, coordinate messaging, and obtain approval for release of information from the JIC. The JIC itself took a while to become an effective team given the wide range of staff from city, County, state and federal agencies.

Sample Media Coverage October 9, 2017
Credit: KCBS San Francisco

Finding: Public Information function not well integrated with County Supervisors.

The role and scope of mission for the Board of Supervisors proved challenging to the Public Information function. While the board is used to having day-to-day County staff develop clear messaging, the EOC staff was not able to provide content as quickly as other sources. This slow response caused some Supervisors to grow frustrated in not being able to quickly address community interests, while staff were frustrated by having to operate under the process of obtaining formal multi-layer approval before they could release information.

Absent coordination with the EOC, some Supervisors and Santa Rosa City Councilmembers began to take part in operational briefings with public safety chiefs – this is not a common practice as it may require additional effort on the part of the public information staff from the responding agencies to provide support. Generally, elected officials coordinate public information messaging and take part in community engagement briefings and events.

The question of having information that was considered operationally sensitive also challenged EOC staff, as others wanted to share this information as quickly as possible. The day-to-day relationships in County government do not always align with the operational restrictions put in place during a disaster. The PIO function did not initially have a liaison assigned to the Supervisors.

Finding: Insufficient capability connection to Access and Functional Needs populations.

The PIO Unit was challenged to develop messaging and communications modes for segments of the population that speak a language other than English or have access and functional needs. The County needs to develop and integrate day-do-day connections with these populations and maintain the ability to surge capacity during an emergency.

Information Curation and Dissemination

Finding: Public Information lacks Spanish language resources.

Early on, the lack of Spanish speakers in the PIO unit was a significant challenge. Sonoma County has seven Spanish language stations. Even though these stations are a notably important community touchstone, the County has not developed a working relationship or resources to engage them during an emergency. The PIO unit overcame the initial lack of Spanish language capabilities by seeking assistance from others, including County employees and volunteer organizations.

Finding: Emergency Public Information website was not pre-planned to support rapid updating.

The recovery website was designed to take over event content but no planning was done beforehand to anticipate how the County website would be affected. Information was being disseminated in a variety of channels faster and more effectively than on the County website (e.g. social media, Sheriff and Nixel, KSRO, City of Santa Rosa website).

Finding: PIO staff were not familiar with disaster-specific functions.

PIO staff were not previous trained on functions and processes used only in a disaster including mandatory/recommended evacuation orders and disaster debris management. Understanding roles,

process, and terminology could have allowed the PIO staff to develop clearer communications with the community.

Finding: Communications Mapping not done.

Staff suggested to consider, as a Countywide project, an effort to map out all the various local and neighborhood communications social media methods used, such as popular Facebook groups and map out local social media groups such as the Bodega Bay e-mail list. They also suggested to seek assistance from County Supervisors to identify and monitor key groups.

Joint Information Center (JIC)

Finding: The JIC was a massive challenge for Public Information functions and staffing.

The JIC organization was constantly evolving as events and staffing moved up and down. Web Team members did not feel part of the JIC. EOC PIO staff had to obtain approval from the JIC to release information. Staff cited delayed communication between the EOC and the JIC. Many felt that the information would go to the JIC but information was not coming to the EOC. While CAL FIRE mounted a large team at the JIC, the team had relatively less information to convey (fire status/statistics) than did the County EOC.

However, the JIC eventually proved valuable in getting the County and the City of Santa Rosa to come together on messaging.

Public Information Hotline

The Hotline function bore a significant proportion of the communication burden, fielding an EOC record number of calls (55,968) and handling a highly volatile and delicate range of caller needs.

Finding: Hotline Unit facilities and equipment inadequate.

The Hotline is buttonholed into a small, windowless room. The “temporary workstations” are now 5 years old. Hotline staff used a plain white board to capture subjects that people were calling about. Call takers were challenged in understanding what the callers wanted or which areas they were discussing. On the second day, a map of affected areas was posted on one wall but call takers had to put callers on hold to look at the map. Call takers worked from media briefing handouts provided by the PIO. The call takers then began responding to e-mails – only one computer was provided initially. In an attempt to convey information to the Hotline staff, an internal staff phone number was established and promptly flooded with public calls. The inadequate workspace, poor physical environment, and lack of equipment and materials added to the stress experienced by the call takers who were already dealing with members of the public who were themselves agitated, frightened, or upset.

There was no pre-event list of call takers. The initial PIO requested staff from Logistics and the first call taker arrived at 1:30 a.m. However, initially there was no provision for Spanish language callers.

Finding: Lack of a Hotline Unit Manager impacted initial response.

Initially, no Hotline Unit Manager was assigned pre-event. As County staff worked the Hotline, some grew into the position. However, none received formal training, which imposed a significant burden on

the new Unit Leaders. The duties of the Manager were unclear (in terms of staffing, for example). Staffing was uneven with some shifts having too many call takers scheduled and others none.

Finding: There was an absence of a consistent process/information to update Hotline.

Call takers did not see the Hotline Call Takers handbooks. They were not provided with an orientation or training. Call takers were told to try as best they can to answer caller questions. The PIO did not develop a process for keeping the Hotline updated – call takers would often hear information from callers first. Call takers often had to go find information to update the team.

Finding: Lack of guidance/support on mental health-related calls.

A significant number calls came from residents and family members who were upset, agitated, angry, or fearful. The call takers did a heroic job of doing the best they could to answer questions, chase down rumors, provide resources and, often, just listen to the stories pouring in. As the event wore on, some callers reported they were suicidal. These callers were eventually transferred to other hotlines.

Finding: Concept of transferring calls to 2-1-1 was incomplete.

