2020 CZU Lightning Complex Fire

After-Action Report and Improvement Plan

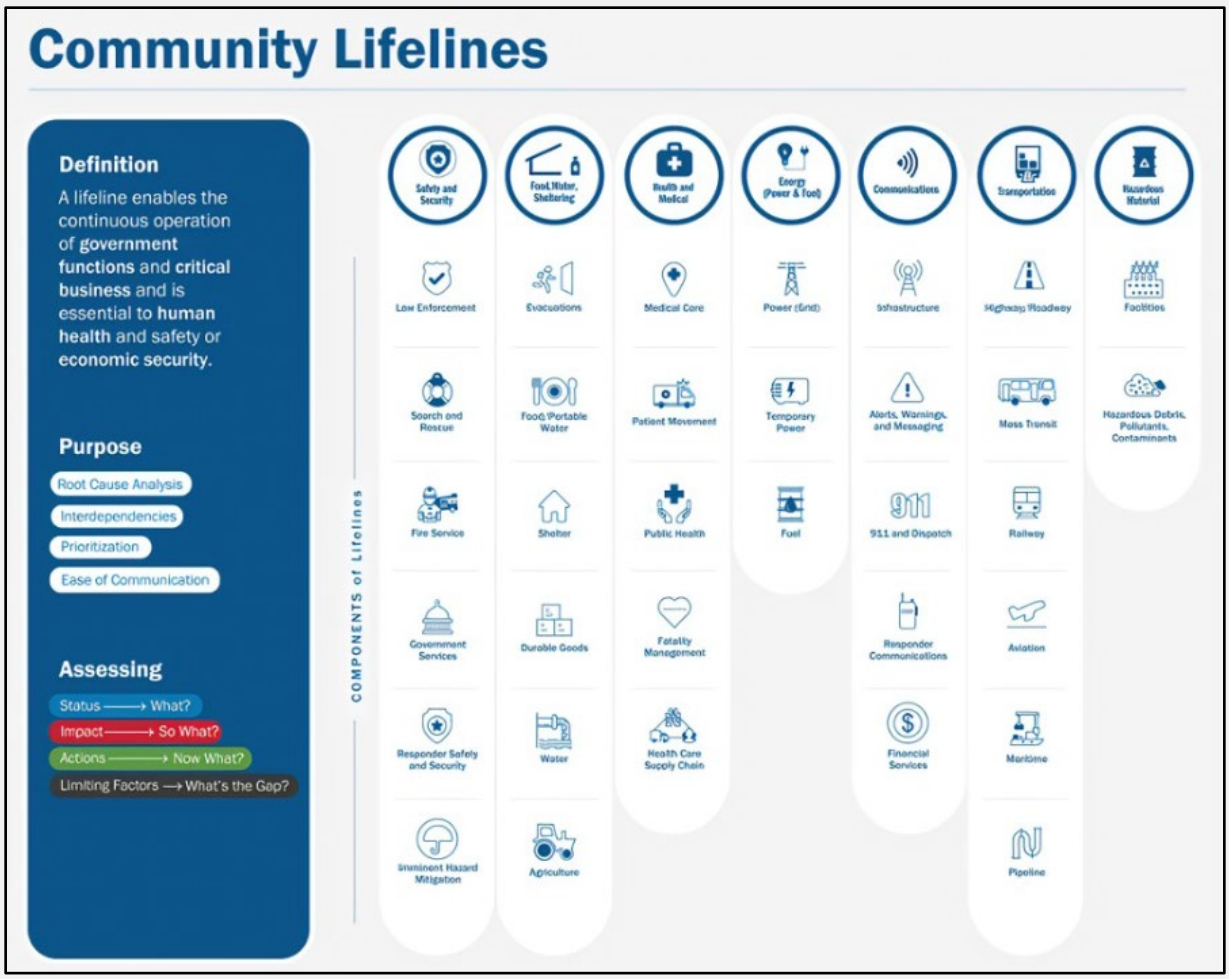
December 7, 2021

Table of Contents

SANTA CRUZ COUNTY OFFICE OF
RESPONSE, RECOVERY & RESILIENCE

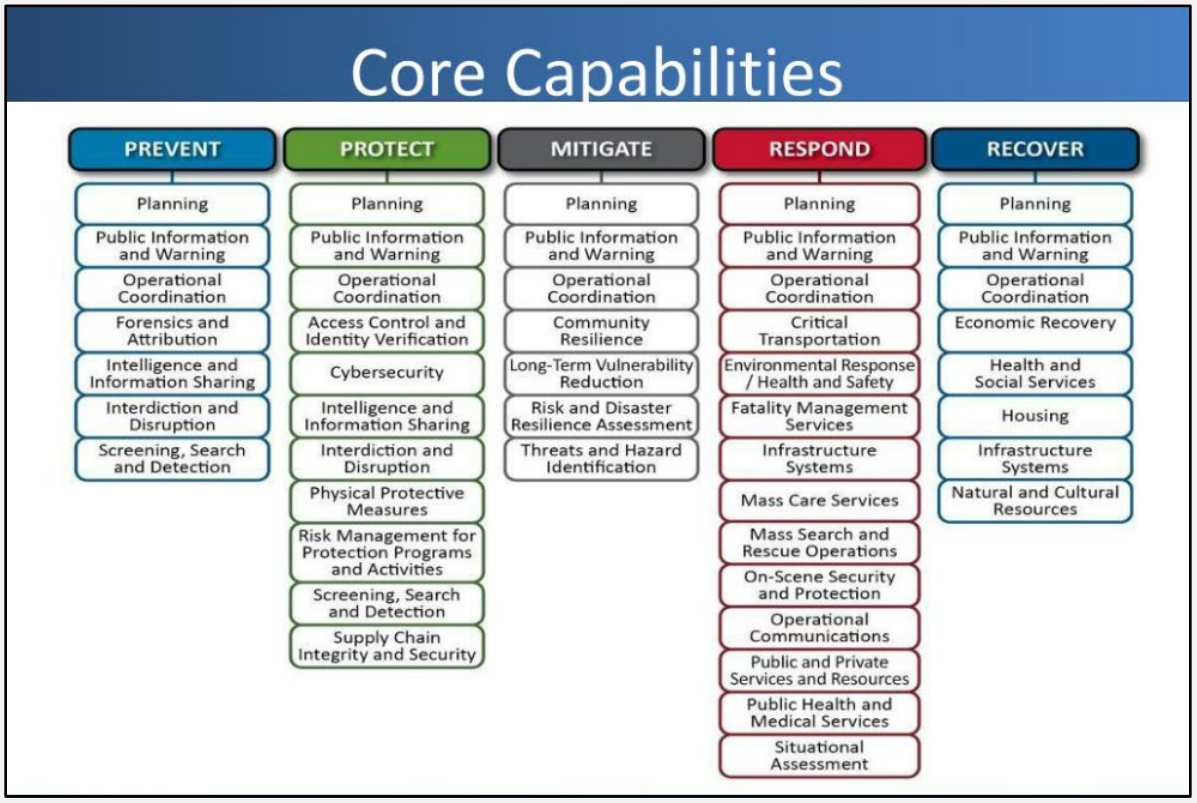
INTRODUCTION TO CZU LIGHTNING COMPLEX AFTER ACTION REPORT/IMPROVEMENT PLAN

The County of Santa Cruz 2020 CZU Lightning Complex Fire (CZU) After-Action Report/Improvement Plan (AAR/IP) is a review and assessment of the County's Operational Area sphere of influence response to the CZU Lightning Complex event. This report was prepared to ensure a robust analysis of the strengths and weaknesses of the Emergency Operation Center's (EOC) core capabilities and to identify improvement strategies. The AAR/IP aligns emergency preparedness programming in accordance with State and Federal preparedness doctrines, which include the California Emergency Services Act, Emergency Support Functions, National Preparedness Goals, National Response Framework, Mission Areas, Core Capabilities, and Community Lifelines. These doctrines provide an organized, whole community approach and process toward achieving the local, State and National preparedness goals. The National Response Framework (NRF) sets the strategy and doctrine for how the whole community builds, sustains, and delivers the response core capabilities of the five mission areas: Prevention, Protection, Mitigation, Response and Recovery.



EMERGENCY PREPAREDNESS DOCTRINE

As a State Operational Area (OA), the County of Santa Cruz is responsible for protecting and serving the citizens of Santa Cruz County during disastrous events. This role is coordinated by the Office of Response, Recovery, and Resilience (OR3). OR3 organizes this effort through the adoption of local county emergency management ordinance, the State of California Emergency Plan, the National Response Framework's Guiding Principles: (1) engaged partnership, (2) tiered response, (3) scalable, flexible, and adaptable capabilities, (4) unity of effort through unified command, and (5) readiness to act, and the National Preparedness Goals: Prevent, Protect, Mitigate, Respond and Recover. The Federal Emergency Management Agency (FEMA) provides 32 Core Capabilities, which are the key performance management tool in emergency preparedness. These doctrines provide the requirements for organizing, sustaining, and restoring community lifelines so that they are available when needed. This AAR/IP recognizes and incorporates these doctrines and methodologies to produce a measured and quantifiable AAP/IP report.



