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Camp Fire in Paradise, California: A Case Study

Introduction: On November 8, 2018, the Northern Californian town of Paradise experienced the “deadliest and most destructive” wildfire in the state’s history. The Camp Fire led to increased efforts in improved emergency responses to wildfires and encouraged Butte County along with surrounding counties to restructure action plans.

Facts of the Case: On November 8, 2018, at approximately 5:30am, a road located in a town east of Paradise caught fire due to collapsed power lines⁷. The cause of the downed power lines was later found to be deterioration as well as strong winds in the area. The fire was quickly fueled by dry greenery in the county’s forested area until it engulfed a total of 153,336 acres of land - including surrounding towns - and destroyed nearly 18,000 establishments and buildings in the process⁷. From 7:00am to 7:45am, people noticed the sky began to turn orange. First responders and 911 operators began to alerted people of the imminent danger. As Paradise is in the mountains - where there are limited paved roads and alternate escape routes - the evacuation process posed an additional hazard. Once people received word to evacuate, congestion on roads led to standstill traffic, making it difficult for police vehicles to maneuver around and help those in need. The only instruction people initially received was to flee their homes as quickly as possible. After the assistance of California firefighters and firefighters from other states, the fire was eventually contained after seventeen days using tanker aircrafts to drop fire retardant on the flames. The wildfire resulted in an approximate 95% loss of total establishments and settlement areas³. It also forced approximately 52,000 people to evacuate, with a total of 9,000 homes demolished⁶. A total of 30,000-40,000 people were left without homes and 1,000 people were left missing/unaccounted for. As for mortality, the fire took the lives of 85 people, making it the deadliest United States wildfire in the past 100 years⁷. The estimated total cost of the Camp Fire was about \$422 billion dollars with the breakdown attributed to “claims from Camp Fire, total damage/economic losses, insured losses, debris removal, and victim aid”⁸.

Epidemiological Aspects of the Event: There has yet to be epidemiological studies done on the effects of this fire, but statistics have been produced for future studies. California is the top state in the United States to be affected by wildfires and suffers from the highest mortality rate due to wildfires⁹. In 2021, the total number of deaths by fire was 320 and acres burned was 2,233,666⁹. In 2022, California experienced 5,661 wildfires. Butte County has approximately 26,600 residents. Out of those affected by the Camp Fire, there were 85 civilian casualties, 12 civilians injured and five injured firefighters³. The Camp Fire burned 18,000 total structures and of those

that were homes, over 14,000 were rebuilt - prompting about 10,000 people to relocate back into the county in the following years.

Management of the Event: The initial reaction to the fire was unorganized, which caused mass hysteria. The only emergency protocol carried out at the start were fire alerts. There were complaints in the aftermath of the fire that people were not given proper warnings early enough to get to safety quickly, as not everyone was alerted or received alerts too late². This caused an unstructured and overwhelmed reaction to the disaster, causing more danger to arise.

Immediately after the fire was contained on November 25th, law enforcement, firefighters and volunteers were sent out to search for missing people. The Camp Fire became the largest search and rescue mission in California⁷. With support from neighboring communities and assistance from the Federal Emergency Management Agency (FEMA) and organizations such as the American Red Cross, shelters were set up around the county. The California Governor's Office of Emergency Services (California OES) deployed volunteers to aid with additional supplies, services and shelters⁶. Health care workers and veterinarians were distributed for the care of those injured - including animals.

Communications of the Event: During the event, "Camp Fire created a black hole of communication" in that there were many errors in emergency communication, alerts and response⁵. In addition, miscommunications led to unnecessary fatalities⁴. An example was confusion pertaining to whether residents should remain in their homes or immediately evacuate. Despite the lack of epidemiological studies on this fire, there have been several articles analyzing the effects of the Camp Fire that noted an action plan could have been organized more effectively^{1,5}. Media coverage of this event informing the public of the risks in rural, mountainous regions continued months after the fire. Netflix released a documentary film in September of 2019 about residents' perspective on the fires and highlighted the devastation that it caused.

Summary: It is apparent how flawed the emergency alert system was in notifying the public about the fire. Not everyone received alerts of the danger, and some of those who did were forced to leave loved ones behind because of the situation's urgency². Overall, it has been stated that "there was no plan to handle an evacuation on this scale" and a restructure of the emergency response plan must be put in place⁴. Many were trapped and others unaware or skeptical, which is a consequence that can be prevented⁵. Strengthening the lines of communication is extremely important for a disaster of this level, and an emphasis must be placed on proper lead-times for warnings. Another improvement is better road infrastructure - whether that be paving more roads, pathways, and accessibility of escape routes. Geographic location should be considered when creating the new and improved disaster plan for wildfires in the Butte County area as well as similar environments.

References

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