The plan for a significant event was to utilize 2-1-1 to handle the large volume of calls. However, in this event, the contracting mechanism kept this service from coming on line. There is proof of concept in place in several California counties. Calls would be transferred to San Bernardino County in the evenings at about $6/call. This arrangement was not exercised pre-event and had worked during previous events at a much small scale. Apart from the EOC hotline, 2-1-1 received 4,200 fire-related calls.

Communication and Coordination with Cities

Although not simply a Management function, the role that cities play as de facto regional hubs for unincorporated areas was not addressed or supported during the incident.

Finding: Several cities performed as sub-regional hubs for unincorporated areas.

The widespread and ongoing effects of the fires, focused EOC staff attention on the most heavily impacted areas. Other communities in unincorporated areas received less attention and resources. Residents in these communities frequently work, shop, or socialize in the closest incorporated city. So, it was natural for them to turn to these cities to seek information and resources during the event. However, these cities were not always in a position to support residents.

Cities were heavily tasked in addressing their own needs. Some cities, such as Sonoma and Healdsburg, were asked to address issues outside but adjacent to their jurisdictions. Challenges arose when city staff could not communicate or coordinate with County field operations or Incident Command Posts. The scope and intensity of effort at the Operational Area EOC meant that cities were often operationally isolated.

Communication and Coordination with State Agencies in a Major Wildfire

Although not simply a Management function, the roles and responsibilities of cities, the County and the state during a major wildfire incident are not always clearly defined. Questions of public information

management, evacuation authority, and re-entry clearances arose frequently, challenging public safety and supporting agencies.

Finding: Roles and responsibilities of local and state governments and agencies in major wildfires are not clearly defined or understood.

The role of local government in response to a major regional wildfire event is unlike any other disaster. In most disaster incidents, the Standardized Emergency Management System (SEMS) provides established guidance on how local agencies lead the response and receive support from the state. The EOC's role is not to manager but to support Incident Commanders in the field. The EOC does not direct response activities but does coordinate support functions such as public information, care & shelter and logistics.

However, in these wildfires, the role of CAL FIRE as lead responding agency challenged those operating principles and authorities. Determination of which areas should be evacuated and how long residents should be kept out fell to the Unified Command at the Incident Command Post (ICP) established by CAL FIRE. The relationship between the ICP and the Operational EOC was challenged by the number of participating agencies. Additional planning and exercises are needed to clarify these relationships and authorities.

Management Section: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. EOC Section Chiefs were not clearly identified and fully prepared.	• Recruit and select key County staff to serve as EOC Section Chiefs. Identify lead section chiefs and alternates. • Incorporate enhanced Section Chief training and management roles into the Emergency Staff Development Program. • Consider incorporating this role into job classifications and/or annual assessments.	FES, CAO, BOS
2. Elected officials were not effectively integrated into the emergency management organization and EOC functions.	• Collaborate to develop and document clear roles & responsibilities. • Revise the Sonoma County Emergency Staff Development Program to incorporate training and exercise guidance for elected officials. • Develop an Elected Officials Disaster	FES, CAO, Elected Officials

	Handbook that includes procedures for initial notification, ongoing disaster coordination, and media briefings. • Consider quarterly disaster preparedness updates at Supervisor meetings.	
3. The Public Information function and public expectations for service, have grown and evolved beyond the existing Public Information Officer (PIO) model.	• Reconfigure and realign the PIO Unit within the EOC to address access & functional needs issues, social media missions, Joint Information Systems models, coordination with elected officials, and technology. • Provide additional training for PIO staff to include an orientation to disaster-specific functions and processes. • Revise the Emergency Public Information Plan. • Revise the EOC PIO Handbook. • Develop and maintain non-County network, dark landing sites for emergency public information. • Integrate community Alert & Warning program capabilities and requirements.	FES, PIO
4. Public Information Hotline was incompletely equipped, staffed and supported.	• Revise the Emergency Public Information Plan to address the Hotline's role, staffing, management, equipment and information support. • Work with the United Way to clarify the capability and costs associated with the 2-1-1 system.	FES, PIO
5. Provisions for non-English speakers and other Access and Functional Needs groups were incomplete.	• Continue to work with the Access and Functional Needs (AFN) Advisory Group to develop messaging, communications, and services that fully address the requirements of the whole community. • Develop a Language Access Plan. • Ensure provision of alerts & warnings in Spanish. • Provide rapid access to translators at shelters and via the public information hotline.	FES, all departments

6. EOC systems and procedures are not completely current. There is a lack of input from County departments that staff key positions.	• Provide additional FES staff to support development and maintenance of EOC systems and procedures. • Engage County departments and create ownership for key EOC positions to improve processes and equipment.	FES, CAO, BOS, all departments
7. Cities operated as de facto sub-regional hubs while being challenged with communicating and coordinating with the EOC.	• Revise the County's EOP and incorporate changes in authority as well as address the concept of sub-regional hubs for unincorporated areas of the County.	FES, Emergency Council, cities
8. Multi-jurisdictional coordination and communication proved challenging due to the scope and pace of activity.	• Address via Emergency Council: develop a Training/Exercise Schedule that includes regular multi-jurisdictional exercises.	FES, Emergency Council

Main room in the EOC w/ fixed workstations

Finance Section

The Finance/Administration Section provides for the tracking of the time worked by all emergency personnel involved in the incident, provides cost analysis and projections, and records any and all injury claims for compensation.

Finding: Finance Section staffing at the EOC is critical for supporting other functions.

Previous EOC activations did not require a significant or on-going presence by the Finance Section. EOC staff – including Logistics – has not been trained on how to engage with Finance. The Finance Section's roles including facilitating procurement, instituting disaster payroll processes, or processing claims has not been exercised in recent years. Although some County staff have attended training on how to process post-disaster claims for the FEMA Public Assistance project, none have been trained in disaster response operations.