PROCESS

Following the CZU Lightning Complex (CZU), the County of Santa Cruz and coordinating response partners engaged in a series of feedback sessions, or "hotwashes," which assessed the successes and failures of the CZU response. Over the course of several weeks these hotwash listening and feedback sessions were held at the EOC section level to garner detailed comments and review of the many elements under the EOC management. The hotwash sessions produced an extensive list of emergency management program opportunities for improvement and functional gaps. The initial feedback was synthesized then bracketed into the sections of National Response Framework, Incident Command Structure: Management, Planning and Intelligence, Operations, Logistics Management and Resource Support, and Finance and Administration.

Over the last 6 months County staff across many departments were assigned to the section workgroups and each group identified and prioritized three initial improvement goals. These working groups have been meeting weekly to bi-weekly to address the prioritized improvement goals for each section. To date, several process improvements have been completed, while several others are under development or not yet started. The workgroups continue to meet and build emergency response proficiency, products and procedures.

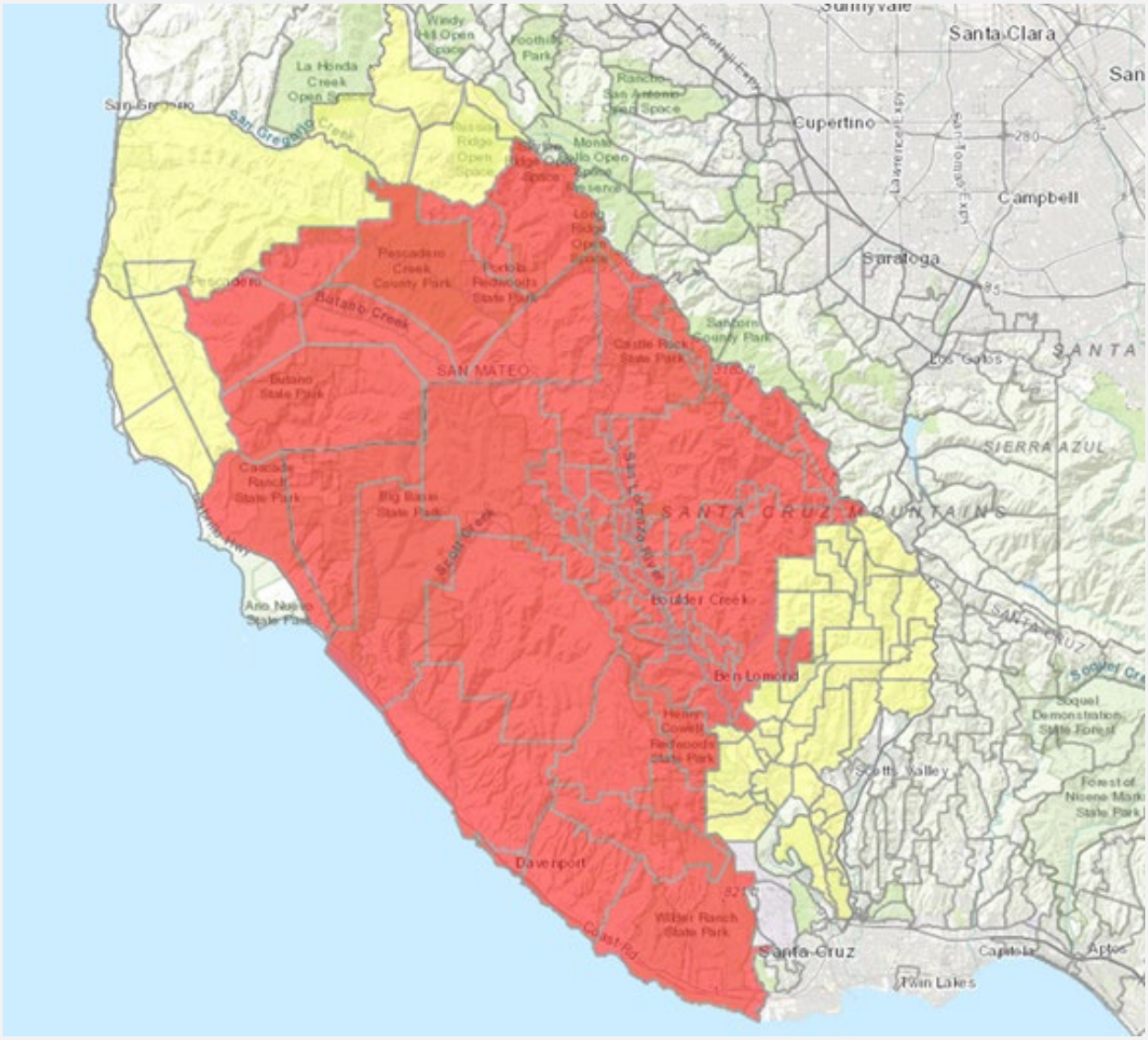
AAR/IP REPORT ORGANIZATION

This CZU Fire AAR/IP is organized to provide a summary of the event activation, an analysis and rating of our core capabilities as performed during the CZU Emergency Operations Center activation, then provides narrative content on strengths and areas for improvement. Appendix A is a listing of Core Capabilities enacted during the CZU. Each Core Capability was synthesized to the corresponding feedback collected from the After-Action review sessions. Further, the table includes recommendations for process improvement, stakeholder collaboration, primary unit responsible, and the capability improvement process that is necessary (i.e., planning, equipment, coordination, training).