Because the Finance Section was not regularly staffed, the Logistics Section operated without benefit of financial feedback/advice, resulting in poor real-time tracking of costs associated with procurement of goods, services, and overtime. The "burn rate" during the first 2 weeks was unknown to EOC leadership. Additionally, there was no feedback as to the effectiveness of the use of payroll charge codes. There was less oversight regarding approval of any significant EOC purchases or contracts.

Finance Section: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. Finance section was not uniformly present in the EOC.	• Review and clarify roles and responsibilities of the EOC Finance Section. • Ensure operational integration and participate in training with other EOC sections. • Develop a Finance Disaster Recovery Plan.	FES, Auditor

Operations Section

The Operations Section directs County Op Area operational resources and coordinates discipline specific mutual aid resources. The Operations Section is responsible for coordinating with County Op Area field incident commanders and City EOC Operations Sections.

Law Enforcement

Finding: Law enforcement agencies established inter-agency communications very early in the incident and began to share information.

The Sheriff's Office responded with a massive push to direct evacuations, coordinate law enforcement mutual aid, and respond to contract cities (ex. Sonoma). The Sonoma Police Chief was in communication with counterparts at the Sheriff's Office and Emergency Coordinators in the EOC – this direct link inside the Sheriff's Office enabled the Sonoma law enforcement operation to remain effectively tied into local fire operations which were not visible to the EOC in the first few days. This tie was the only one the County had as the Sonoma Valley fire operations were being managed initially out of the Napa County Incident Command Post (ICP).

Finding: Law enforcement seating was too small. Staff moved to other locations resulting in delayed response.

The EOC Law Enforcement desk was not large enough to accommodate four representatives: Sheriff, National Guard, CHP and Regional Mutual Aid Coordinator. Some were forced out and had to work in cars. There was an observed delay in coordinating law enforcement requests because the staff were not seated within the same vicinity.

Finding: The massive law enforcement mutual aid missions challenged coordination from the EOC.

Run by the Sherriff's Office, the initial order of 100 officers was directed to a staging area some distance from the EOC. The logistics of receiving and deploying them overwhelmed the Sheriff's Office staging area manager and the distance from the EOC kept the EOC Law Enforcement Mutual Aid Coordinator from being able to assist.

Health and Medical

Coordination for health and medical took place in the Health Services DOC, with a liaison posted in the EOC. The Medical/Health Operational Area Coordinator (MHOAC) Program is responsible for coordinating public health and medical resource requests. This system of regional mutual aid and

assistance is parallel to but separate from the existing mutual aid for law enforcement and fire. If specialized medical or health resources are needed, requests go from the Sonoma County MHOAC to the Regional Disaster Medical Health Specialist (RDMHS) and then to the state. This includes resources such as ambulances, Skilled Nursing Facility beds, and pharmaceuticals. However, this role is not well known or understood by those outside of the emergency medical services function.

Finding: Evacuations of board and care facilities presented many challenges.

Many of the 6-bed board and care facilities evacuated their residents to identified shelters. These facilities would contact County Health and request buses, the Health DOC requested buses from EOC Logistics and the buses took people to the shelters. However, as requests from facilities entered the Health DOC, it was almost impossible to track which patients went where. Patient tracking is required by federal regulation.

Finding: Evacuations of hospitals was well conducted.

The Health Branch provided support to Sutter and Kaiser as they evacuated. They then provided support as the hospitals sought to re-open. The Health Branch needed support to figure out how to accommodate people from every level of care clear up to critical. Tremendous coordination took place with the hospitals and transportation providers. Hospital staff and supporting agencies were real heroes.

Finding: There were delays in public health/medical resources requests.

The Health Branch encountered issues with medical/pharmaceuticals – they couldn't obtain pharmaceuticals and couldn't order medications that were not over the counter. The Health Department had to order it themselves. Additional delays were posed as UPS and other delivery companies would not come to the affected area.

Finding: Animal services function was not well-implemented.

Removal of dead animals was challenging as it affected public health – physical and psychological. Staff struggled to develop a solution as the County's current Animal Response plan is outdated and does not address animal carcass removal. Currently, there is no Animal Services function in the EOC - Health Services coordinates that function through their DOC.

CAL FIRE

Finding: Coordination and communications between the EOC and CAL FIRE were slow to start.

Due to the overwhelming number of fires in the region and the dynamic tactical situation in Sonoma County, CAL FIRE was not able to send a representative to the EOC. On Day 3, a CAL FIRE representative did arrive but had little situational awareness.

CAL FIRE was based at the fairgrounds and was focused on the overwhelming tactical firefighting effort including mobilizing and integrating a massive number of mutual aid resources. CAL FIRE generally fights fires outside urban areas and is accustomed to running their own operation. This proved challenging in a well-developed area in which the fire had burned through the Wildland Urban Interface (WUI) region and into the heart of a city.

CalOES

Finding: The purpose of CalOES presence at the EOC was unclear.

Most staff have been trained to see CalOES as the regional coordinator under SEMS and not first responders at the local EOC – the GeoOps concept is still relatively unknown and has not been extensively trained with or exercised.

CalOES augmented or supported several EOC staff positions including Care & Shelter and Emergency Management Mutual Aid (EMMA) Coordinator. This was important as the Logistics section struggled to make best use of the CalOES disaster data and resource management system known as CalEOC.

Local CSA40 and Fire Districts

Finding: There was a lack of coordination between the EOC and fire operations.

Given the "all hands" nature of the massive tactical firefighting mission for this event, it is not surprising to find it was challenging to staff the Fire Branch Coordinator position in the County EOC – the City of Santa Rosa experienced the same issue. The inability to staff the position created not only a gap in developing and understanding the situational awareness, it also created a gap in coordinating with other areas struggling with fire operations – namely, the Sonoma Valley. Also, the coordination of evacuation with fire agencies was left to field incident commanders. The Fire Chiefs Association is developing a description of the role within the EOC.

Operations Section: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. Operations section was challenged in coordinating with external agencies during a no-notice, rapidly evolving event.	• Identify additional public safety staff that can perform EOC functions and prepare to double-staff during initial response. • Create additional workspace and tools for Operations staff. • Add Animal Services as an EOC position.	FES, SO, CAO, Health, Animal Services
2. Multi-jurisdictional coordination and communication proved challenging due to the scope and pace of activity.	• Address via Emergency Council: develop a Training/Exercise Schedule that includes regular multi-jurisdictional exercises.	FES, Emergency Council

Planning Section

The duties and responsibilities of the Planning Section are gathering and performing analysis of all data regarding the incident. The Planning Section maintains an incident log, EOC display maps, and charts. The Planning Section is responsible for preparing situation reports, assessing damage, documenting all EOC activities, and driving the EOC Action Planning Process including facilitating planning meetings, conducting advanced planning and leading the preparation of the Action Plan. The Plans Section evaluates and validates the pre-established Operational Tempo or distribute an updated Operational Tempo as appropriate.

EOC staff were unfamiliar with the role and function of the Planning Section. The relatively rapid loss of Planning from the EOC mid-way through response and recovery work, and the lack of reference to actual plans to guide EOC work, were both cited as the most consequential elements of the Planning Section's impact on overall operations.

Finding: The Planning Section's role as the driver of EOC operations was compromised.

Due to the ongoing dynamic nature of the event, the Planning Section often struggled to assess the torrent of incoming information and develop situational awareness. Planning staff strived but were not able to develop and enforce a consistent action planning process. This impacted the pace and focus of EOC operations. For example, Logistics had to conduct planning for their function to achieve the objectives established for them during the operational period in which they were expected to achieve those objectives.

Finding: Planning Section staff were recalled to their regular jobs.

Some two weeks into the event, as the EOC transitioned out of immediate response, the Planning Section staff returned to their regular positions in order to address critical demands that were not being addressed there. An Emergency Coordinator filled in as the Planning Section Chief. This disrupted advance planning and impacted the transition into short-term recovery.

Finding: Damage assessment process was not well defined or coordinated.

Following the initial impacts and as response to ongoing fire threats continued, the damage assessment function was carried out by multiple organizations using multiple methods. CAL FIRE conducted their Damage Inspection Program assessment process without coordination with the County or City of Santa Rosa. The County, the City of Santa Rosa and CAL FIRE each developed damage summaries and each posted information on their websites. County staff undertook enormous efforts to conduct field investigations and the EOC staff compiled this data into GIS databases. Notably, EOC staff conducted a

remarkably accurate Initial Damage Estimate using satellite imagery. While the County assessed impacts to homes and residential units, CAL FIRE looked at structures. This initially caused confusion in terms of the numbers being reported (e.g. did the reported structures include multi-unit buildings).

EOC Staff Briefing October 12, 2017

Advanced planning

Finding: There was a lack of advance planning.

The scope and rapid pace of the event emphasized the need to develop situational awareness and immediate needs planning. The Advance Planning unit was not regularly staffed or, if it was, was tasked to support the EOC Action Planning Process. This caused the EOC to not anticipate future missions and resource requirements. This also deemphasized the importance of planning for the transition from response into short-term recovery.

The lack of advance planning impacted other EOC functions such as Logistics which was not tasked with developing a long-term plan to track and recover materials, supplies, and equipment. For example, the distribution of cots and bedding materials was not followed up with plans to recover, reclaim, sterilize or dispose of them.

Finding: A formal Recovery Unit function and a Recovery Operations Center were not established.

After initial response, the EOC began to execute short-term recovery functions without formally transitioning or reorganizing. The EOC did not develop a Recovery Unit to address short-term recovery missions ex. re-entry into burned areas. This also led to a challenge in shifting the EOC into a de facto Recovery Operations Center thereby reprioritizing operations and allowing for reorganization of the EOC staff.

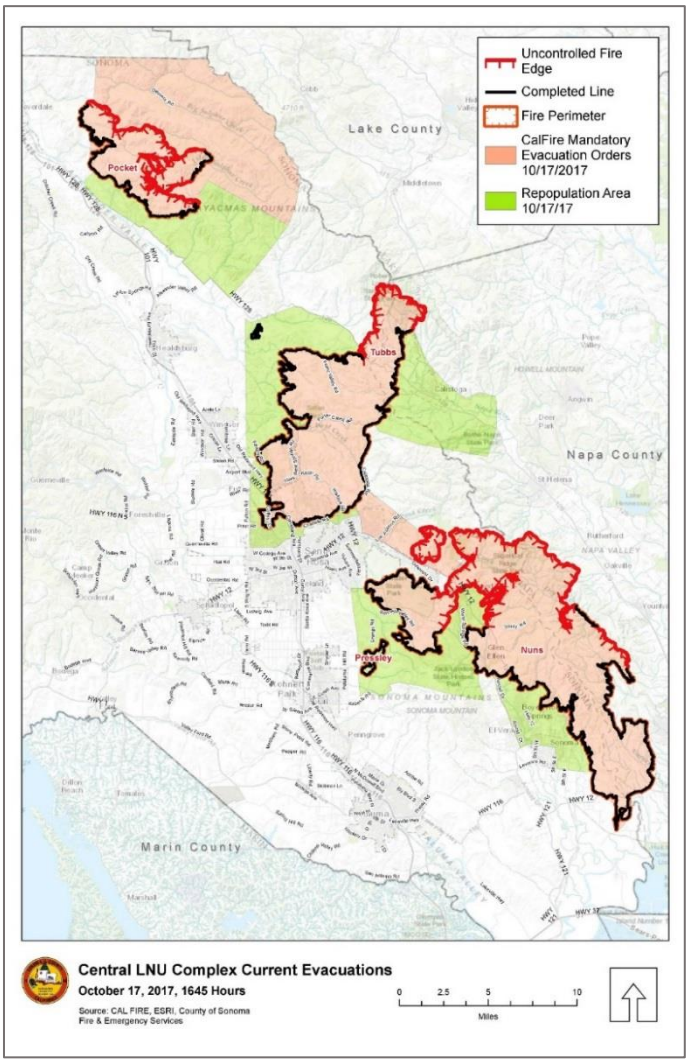
As the EOC wound down, there was resistance from County leadership to plan for and address short-term recovery operations. The focus remained on immediate needs issues. For example, CAL FIRE brought in an Incident Management Team to address watershed stabilization issues and develop a