EVENT OVERVIEW

Event Name	CZU Lightning Complex
Event Dates	August 16, 2020 thru September 23, 2020
Scope	The CZU Lightening Complex event impacted three Operational Areas: Santa Cruz, San Mateo, and Santa Clara. The level 3 activation provided mass evacuation, sheltering and care, donation management, public utility restoration, and volunteer management.
Mission Area(s)	The mission of the County Office of Emergency Services was to support incident command, establish situational awareness, communicate, support mass evacuation, shelter evacuees, and coordinate recovery services, inspection and re-entry.
Core Capabilities	Planning, Public Information and Warning, Operational Coordination, Intelligence and Information Sharing, Infrastructure System, Critical Transportation, Environmental Response / Health Safety, Mass Care Services, Operational Communications, Public Health, Healthcare and Emergency Medical Services, Situational Assessment, and Housing.
Objectives	Support life safety, protect environment, care and shelter, and operational area coordination.
Threat or Hazard	Wildland Fire, Air Quality, and Covid-19 Pandemic.
Scenario	Late in the evening of August 16, 2020, converging weather patterns produced more than 12,000 lightning strikes along the California Central Coast. The lightning triggered several groundfires; seven within the remote and rugged terrain of the Ben Lomond Mountain range within Santa Cruz and San Mateo Counties. Three of the independent fires grew and converged into the CZU Complex. State and local resources were scarce, due to several large fires across the state. Over the course of 39 days, the CZU Complex claimed one life, injured one, caused the evacuation of 77,000 people, burned 86,509 acres, destroyed 1,490 structures (911 were homes), damaged 140 structures, and destroyed infrastructure and multiple bridges. The cost to fight the fire exceeded $68 million.
Sponsor	This After-Action Report is sponsored by the County of Santa Cruz Office of Response, Recovery and Resilience.
Participating Organizations	County of Santa Cruz, Community Organizations Assisting in Disasters, Operational Area partnering agencies.
Point of Contact AAR	Santa Cruz County Office of Response, Recovery, and Resilience.

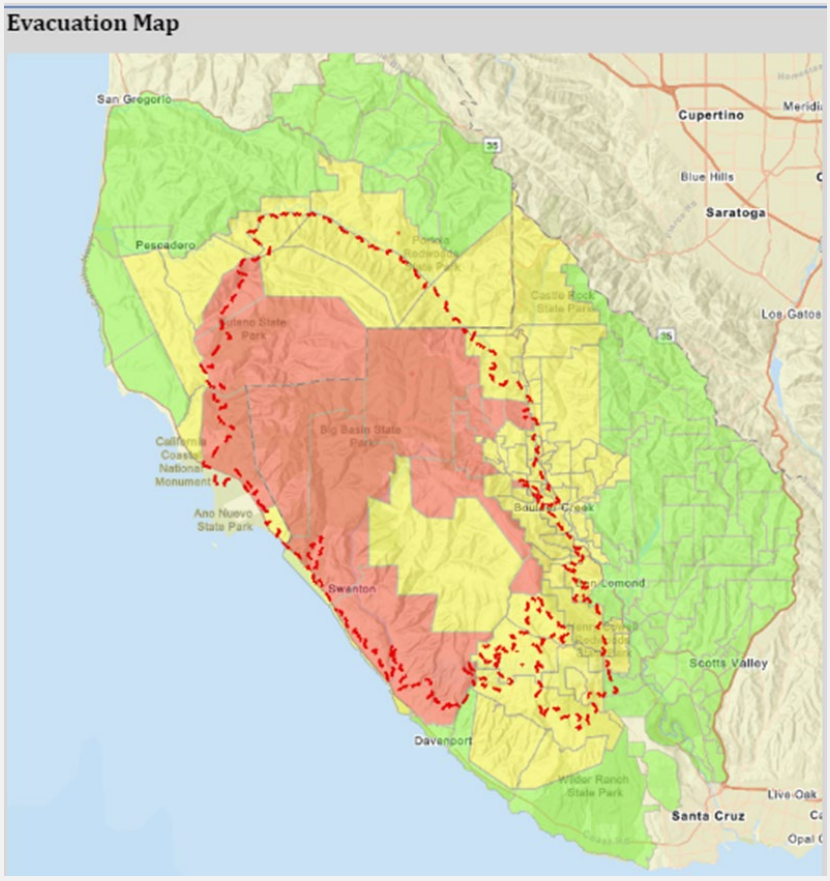
AREAS IMPACTED BY CZU LIGHTNING COMPLEX FIRE



EVENT SUMMARY AND ASSESSMENT

This report summarizes after-action reviews, hotwash meetings, interviews and conversations conducted by the Santa Cruz County Office of Response, Recovery and Resilience (OR3). The report provides consolidated common trends and themes from all interviews with County employees and responding agencies. The Process Improvement Plan lists remedies for program gaps and indicate the units responsible for implementation. This summary covers both successes and failures as perceived by the respondents. Please note that in general, the responses received focused more on the areas which need more work, rather than the areas which did work. This report reflects that focus, but it does not necessarily mean there were more failures than successes.

At the time of CZU Fire, the Office of Emergency Services was the managing unit of the Emergency Operations Center. Shortly after the CZU Fire incident, the Board of Supervisors and County Administrative Office, restructured the department. The restructuring expanded the scope to cover emergency preparedness andresponse, CZU fire community recovery and climate change resilience and adaptation strategy development. The new name is the Office of Response, Recovery and Resilience (OR3). This report references the agency in its current name, the Office of Response, Recovery, and Resilience (OR3).



ANALYSIS OF CORE CAPABILITIES

Table 1 lists the core capabilities implemented for the CZU Fire and their associated performance ratings, as observed during the event, and determined by the evaluation team and after action review process. For each Core Capability, Appendix A provides a comprehensive list of issues, challenges and improvements as raised during the hotwash review and feedback sessions. The specific objectives within these core capabilities were rated based on how effectively the County EOC was able to perform these key functions. Core Capabilities having a higher frequency of deficiencies or areas of improvement identified during the after action review process were rated M, for "Performed with Major Challenges". Capabilities with lower frequency of areas of improvement or deficiency, received an S, "Performed with Some Challenges". The context to these program gaps and their process improvement can be observed in Appendix A of this report.

Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Planning			M	
Public Information and Warning		S		
Operational Coordination			M	
Intelligence and Information			M	
Infrastructure Systems		S		
Critical Transportation			M	
Environmental Response / Health Safety		S		
Mass Care Services			M	
Operational Communications			M	
Public Health		S		
Healthcare and Emergency Medical Services		S		
Situational Assessment		S		
Housing		S		
Natural and Cultural Resources		S		

Table 1. Summary of Core Capability Performance

Core Capability Ratings Definitions:

Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.

Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.

Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).