watershed task force. However, there was no County team in place to take over once CAL FIRE departed – that role fell to FES staff who effectively became the recovery operations center for 3 months. See *Recovery Operations* below.

Geographic Information Systems (GIS)

Finding: Mapping efforts within the EOC were effective.

The GIS Unit worked very well together as a team, rapidly identifying and making use of a range of data bases. The professionalism and consistency in GIS staffing enabled the unit to support production of products such as tactical situational awareness maps and online interactive damage assessment maps. The GIS team handled a significant number of urgent mapping requests causing them to reprioritize efforts. The Unit also supported some planning tasks including potential evacuation plans.



Sample GIS Map Product: Evacuations for October 17, 2017

Finding: EOC GIS equipment and materials were outdated and inadequate.

GIS equipment in the EOC is not adequate for major or sustained events. The single GIS map plotter is old, requiring notable maintenance and constant realignment. Its large size requires the plotter be located well away from the GIS staff and next to the busy EOC staff feeding area. The loud noise produced by the plotter also impacted Logistics staff that worked nearby. The GIS computers are older machines which ran very slow. EOC staff did not have access to a standard, interactive EOC map.

Recovery Operations Planning

Finding: There was no Recovery Plan in place.

The County lacked a Recovery Operations Plan or Framework. This forced staff to develop one during the response. The lack of a plan with specific governance model options resulted in County leadership to attempt to create an organization. This led to a delay in fully undertaking recovery operations.

Finding: The transition from response to recovery operations was not well defined.

The lack of a Recovery Unit did not permit EOC leadership to address the transition phase. There was no clear pivot point for staff to realign priorities and reorganize into a Recovery Operations Center or establish a Recovery Working Group. The lack of a clearly defined transition point created confusion for EOC staff as some saw a decreased mission while others continued at high rates of activity. As response wound down, staff were not retained to support short-term recovery. Logistics was tasked to support recovery task forces that were not part of the EOC function. This also did not support clear public messaging that recovery is underway or trigger formal demobilization efforts.

Finding: Recovery operations lacked specific direction and leadership.

The delay in recovery planning led to delays in developing a recovery management organization. Unfamiliarity with the significant and long-term challenges of community recovery efforts and the desire to partner with the City of Santa Rosa led to many stakeholders attempting to establish incomplete recovery governance models.

Simultaneously, the state established its regional recovery task forces in coordination with federal agencies. Developing and defining the County's relationship with these task forces was challenging due to a lack of staff. The role of elected officials in developing recovery plans and organizations was not defined.

Multiple recovery task forces evolved: Debris, Watershed, Schools, Housing and Economic Development. The scope of the Debris and Watershed missions soon exceeded County capabilities. Initial meetings attracted at broad range of stakeholders with some seeing 50-60 attendees. The State of California provided assistance in developing the management for some of these Task Forces. The CAL FIRE Incident Management Team (IMT) established a robust management organization for the Watershed Task Force but County staff were demobilizing and were not in position to take over as the IMT departed. CalOES and CAL FIRE extended their operations from 1 to 3 weeks which is longer than for most fires.

Finding: Local Assistance Center planning and activation was well conducted.

Development of the Local Assistance Center (LAC) was a notably rapid and effective planning effort undertaken in partnership with the City of Santa Rosa. State and federal officials commented on the speed with which the LAC was developed and the comprehensive array of services provided by local government, volunteer groups and community based organizations.

Local Assistance Center, October 19, 2017

Planning Section: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. Planning Section challenged by incomplete staffing, training and implementation of the EOC action planning process.	• Revise the Sonoma County Emergency Staff Development Program to reinforce the EOC action planning process across sections and elevate the Section Chief's role. • Recruit additional planning unit leaders from across the County. • Consider developing a Deputy Plans Chief to lead the action planning process. • Revise section chief position checklists to ensure adherence to the action planning and shift change processes.	PS, FES

2. The County does not have a Disaster Recovery Plan.	• Build from the current Office of Recovery and Resiliency (OR&R) planning effort and develop a comprehensive, all-hazards Disaster Recovery Framework for future events.	OR&R, FES, CAO, all departments
3. GIS mapping functions performed well but are constrained by lack of equipment and systems.	• Obtain and install upgraded GIS workstations and a new large format printer plotter.	FES, ISD, PS
4. Cities operated as de facto sub-regional hubs while being challenged with communicating and coordinating with the EOC.	• Revise the County's EOP and incorporate changes in authority as well as address the concept of sub-regional hubs for unincorporated areas of the County.	FES, Emergency Council, cities

The Coffey Park Neighborhood of Santa Rosa

Logistics Section

The Logistics Section orders all resources, coordinates volunteer personnel, and provides communications, facilities, personnel, transportation, supplies, equipment, fuel, food, staging and shelter as required to support the Operations Section. This section is authorized to direct supporting departments and agencies to furnish materials and commodities for residents with special needs. The section is also responsible for private sector coordination.