The following sections provide an overview of the performance related to each event objective and associated core capability, highlighting strengths and areas for improvement.

STRENGTHS

The Emergency Operation Center (EOC) successes can be attributed to the following strengths:

Strength 1: Existing staff did an extraordinary job of activating amidst the duress of the COVID-19 Pandemic. After being informed that The American Red Cross (ARC) was unable support a response, County staff were able to stand up temporary evacuation points (TEPs), congregate (community lodging space), and non-congregate evacuation shelters. The Med/Health Branch was successful in getting staff out to shelter sites and coordinating with EOC leadership and other branches from an early point in the emergency. Due to their personal motivation and commitment, staff was able to overcome extreme odds under arduous circumstances and minimal training.

Strength 2: The GIS section was effective in producing maps and data from an early point in the emergency. The two GIS personnel were also able to quickly adjust their schedules to accommodate 24-hour coverage.

Strength 3: Many EOC staff were able to rally and produce ad-hoc processes and procedures during a highly dynamic and escalating incident. EOC Staff relied on personal relationships to get things accomplished.

Strength 4: Following the CZU Fire and in collaboration with community organizations, FEMA and volunteers, the OR3, helped to stand up a Long-Term Recovery Group (LTRG). The LTRG provided a centralized location for fire victims to learn about debris removal, receive re-entry kits, understand permit process, and file for disaster claim services and resources. As we progress further into recovery the LTRG is providing case management support and identifying un-met needs for fire families and trying to close financial and technical gaps in rebuilding.

AREAS FOR IMPROVEMENT

Emergency Support Functions that require process improvement include:

1. DSW capacity and training.
2. Stakeholder coordination in planning and agreements.
3. EOC organizational effectiveness.
4. Med/Health Branch coordination.
5. Care and Shelter Branch planning and training.
6. Logistics Section process development, planning and training.

Area for Improvement 1: Increase DSW staffing capacity and training. Develop and document EOC processes and procedures.

Reference: EOC Activation Plan, Duty Officer Manual, Position Manuals.

Analysis: EOC Sections and elements did not have the appropriate depth of staffing levels for a long-term activation. Staffing shortages were exacerbated by the COVID-19 Pandemic, which was already taxing two large County departments: The Health Services Agency (HSA) and the Human Services Department (HSD). This was further complicated by the inability of the community organization, The American Red Cross (ARC), to rely on their volunteer base to stand-up evacuation shelters in support of fire victims. During the initial activation of the EOC, the planning section was successful in getting initial staffing to open shelters for evacuees. However, a large part of this success relied upon drawing on the already trained extra help employees who had been hired to work at COVID shelters.

An action response from the Planning section identified that it was difficult to staff the EOC fully. Some employees assigned to the EOC or disaster operations also reported that they were expected to continue carrying out their regular duties as well as their disaster related work.

The lack of depth in staffing was also felt with community communications, (e.g., social media rumors far outpaced the PIO's ability to factually counteract or get ahead of misinformation. Through Incident Command, law and fire hosted routine community briefings that were widely televised and supported by the EOC. On a longer-term basis, however , there was an inability to form a Joint Information Center (JIC) due to staff shortages and COVID-19 protocols. The County has an ongoing need to build additional internal communications capacity.

A large percentage of after-action comments included concerns about staffing and training for employees who worked as DSWs or at the EOC. As was identified in several reports, during the initial EOC activation, many County employees were placed in EOC roles that they were not familiar with and/or lacked sufficient training. This included manager level positions and general Disaster Service Workers (DSW). DSWs supported shelters and logistics needs. This led to time spent training-up new workers.

Shelters were also staffed by full-time permanent County staff, but this was somewhat limited by the staff having to take furlough time.

Staffing for the warehouse donation locations was inconsistent. There were often new DSWs assigned to the locations, or volunteers taking up the slack when the locations were understaffed. There were many extra help staff who were hired during the emergency as DSWs. However, because of the quick hiring process, the onboarding of these new employees was rushed and did not adequately ready the new employees for their roles. Some hiring information had to be filled out retroactively. The duties of disaster service workers were not well-defined, leading to extra help employees feeling that they were being worked "out of class."

AREAS FOR IMPROVEMENT CONTINUED

The lack of a centralized EOC staff/DSW resource request process resulted in a disorganized, ad hoc scouring and competition between EOC and general DSW worker placements. To this end, both shelters and the EOC were generally short-staffed, resulting in long hours that frayed nerves and working relationships.

EOC and shelter staff stated that onboarding was too brief to fully understand their duties. Many employees had not received ICS (incident command system) training prior to the activation. ICS training is very important as it dictates the organizational structure of the EOC and plays a large part in how different sections communicate and interact.

Without the appropriate EOC and ICS training and familiarity with the ICS structure and procedures, DSW and EOC staff were sometimes left feeling lost. They were unsure of their duties, and unsure of who to ask when they needed something from another EOC sections. At the beginning of the emergency, some sections did not follow ICS procedures, and instead made their own structure. When staff were unfamiliar with ICS, they often did not go through proper channels to request assistance from other sections of the EOC or outside organizations (in effect "jumping" over their section coordinator). While strong relationships and a commitment to supporting our community served as the backbone of our activation, appropriate training of staff at all levels will help serve our community more effectively in future disasters.

Area for Improvement 2: Develop, update, and prepare partnerships, agreements, and contracts

Reference: Emergency Operations Plan, Agreements

Analysis: Several contracts and agreements were created and entered by the County, either as simple handshake agreements, or without being looked over by County Counsel. Aside from the record keeping problems that arise from such informal agreements, the agreements can also lead to issues later, if the language was not specific enough or if the two parties had different understandings of the roles and responsibilities each had.

MOU's and Facility Use Agreements were either outdated or not in place at the time of activation. In addition, a lack of pre-exiting MOUs for various key facilities and between jurisdictions for mutual assistance caused some friction between agency partners and complicated reimbursement processes.

There remains a need for better communication and coordination between emergency response agency partners (such as local jurisdictions, CalFire, Netcom, and Zonehaven) and community partners for activation coordination and support, data updating and sharing.

AREAS FOR IMPROVEMENT CONTINUED

Area for Improvement 3: Increase organizational effectiveness of EOC

Analysis:

Overall EOC Operations: The lack of standard EOC and emergency management procedures challenged staff and hampered the overall successful outcome. The lack of adequate documentation, training, and materials created challenges for an already stretched staff. There were inadequate procedures and familiarity with EOC operations that caused delays in process completion, duplication of effort or left some tasks missed. In many cases, tasks were done by individuals outside of the scope of their positions, causing some confusion in EOC roles and responsibilities. Some of the initial strengths in using backchannel relationships to move things along were not followed up through the formal request process, creating headaches with reconciliation and procurement processes.

Personnel Management: The EOC became over-crowded over the course of the event activation, causing friction with the Sheriff's Department, which is co-located in the same building as the EOC. Some volunteers showed up at the EOC, either without being scheduled, or without registering with the Volunteer Center at all. The random volunteers caused disruption at the EOC, as staff had to take time to train them and identify projects for them.