Finding: EOC Logistics Resource Management System is inadequate for major or extended duration events.

Developed prior to the event but not fully exercised, the EOC Logistics Resource Management System is intended to enable multiple staff to track the status of resource requests submitted to the EOC Logistics Section. The system is used to track personnel, goods and materials (ex. fuel and cots), as well as services such as sanitation. However, both the massive volume of resource requests as well as the large number of staff using the system overwhelmed the systems' capacity. In this event, almost 3,000 requests were entered into the system.

Finding: Human Resources and staffing were challenged by the scope and volume of effort.

Staffing needs outstripped existing resources. The rapid and chaotic nature of response activities produced confusion, duplication of effort and mixed messages regarding what was needed, when, where and what. Section Chiefs, drawn from the pool of Department Heads, made individual decisions about recalling staff to DOCs and departments to support continuity of operations without conferring with others or investigating the implications of withdrawing staff from the EOC. Those staff provided by the Emergency Manager Mutual Aid (EMMA) system were greatly appreciated.

Finding: Communication with schools to coordinate shelter operations was challenging.

Communication and coordination with schools was important and while they were able to provide needed support to communities, accessing or integrating with the complex school system wasn't always successful. Barriers included school system structure itself which is not a County structure, poor contact info, and not enough staffing of school liaisons at the EOC.

Finding: Mass Care and shelter function was severely strained due to the scope, dynamic nature, and on-going nature of the event.

The sheer numbers of people needing sheltering, combined with the requirements to attend to special needs, and the speed of evacuations demanding rapid shelter operationalization combined to overwhelm the staff available to support this function. The effectiveness of the shelter operations varied across functional and geographic areas. The massive community-based response carried the day by opening and resourcing dozens of shelters. The role of the Red Cross was not clearly understood and its capacity was strained due to the national demand for their services at the time.

Finding: Donations and Volunteer Coordination was challenging for County staff and stakeholders.

Due to the unprecedented scale of the event and the mass outpouring of support in the community, there was confusion and incompletely allocated resources in the donations and volunteer functions. Additional pre-event planning and coordination with community-based and non-profit organizations is needed. Having a representative from the Volunteer Organizations Active in Disaster (VOAD) stakeholder coordination group would be especially helpful.

Finding: Logistics authorities and processes were not always clear to staff.

The Deputy Logistics Chief and team need better access to the Chief or have clear delegation of signature authority if the Chief is not available. Signature authority for 213s [General Messages Forms] must be made clear for requestors and everyone handling 213s. Consideration should be given to use of a Logistics Request Form to ensure the request has sufficient information upon which to act. Other County departments were also conducting internal logistics efforts.

Finding: Logistics support for shelters requires onsite representation.

The number, variety, and scope of shelters opened in the first week challenged the ability of Logistics staff to identify and anticipate resource needs. The ability to place staff on-site 24 hours a day greatly improved situational awareness and facilitate the management of requests, reduce repeat requests, oversee manage inventory on site.

Finding: The proximity of the fire to the County Administration Center endangered the County's primary information systems network.

At one point, the County's primary information technology systems and resources located in the Information Systems Department were at significant risk of disruption and destruction. Loss of these systems would have severely handicapped County staff during the response effort.

Logistics Section: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. EOC staffing faced many challenges and led to incomplete coverage.	• Develop an EOC Staffing Manager position to focus on identifying and preparing staff for each shift.	FES, HR
2. Many County staff do not understand their roles and responsibilities as Disaster Service Workers (DSWs).	• Develop and implement a sustained DSW Awareness and education program for County staff. • Add a formal DSW Awareness element to the Emergency Staff Development Program.	HR, FES, CAO, BOS
3. Logistics data base is inadequate for major or extended duration events.	• Implement and train staff on a new resource management system. Consider potential for sharing in the Op Area.	GS, FES
4. EOC systems and procedures are not completely current. There is a lack of input from County departments that staff key positions.	• Provide additional FES staff to support development and maintenance of EOC systems and procedures. • Engage County departments and create ownership for key EOC positions to improve processes and equipment.	FES, CAO, BOS, all departments
5. The use of Logistics Representatives at shelters worked well.	• Update the EOP Care & Shelter Annex to provide for dedicated Logistics representatives at each shelter. • Develop Care & Shelter logistics coordinating procedures.	HS, FES, GS
6. EOC IT and communications systems are heavily reliant on County ISD systems and networks. Failure would significantly impact EOC and County department response operations.	• Invest in additional ISD continuity planning and systems resiliency efforts and services.	CAO, ISD

EOC Facility and Systems

The physical facility, systems, and equipment that supported EOC staff were effective to varying degrees.

Finding: The EOC Facility is dated and cannot meet the demands of current missions.

The County's current EOC facility was constructed in 1974 using federal funds. The EOC was designed to serve as a civil defense coordination center for a County population of 240,000. The EOC has undergone minor renovations in the intervening years to maximize its available space and incorporate newer communications systems. This is considered a "warm" facility requiring some actions to make the EOC fully functional when activated.

With shifts approaching 200 individuals, the existing 3,350 sq. ft. of workspace did not allow for additional workstations, meeting areas, and traffic flow. Some staff had to work at other County locations and then travel for shift changes and briefings. State and federal agencies brought mobile vehicles and constructed a tent city adjacent to the EOC on temporarily vacant space. However, this remove from the EOC significantly impacted communications, security, and staff effectiveness.