In addition to the EOC staffing being above optimum levels for efficiency, the EOC configuration did not provide an adequate quantity of workspaces and computers.

Meeting Cadence and Security: There was a high meeting tempo at the EOC during the emergency response. Multiple people in leadership positions indicated in their after-action reviews that they thought there were too many meetings during the initial period of the emergency. A high meeting cadence takes up a lot of time, and while it is important to keep abreast of developments, that time may have been better spent on emergency response efforts.

There were concerns about the security of the large-scale meetings. Often, with 50-100 participants on calls, participants could not be verified. Confidentiality and "For Official Use Only" notices were absent from many meeting briefs and reports.

Community Organization Volunteer Management: Equine Evac group and CERT reported a lack of coordination and communication with the EOC during the first days of the disaster. For the most part, they carried out their tasks and duties without the appropriate guidance from the EOC. Volunteer coordination was also an area of difficulty. All volunteers should have been registered and scheduled through the Volunteer Center, but there were several occasions in which volunteers reported to shifts at shelters without management knowing they were coming and were therefore turned away.

AREAS FOR IMPROVEMENT CONTINUED

Several after action reports identified the need for mental health support for disaster response personnel. Working in the EOC can be very stressful, and that stress is compounded by long hours, especially at the beginning of an emergency and in the context of a major activation during a global pandemic.

Area for Improvement 4: Med/Health Branch

Reference: NA

Analysis: At shelters, it was sometimes unclear what the expectations for medical support were, and often the organizational and command structure at shelters was undefined.

The Med/Health branch encountered difficulty in integrating the Behavioral Health (BH) section into their response. While BH staff had expressed an interest in helping, there was confusion over the structure and chain of command of BH, and no wrap around services for mutual aid.

Additionally, within the Med/Health branch, there was no set process to coordinate with Environmental Health, Public Health, the California Dept of Social Services, or the California Dept of Public Health. These relationships and lines of communication would have been helpful, especially in regard to the procurement of supplies for Med/Health operations. There was a lack of supplies prepared before the emergency, and efforts to order more supplies through EOC Logistics, or procure more from other partner agencies were delayed by duplication of efforts or miscommunications.

There was not a good shelter and care option for the Access and Functional Needs (AFN) population of evacuees, and the Shelter branch as well as the Med/Health branch need to develop plans that include preparing for AFN evacuees.

Area for Improvement 5: Care and Shelter Branch

Reference: NA

Analysis:
The Shelter and Care branch was responsible for the operation of emergency shelters for evacuees, and later the non-congregate hotel sheltering program.

In both the congregate and non-congregate programs, there was insufficient data tracking of intakes and exits. In many shelters, even the ones opened days or weeks after the initial evacuations, paper forms were used for evacuee intake. To convert paper forms to an electronic document, and to make that document searchable are both tricky and time-consuming tasks. If there is power at a shelter site, it is preferable to enter evacuee data into a database. It is easier
to work with, and provides more up to date statistics on evacuees, which is important in distribution of resources.

AREAS FOR IMPROVEMENT CONTINUED

Additionally, almost all large shelter sites housed people who claimed to be fire evacuees but were later discovered to be previously homeless individuals who were not affected by the fire. While it is nearly impossible to verify evacuees' status during the initial evacuations (the "rush"), once the situation has stabilized, consider a verification procedure to ensure that those receiving resources are not doing so on a fraudulent basis.

Despite some homeless non-evacuees using the system, there were also many people who were homeless, but had legitimately been displaced by the fire, and in some cases, lost their makeshift homes. There were programs that were not available for this pre-disaster homeless people-the hotel program, and the shelter resident transition program. Pre-disaster homeless individuals were disqualified from these programs based on their housing status, and not whether they were displaced by the fire. This created a two-tiered system, in which homeless people received fewer services than other evacuees, despite being equally affected by the fire.

While evacuees in County Shelter programs did have access to some support through the Resource and Recovery Center (also known as the Local Assistance Center), many found the claims process with CalOES, FEMA, and other organizations to be confusing and opaque. The county identified early in the emergency that many people had lost their homes, but the concerted effort through cell and text communication, ARC, and other means was not entirely effective. Given the dispersed hotel shelter model, and ineffective shelter intake tracking resources, efforts to reach out to evacuees and get them specific help were not efficient.

The congregate shelters opened by the County saw around 2000 evacuees staying in them during the peak of the emergency. Overall, the Shelter and Care branch was able to provide necessities for these evacuees. However, the success of the shelters was dependent on the already trained and experienced COVID shelter staff, which are not a given in the next emergency.

Communications between the shelters and the EOC should also be improved. Shelters had an opening checklist describing the organizational process for opening a shelter. However, that checklist was primarily focused on the situation at the shelter. There was no checklist at the EOC for opening a shelter, which led to communications breakdowns. Shelters were opened on an ad hoc basis, so the organizational structure and chain of command were sometimes not defined. The EOC did not have points of contact for some shelters during the initial emergency, so contacted multiple people. This caused duplication of efforts, both at the shelters, and the EOC.

The hotel non-congregate shelter program was a partnership between the County and the California Dept of General Services (DGS), and later between the County and FEMA. In it, the County was responsible for interacting with evacuees and submitting applications for hotel stays
to DGS or FEMA, and then they would book the evacuees hotel rooms for up to two weeks. At the end of the period, evacuees could reapply and have their stays extended.

AREAS FOR IMPROVEMENT CONTINUED

From the beginning of the emergency, the hotel program eligibility requirements were constantly changing. Often, eligibility for the program would change every week, or in some cases multiple times in a week. While the program was initially open to all evacuees, as time went on, the requirements became stricter. In some respects, this was good because it did expose some fraudulent applications, but as a consequence of the stricter requirements, some evacuees were forced out of the program while they were still in need of support.

Smoke damage was initially a valid justification for evacuees to stay in the program, but when smoke damage no longer qualified evacuees, there were numerous problems. While smoke damage can be extremely hazardous to health, there is no single definition or threshold at which smoke damage makes a home uninhabitable. The hotel program based its eligibility in part on whether an evacuee's home was habitable, so smoke damage was a grey area. Some evacuees were able to hire an independent environmental health inspector to assess their homes for smoke damage, and make a determination of habitability, but those inspections generally cost thousands of dollars. For evacuees with smoke damage and less means, there was no way to prove that their homes were uninhabitable because of smoke damage.

Area for Improvement 5: Logistics Section

Reference: Logistics Management and Resource Support Annex (plan is currently absent from this operational area).

Analysis

There was no plan in place to receive donations from the community at the beginning of the emergency, and this led to the County taking in a number of items that were either unusable or were not needed. Some of those donations are still in the warehouse, and they take up a significant amount of space.

Supply distribution to the shelters was a large portion of the Logistics Section's work, and for the most part, shelters did get the supplies that they needed. However, the distribution of supplies suffered from communications breakdowns. Often, multiple employees from shelters or Shelter and Care EOC staff, would request the same supplies. This led to some redundancy in purchasing and delivering supplies which was inefficient.