Temporary State and Federal facilities established adjacent to the EOC

The interior EOC feeding location proved to be too small and too inflexible to address the sheer number of staff working in and for the EOC. The inability to prepare and store food in sufficient quantities posed a health safety challenge. Food was served in the middle of work areas and the resulting foot traffic was severely disruptive to the Logistics section work areas. Staff had to find other areas in which to take meals further disrupting other EOC work areas.

Such numbers of individuals working in such close proximity for such extended periods of time while sharing documents and equipment posed a challenge to staff health.

Finding: EOC technology is outdated and insufficient

Computer systems, displays and other communications technology generally functioned well. However, there were insufficient quantities of computers, telephones and displays to support the number of staff working at the peak. Traditional mounted CPU computer workstations were unable to be moved and proved a challenge to staff needing flexibility in their teams.

While the EOC displays worked during the initial activation, heavy 24/7 use began to degrade their capabilities eventually becoming a significant challenge for EOC staff. The current system currently is an older analog hardwired network that does not allow for easy change or addition of displays let alone full integration with digital systems. Phone handsets were insufficient for the number of staff. Headsets would support better noise control and reduce staff fatigue.

The electronic filing system was challenged by the vast number of documents created and stored by various sections and staff. The document naming protocol was not clear to all staff requiring additional post-event records processing.

Finding: The physical location of the EOC Logistics Section challenged internal staff communications.

Located some distance from the main operations room, the EOC Logistics section was segmented by older fixed workstations (See EOC Facility below). Logistics was unable to maintain consistent awareness of the general situation or anticipate operational needs.

Finding: There is no capacity to support physical meetings/briefings for elected officials.

The EOC facility does not provide meeting or work space to enable local, state, or federal elected officials to communicate or coordinate with EOC staff.

Finding: EOC materials, supplies and equipment should be assessed and reinforced

An EOC at full capacity consumes significant amounts of perishable and consumable goods. This event highlighted actual or potential deficiencies/understock of items including N95 masks, hand sanitizers at entrances, anti-viral cleaning supplies, confidential shred bin, and position vests.

Finding: EOC workstations are inflexible and insufficient for high demands

The EOC workstations are a collection of furniture and communications systems dating back to the 1980s. These are generally effectively unmovable due to the type of furniture and the communications connections required. The inability to move workstations does not allow the EOC to flex the staff working groups. Additionally, the equipment is not ergonomically effective – while this may suffice for short periods, staff working 14 hours straight founds themselves impacted by these systems. 22 chairs broke during the activation due to extended heavy use.

EOC Facility: Findings and Recommended Corrective Actions

Finding	Recommended Corrective Actions	Responsible Organization
1. The EOC facility is inadequate for major or extended duration events. Current equipment and systems do not support high intensity or sustained staff functions.	• Identify a new EOC facility or a significant reconstruction of the current facility as a priority in the County's Capital Improvement Plan (CIP). • Absent immediate CIP progress, implement improvements to critical EOC systems, technology and equipment. • Provide additional FES staff to maintain the EOC as a functional "warm" facility requiring no additional set-up upon activation. • Equip and validate an alternate EOC facility.	BOS, FDM, FES
2. EOC systems and procedures are not completely current. There is a lack of input from County departments that staff key positions.	• Provide additional FES staff to support development and maintenance of EOC systems and procedures. • Engage County departments and create ownership for key EOC positions to improve processes and equipment.	FES, CAO, BOS, all departments
3. GIS mapping functions performed well but are constrained by lack of equipment and systems.	• Obtain and install upgraded GIS workstations and a new large format printer plotter.	FES, ISD, PS
4. EOC IT and communications systems are heavily reliant on County ISD systems and networks. Failure would significantly impact EOC and County department response operations.	• Invest in additional ISD continuity planning and systems resiliency efforts and services.	CAO, ISD

ATTACHMENT: IMPROVEMENT PLAN

The following matrix consolidates the key findings and associated recommended corrective actions. Subsequent to Board adoption of this report, the Department of Fire and Emergency Services (FES) will develop a work plan in coordination with County departments and allied stakeholders for the implementation of these improvements:

Finding	Recommended Corrective Actions	Responsible Organization
1. The lack of Situational Awareness impacted operational coordination and planning.	• Revise the County's Emergency Operations Plan (EOP) to place additional emphasis on situational awareness and provide additional technology, staff, and processes to better enable real-time information sharing between the EOC and field locations. • Consider deploying additional agency representatives to Incident Command Posts.	FES, Emergency Council
2. The scope and intensity of the disaster exceeded previous disaster experiences.	• Revise the County's EOP, training and exercise programs, EOC facility, and supporting resources to address the demands of major and sustained disaster events.	FES, Emergency Council
3. The demand for EOC staff exceeded availability of trained staff. EOC staff were incompletely trained and exercised.	• Revise the Sonoma County Emergency Staff Development Program. • Strengthen staff training/exercise requirements and performance reporting. Make participation in the program mandatory. • Consider committing up to 1% of staff time for selected County staff to preparedness training and exercises. • Consider incorporating EOC assignments into annual performance evaluations. • Evaluate potentially adopting California EOC Staff Credentialing Standards. • Develop EOC procedures to orient new staff and provide just-in-time training.	FES, CAO, BOS, all departments