In addition, there was a lack of coordination between what Logistics ordered, and what the Procurement Unit in the Finance Section was required to purchase. The lack of a centralized Ordering Manager within the Logistics Section, coupled with the lack of a designated Procurement Unit in the Finance Section and lack of position-specific training on these roles and responsibilities, caused financial complications. This was especially apparent during the post-activation phase when reconciling what was ordered with pending invoices became a huge workload issue.

APPENDIX

Appendix A: Core Capabilities and Improvement Plan

Appendix B: Acronyms

Appendix C: Participating Department

Appendix D: Acknowledgements

Hwy 17 Into Santa Cruz, Sky, August 20, 2020

Appendix A: Core Capabilities / Improvement Plan

This IP was developed specifically for the County of Santa Cruz as a result of the CZU Lighting Complex fire, which occurred August 16, 2020 through September 23, 2020.

Core Capability	Issues - Area for Improvement	Corrective Action	Capability Element	Primary Responsible Organization	Status
Core Capability 1: **Planning**	1. Individually, partner agencies and Organizations are well versed in disaster response; however, minimal cross-collaboration in planning and training resulted in reduced effectiveness for the Operational Area response. 2. County EOC plans, protocols and training were insufficient. Disaster Service Workers manual did not provide adequate guidance. 3. Disaster Service Workers were not prepared for their roles and unaware of their obligation to report for emergency response duties. 4. DSW volunteers were not properly onboarded. Background checks were missed for sensitive roles, assignments were vague or incorrect, check in process not clear and reporting structure not adequately conveyed. 5. Necessary coordination agreements were not present. EOC did not engage legal counsel within Incident Command Structure to review and approve agreements. 6. Partnerships were strained by use of space that were not properly channeled through the Incident Command Structure. 7. EOC was chaotic due to insufficient procedures and high stress levels. 8. EOC space was not conducive to meetings or computer mobility. EOC could not be scaled and did not support breakout space or EOC Sections that needed frequent communication. 9. EOC lacked a coordinated contact list for EOC staff, agencies, and community-based organizations. This delayed collaboration, planning and execution of objectives.	1. Engage stakeholder agencies to share this AAR and develop collaborative planning opportunities to improve operational area planning. 2. Engage Incident Command Structured workgroups to develop emergency management products, annexes, and position manuals. Exercise the new material with DSWs and stakeholders. 3. Prepare Disaster Service Worker (DSW) program that builds capacity, training, and clear duties, and expectations. Expound upon this designation during the hiring process. Work with Logistics Personnel Unit Lead to pre-identify DSWs who can work at warehouse or donation locations. Develop a Personnel or Staffing Unit in place under the Logistics Section. All orders for staffing should been placed through a single-point Ordering Manager and tracked by the Resources Unit for all EOC organizational areas and needs. 4. Establish emergency onboarding procedures for DSW 4s. Backgrounds checks are necessary for shelter workers. Define specific guidelines for shelter volunteers. 5. Inventory ad hoc and retroactive agreements from the CZU Fire and create a template for emergency contracts/agreements. Include an EOC position for County Counsel representation. This role will approve proposed agreements and contracts. 6. Work to re-establish strained relationships with partners, updating and developing MOU for facilities and mutual aid support with allied organizations and agencies, including the cities. 7. Develop a simple, robust, and comprehensive set of EOC procedures to guide staff in conducting EOC operations. A best practice is to have a calm, smooth and orderly EOC for efficient and effective functioning. 8. Reconfigure the EOC to enhance both interpersonal communication and coordination efforts, along with the technology currently employed. The technology needs to support a more robust DOC component from those departments most impacted by any given activation, as well as those elements that can remain remotely connected -but not physically in- the EOC so that the limited space is not over-crowded. 9. Identify primary and backup EOC points of contact for partner organizations and evaluate the merits of creating a specific Community Partner Liaison position within the EOC. Arrange for a Volunteer Center representative to be present at the EOC during activations	1. Coordination 2. Planning, Training 3. Planning, Training 4. Planning, Training 5. Planning 6. Coordination 7. Planning, Training 8. Planning, Coordination, Training 9. Planning	1. OR3 2. OR3, Planning Section 3. Personnel, OR3, CAO 4. Logistics, Personnel Unit Lead, Personnel, OR3 5. Logistics, OR3, Legal Counsel 6. OR3 7. OR3 8. OR3, ISD, GSD 9. OR3, Logistics	1. In progress 2. In progress 3. In progress 4. In progress 5. Not started 6. In progress 7. In progress 8. In progress 9. In progress

Core Capability	Issues - Area for Improvement	Corrective Action	Capability Element	Primary Responsible Organization	Status
Core Capability 2: Public Information and Warning	1. I-paws did not work for all residents 2. Need central website for shelter information and processes Messaging lacked focused messaging for health-vulnerable and AFN populations.	1. Investigate I-Paws functionality. 2. Prepare pre-established web content for disaster resource pages that can be activated during incidences.	1. Equipment, Planning 2. Planning	1. OR3 2. OR3, PIO	1. Not started 2. In development
Core Capability 3: Operational Coordination	1. EOC coordination for emergency hotel voucher lodging was not fluid. 2. There was no process for onboarding of DSWs. 3. Departments and staff refused to report for DSW duties or arrived late. 4. Stakeholders brought in late. 5. Duplicated resource requests were problematic, especially for shelter care locations. 6. Volunteer management system not established. 7. Emergency management team below staffing capacity to adequately build necessary county and operational area emergency management products. 8. DSW training curriculum was not fully implemented prior to the CZU event. 9. Disaster Service Workers were not trained in Incident Command System. This led to confusion in communication and reporting channels. 10. The physical and technology layout of the EOC caused cramped quarters, an inability to move about to meeting due to CPU PCs, and wall-affixed workstations. These factors delayed organization and information exchanges. 11. Chain of command was unclear in several EOC sections. 12. County Environmental Health and Safety were not folded into the EOC coordinated response. EHS responded, guided by their own project scope. 13. American Medical Response may have been unnecessarily evacuated from Scotts Valley. Agency setup at Cabrillo College Evacuation communications promoted unnecessary evacuation. 14. Communication between EOC, State and partner agencies was not consistent or productive. Did not have adequate essential elements of information to create a common operating picture. 15. Confusion of agency roles effected efficient establishment of shelter operations.	1. Define and document lodging in care & shelter annex 2. Prepare onboarding worksheet and training for DSWs 3. Establish DSW procedures and policy. 4. During initial activation, notify ALL stakeholders. Prepare activation roster to include all EOC and stakeholders. 5. Establish workflow for resource requests, with threshold and approval authorization. 6. Work with community partners to establish volunteer and donation management. 7. Evaluate staffing capacity of Emergency Services Office. 8. Develop a comprehensive DSW curriculum for disaster service work, including EOC procedures such as Incident Command System, Incident Action Plans, WebEOC, and the decision-making process. Conduct annual training program for County employees to keep them up to date on EOC and ICS Procedures 9. Provide comprehensive DSW training. 10. Reconfigure EOC to be versatile, reconfigurable, and current with technology tools. 11. Provide ICS training to strengthen chain of command. 12. Ensure EHS and all necessary stakeholders are notified and involved (or aware of) an event plan, response, and recovery. 13. Utilize unified command to ensure significant decisions are assessed with key stakeholders. 14. Develop a standard approach to open channels of communication with state and outside agencies in advance. Engage in advance planning with partner agencies to develop and implement a data sharing and communications plan for emergencies. 15. Clarify the division of shelter roles between the County, American Red Cross, CDSS, and other relevant partner organizations.	1. Planning 2. Planning, Training 3. Coordination 4. Coordination 5. Planning 6. Planning, Coordination 7. Planning, Resource 8. Planning, Training 9. Training 10. Equipment, Planning, Training 11. Training 12. Planning, Training 13. Planning, Training, Coordination 14. Planning, Coordination, Training 15. Planning, Coordination, Training	1. Logistics, HSD, Ops 2. OR3, HSD 3. CAO, OR3 4. OR3 5. Logistics 6. OR3 Stakeholders 7. CAO, County Board of Supervisors 8. OR3, All Units 9. OR3, HSD 10. OR3, ISD, CAO 11. OR3, all units with 12. OR3, EHS, all departments 13. OR3, Partners 14. OR3, Partners 15. OR3, Partners	1. In progress 2. In progress 3. In progress 4. In development 5. In development 6. Not started 7. Partially implemented creation of OR3 8. In progress 9. In development 10. In development 11. In progress 12. In progress 13. In progress 14. In progress 15. In progress

Core Capability	Issues - Area for Improvement	Corrective Action	Capability Element	Primary Responsible Organization	Status
Core Capability 4: Intelligence and Information Sharing	1. Information in various applications made it difficult to find data, develop a common operating picture, and distribute reports. 2. ISD support was not present on first day of activation. ISD short staffed to support EOC. 3. Volunteers were not adequately vetted before assignments were provided. 4. Lack of tracking applications or procedures prohibited accurate count of shelter occupants moving in and out of shelters.	1. Reduce number of data hosting applications. Move toward an application that satisfies all digital data needs and processes. 2. Organize ITS staffing to be present throughout EOC activations. 3. Develop plan for appropriate background check of volunteers. 4. Working with ISD, EOC personnel should develop a database that can be used to track evacuee data during emergencies.	1. Equipment, Coordination 2. Training 3. Planning, Training 4. Planning, Training, Coordination	1. OR3, ISD 2. ISD 3. Human Resources, HSD, OR3 4. Logistics, HSD, OR3, ISD	1. In development 2. Not started 3. Not started 4. Not started
Core Capability 5: Infrastructure System	1. Independent utilities were gravely damaged (water & electric). Long delays occurred for restoration.	1. Coordinate with utility providers to ensure disaster response and recovery plans are prepared.	1. Planning, training	1. OR3, EHS, DPW	1. In progress
Core Capability 6: Critical Transportation	1. Short-staffed on DSW drivers. No prepared protocol for non-county volunteer drivers or for county drivers to utilize their own vehicles.	1. Build driver roster. Prepare transportation plan.	1. Planning	1. Transportation	1. In progress
Core Capability 7: Environmental Response / Health Safety	1. FEMA staff was not aware of data captured in 123 Survey tool. Awareness and access to data could have sped up their situational awareness. 2. Clarity of EHS capabilities or responsibilities not clear to MHOAC. 3. Mutual aid process confusion due to conflicting procedures of MHOAC and EMMA.	1. In EHS recovery plan, define capabilities, roles and partner engagements. 2. Health Services Agency and Environmental Health Services convene to discuss and document service lanes. 3. Work with CalOES to decipher appropriate channel for debris assistance mutual aid.	1. Planning 2. Planning, training 3. Planning, training	1. EHS 2. EHS, HSA 3. EHS, OR3	1. In progress 2. In progress 3. Not started
Core Capability 8: Mass Care Services	1. No defined process to intake or manage shelter data 2. Shelter lacked televisions, or distraction for evacuees. Some shelters inundated due to communication issues. 3. Lacking equitable procedures for immune-suppressed, health vulnerable, and AFN to provide evacuation assistance and provide appropriate AFN shelter space. 4. Lack of shelter safety guidelines (congregate, non-congregate) and procedures caused inappropriate shelter arrangements and delays in shelter support. 5. Shelter operations were requested by populations that were not affected by the fire. 6. Shelter team did not know how to manage homeless shelter care needs.	1. Prepare shelter intake and data management procedure 2. (Procure media accessories to keep shelter evacuees informed and occupied Prepare communication procedures for shelter information 3. Prepare evacuation plans, procedures and agreements for vulnerable and AFN populations. 4. Clarify congregate and non-congregate shelter operations and criteria for when each is appropriate and develop staffing plan for both. 5. Develop a clear verification process for evacuees. Ideally, the process would be implemented roughly one week after the disaster, and before the transition to longer term shelter options. 6. Check with County Counsel on policies related to pre-disaster homeless evacuees.	1. Planning 2. Equipment Planning, Training 3. Planning, Training, Coordination 4. Planning, Training, Coordination 5. Planning, Training 6. Planning, Training	1. HSD, OR3 2. (See Core Capability 3) 3. HSD 4. HSD, HSA, OR3 5. HSD, HSA, Red Cross, OR3 6. HSD, OR3	1. In development 2. Not started 3. Not started 4. In progress 5. In progress 6. In progress