	• Consider forming an EOC Leadership Team to guide staff development. • Increase FES resources to coordinate and provide EOC staff development training and exercise opportunities. • Participate in a joint Integrated Emergency Management Course with the City of Santa Rosa.	
4. EOC staffing faced many challenges and led to incomplete coverage.	• Develop an EOC Staffing Manager position to focus on identifying and preparing staff for each shift.	FES, HR
5. EOC Section Chiefs were not clearly identified and fully prepared.	• Recruit and select key County staff to serve as EOC Section Chiefs. Identify lead section chiefs and alternates. • Incorporate enhanced Section Chief training and management roles into the Emergency Staff Development Program. • Consider incorporating this role into job classifications and/or annual assessments.	FES, CAO, BOS
6. Liaison positions were not initially or sufficiently staffed.	• Identify the expanded scope and number of Liaison Officers needed in major or sustained events. • Recruit and train function-specific liaisons as needed. • Provide dedicated phone numbers for senior County and city officials.	FES, CAO, BOS, cities
7. Elected officials were not effectively integrated into the emergency management organization and EOC functions.	• Collaborate to develop and document clear roles & responsibilities. • Revise the Sonoma County Emergency Staff Development Program to incorporate training and exercise guidance for elected officials. • Develop an Elected Officials Disaster Handbook that includes procedures for initial notification, ongoing disaster coordination, and media briefings. • Consider quarterly disaster preparedness updates at Supervisor meetings.	FES, CAO, Elected Officials
8. The Public Information	• Reconfigure and realign the PIO Unit within	FES, PIO

function and public expectations for service, have grown and evolved beyond the existing Public Information Officer (PIO) model.	the EOC to address access & functional needs issues, social media missions, Joint Information Systems models, coordination with elected officials, and technology. • Provide additional training for PIO staff to include an orientation to disaster-specific functions and processes. • Revise the Emergency Public Information Plan. • Revise the EOC PIO Handbook. • Develop and maintain non-County network, dark landing sites for emergency public information. • Integrate community Alert & Warning program capabilities and requirements.	
9. Public Information Hotline was incompletely equipped, staffed and supported.	• Revise the Emergency Public Information Plan to address the Hotline's role, staffing, management, equipment and information support. • Work with the United Way to clarify the capability and costs associated with the 2-1-1 system.	FES, PIO
10. Provisions for non-English speakers and other Access and Functional Needs groups were incomplete.	• Continue to work with the Access and Functional Needs (AFN) Advisory Group to develop messaging, communications, and services that fully address the requirements of the whole community. • Develop a Language Access Plan. • Ensure provision of alerts & warnings in Spanish. • Provide rapid access to translators at shelters and via the public information hotline.	FES, all departments
11. Finance section was not uniformly present in the EOC.	• Review and clarify roles and responsibilities of the EOC Finance Section. • Ensure operational integration and participate in training with other EOC sections. • Develop a Finance Disaster Recovery Plan.	FES, Auditor

12. Operations section challenged in coordination with external agencies during a no-notice, rapidly evolving event.	• Identify additional public safety staff that can perform EOC functions and prepare to double-staff during initial response. • Create additional workspace and tools for Operations staff. • Add Animal Services as an EOC position.	FES, SO, CAO, Health, Animal Services
13. Many County staff do not understand their roles and responsibilities as Disaster Service Workers (DSWs).	• Develop and implement a sustained DSW Awareness and education program for County staff. • Add a formal DSW Awareness element to the Emergency Staff Development Program.	HR, FES, CAO, BOS
14. Planning Section challenged by incomplete staffing, training and implementation of the EOC action planning process.	• Revise the Sonoma County Emergency Staff Development Program to reinforce the EOC action planning process across sections and elevate the Section Chief's role. • Recruit additional planning unit leaders from across the County. • Consider developing a Deputy Plans Chief to lead the action planning process. • Revise section chief position checklists to ensure adherence to the action planning and shift change processes.	PS, FES
15. The County does not have a Disaster Recovery Plan.	• Build from the current Office of Recovery and Resiliency (OR&R) planning effort and develop a comprehensive, all-hazards Disaster Recovery Framework for future events.	OR&R, FES, CAO, all departments
16. Logistics data base is inadequate for major or extended duration events.	• Implement and train staff on a new resource management system. Consider potential for sharing in the Op Area.	GS, FES
17. The EOC facility is inadequate for major or extended duration events. Current equipment and systems do not support high intensity or sustained staff functions.	• Identify a new EOC facility or a significant reconstruction of the current facility as a priority in the County's Capital Improvement Plan (CIP). • Absent immediate CIP progress, implement improvements to critical EOC systems, technology and equipment. • Provide additional FES staff to maintain the EOC as a functional "warm" facility	BOS, FDM, FES

	requiring no additional set-up upon activation. • Equip and validate an alternate EOC facility.	
18. EOC systems and procedures are not completely current. There is a lack of input from County departments that staff key positions.	• Provide additional FES staff to support development and maintenance of EOC systems and procedures. • Engage County departments and create ownership for key EOC positions to improve processes and equipment.	FES, CAO, BOS, all departments
19. The use of Logistics Representatives at shelters worked well.	• Update the EOP Care & Shelter Annex to provide for dedicated Logistics representatives at each shelter. • Develop Care & Shelter logistics coordinating procedures.	HS, FES, GS
20. GIS mapping functions performed well but are constrained by lack of equipment and systems.	• Obtain and install upgraded GIS workstations and a new large format printer plotter.	FES, ISD, PS
21. EOC IT and communications systems are heavily reliant on County ISD systems and networks. Failure would significantly impact EOC and County department response operations.	• Invest in additional ISD continuity planning and systems resiliency efforts and services.	CAO, ISD
22. Cities operated as de facto sub-regional hubs while being challenged with communicating and coordinating with the EOC.	• Revise the County's EOP and incorporate changes in authority as well as address the concept of sub-regional hubs for unincorporated areas of the County.	FES, Emergency Council, cities
23. Multi-jurisdictional coordination and communication proved challenging due to the scope and pace of activity.	• Address via Emergency Council: develop a Training/Exercise Schedule that includes regular multi-jurisdictional exercises.	FES, Emergency Council