Core Capability	Issues - Area for Improvement	Corrective Action	Capability Element	Primary Responsible Organization	Status
Core Capability 9: **Operational Communications**	1. Obtainment of cell phones was slow, process not documented. 2. County PIO Office was not present at CalFire briefings. 3. Leaked cell phone numbers 4. Information management was complicated by large meetings. 5. Requests for shelter information flooded PIO desk. 6. Community confused on statement of "evacuation orders lifted." 7. Insufficient PIO capacity. 8. Field Ops communications were disorganized. 9. Environmental team had poor connectivity while in a hazardous field. Radios would have assisted communications. 10. EOC HSA room lacked needed accessories (whiteboard, space, near C&S, Logs).	1. Prepare written procedure for phones, computers, mobile Wi-Fi, headsets, and all communication accessories.1. ISD prepare EOC Communication Service Level Agreement 2. Prepare EOC Communications Annex, which articulates emergency communication roles, responsibilities, inter-agency engagement, formats, channels, tools, templates, org charts, flow charts. 3. Add, maintain privacy warnings on phone listings. Keep phone lists within official computing sources, no posters. 4. Implement Planning P and meeting agendas to organize EOC meetings. 5. Increase marketing of proper call channels and prepare automated scripted messages that are continually updated. 6. Collaborate with Fire / Law to define emergency messaging. Meet w/ agency PIOs to receive clarifying language. 7. Expand PIO capacity and/or utilize Emergency Management Mutual Aid (EMMA). See step 2. 8. Develop communication protocols, train with field ops partners. 9. Assess EOC and field radio capability. Add equipment where needed. Conduct radio tests. 10. Equip EOC with necessary communication tools.	1. Planning, Coordination 2. Planning 3. Planning 4. Planning 5. Planning, Coordination 6. Coordination, Planning 7. Resource 8. Planning, Training 9. Planning, Equipment, Training 10. Equipment	1. ISD, OR3 2. PIO, OR3 3. Documentation Unit Lead 4. PIO, OR3 5. ISD, 6. PIO 7. PIO, CAO 8. OR3, Partners 9. ISD, OR3 10. OR3	1. Not started 2. Not started 3. Completed 4. Not started 5. In development 6. In progress 7. Assessing 8. Not started 9. Not started 10. In progress
Core Capability 10: **Public Health, Healthcare and Emergency Medical Services**	1. DSWs were fatigued physically and emotionally. 2. Confusion existed over Emergency Support Function #6, Mass Care, Emergency Assistance, Housing and Human Services and Emergency Support Function #10 Public Health and Medical Services. Roles and responsibilities not clear. 3. Chain of command for shelter operations were not clear. Varying leading responses by American Red Cross have proven an unreliable consistency. 4. Locating trained medical health staff to fill extended activation was complicated. 5. Health agency and Human Services efforts not always synchronized due to communication gaps. 6. Emergency medical teams arrived to shelter locations lacking necessary medical equipment.	1. Develop plan and service for DSW mental health need. Health Services Agency has deepened health branch bench. Integrate Behavioral Health into emergency response plans. 2. Provide training and plans which bring clarity to Emergency Support Functions, agency/staff roles and responsibilities 3. Prepare care and shelter plan. Identify chain of command. 4. Health Services Agency has deepened health branch bench 5. Space near Logistics and Mass Care and Shelter. EMS, MHOAC, Med Health liaison or Director. 6. Create "go bags" staff, so that they have the necessary medical supplies for the first hours of staffing an emergency shelter.	1. Planning, Resource 2. Planning, training 3. Planning 4. Planning 5. Planning, Organization 6. Planning, Training, Organization	1. HSA, OR3, HSA, HSD, OR3 2. OR3, HSA, HSD, DSWs 3. HSD, OR3, HSA 4. HSA 5. OR3 6. HSA	1. Not started 2. Not started 3. In progress 4. Completed 5. In progress 6. In progress

Core Capability	Issues - Area for Improvement	Corrective Action	Capability Element	Primary Responsible Organization	Status
Core Capability 11: Situational Assessment	1. Assembly of Situational Report and Emergency Action Plans were delayed due to lack of organized analysis resources.	1. Prepare dashboards and list of situational assessment tools.	1. Planning	1. Planning Section, GIS, OR3	1. Completed
Core Capability 12: Housing	1. Emergency hotel voucher lodging coordination was not clear.	1. Prepare explicit procedures for hotel and other shelter services.	1. Planning	1. HSD, OR3	2. In development
Core Capability 13: Logistics	1. Processes for wrap around services for mutual aid were not available (housing, services). 2. Several agencies drew from a single DSW pool, causing confusion to DSW staff and resource capacity. 3. Donation processes were overwhelmed and disorganized. Unneeded items were accepted, which occupied space of needed supplies. Quantities and tracking were disorganized, which delayed getting the resources to their needed locations. 4. Incident Command resource request forms (213RR) and procedures were not always used. Procurement processes did not have a clear line of duty. 5. Items were purchases and not properly recorded. Efficiency, organization, and duplication of resource requests. Requests lost in WebEOC application.	1. Prepare procurement pad for commodity procurement requests, tracking and fulfillment. 2. Define process for request DSW staffing. 3. Develop and implement a plan to receive, inventory, and distribute community donations during emergencies. 4. Establish procedures to prevent supply order duplication from shelters through a robust centralized Ordering Manager in the Logistics Section. 5. Ensure that there is communication, coordination, and tie-in between the Logistics Section Supply Unit/Ordering Manager and the Finance Section Procurement Unit using a standardized system that tracks resource requests, filling, receiving, and distribution for all resource orders, including equipment, supplies and personnel.	1. Planning, Coordination 2. Planning, Coordination 3. Planning, Coordination, Training 4. Planning, Training 5. Planning, Training, Coordination	1. Logistics, OR3 2. OR3, Partners 3. Logistics, OR3 4. Logistics, OR3 5. Logistics, Finance, OR3	1. In progress 2. In progress 3. In progress 4. In progress 5. In progress 6-In progress

APPENDIX B: ACRONYMS

Acronym	Term
ARC	American Red Cross
CalOES	California Office of Emergency Services
DSW	Disaster Service Worker
EHS	Environmental Health and Safety, Santa Cruz County
EOC	Emergency Operations Center, Santa Cruz County
FEMA	Federal Emergency Management Agency
GSD	General Services Department, Santa Cruz County
HSA	Health Services Agency, Santa Cruz County
HSD	Human Services Department, Santa Cruz County
ISD	Information Systems Department
IP	Improvement Plan
OES	Office of Emergency Services, County of Santa Cruz (currently OR3)
OR3	Office of Response, Recovery, and Resilience

APPENDIX C: CONTRIBUTORS

Contributors
County of Santa Cruz
County Administrative Office
Auditor-Controller
Office of Emergency Services
Office of Response, Recovery, and Resilience
Human Services Department
Health Services Agency
Information Services
Parks Department
Public Works
Environmental Health
General Services Department
Partners
American Red Cross
American Medical Response
Ben Lomond Fire Department
Boulder Creek Fire Department
Branciforte Fire Department
Cabrillo College
Cal Fire
California Office of Emergency Services
Central California Alliance for Health
Central Fire
City of Capitola
City of Santa Cruz
City of Scotts Valley
City of Watsonville
Community Action Board of Santa Cruz County
Community Bridges
Community Economic Development
Community Emergency Response Team (CERT), Santa Cruz County Auxiliary
Community Foundation

APPENDIX C: CONTRIBUTORS CONTINUED

Contributing Partners Continued
County of Educations
County Park Friends
Dominican Hospital
Felton Fire District
Kaiser Permanente
Nations Finest – Vets Resource Center
Pacific Gas and Electric
San Andreas Regional Center
Santa Cruz County Fire
Santa Cruz County Sheriff
Santa Cruz Metro
Santa Cruz Regional 9-1-1
Scotts Valley Fire District
Second Harvest Food Bank
Sutter Health
United Policy Holders
United Way 211
University of California, Santa Cruz
Volunteer Center
Watsonville Hospital
Watsonville Emergency Airlift Command Team

APPENDIX D: ACKNOWLEDGEMENTS

- Our heartfelt support and empathy is expressed to all those impacted by the events of this response, the CZU Fire was one of the largest natural disasters to hit Santa Cruz County in its history.
- Thank you to the first responder agencies that played a leading role in this event.
- Gratitude to the many county employees, organizations, and volunteers that worked arduous hours to support the Santa Cruz Community.
- Gratitude to David Brown, Max Umney, Lisa Ehret, Mark Bisbee and the countless other County staff who served to support this AAR/IP development.
- Cover photo, Santa Cruz County, August 16, 2020 Lightning Storm, Paul Babb
- Map of CZU Fire, CalFire press release.
- Evacuation Map, ZoneHaven evacuation management and community support application.
- Hwy 17, Santa Cruz skyline, August 20, 2020, Lisa Ehret

SANTA CRUZ COUNTY OFFICE OF
RESPONSE, RECOVERY & RESILIENCE