

# EMERGENCY ALERTS and COMMUNICATIONS

## *Toward a Culture of Preparedness*

### SUMMARY

As spring moves into summer, and summer into autumn with its hot wind-flamed days, a sense of apprehension grows in the pits of stomachs. Residents, new and old of Sonoma County, have come to dread the next wildfire season. This 2020-2021 Civil Grand Jury report stems from concern, anxiety and hopes that we can adapt and become better prepared as a county. In our investigation, we looked into the role and effectiveness of the emergency alerts and communications and how they tie into our overall community preparedness for disasters of any kind.

The Grand Jury sought to understand where the gaps in the alerts and emergency communications occur and why. What has been done to reach the underserved populations of the county? The report focuses upon many areas within the County which have experienced the impact of recent wildfires. The questions that drove the investigation were:

- What improvements have been made by the County and cities to emergency communications since the 2017 Tubbs and Nuns Fires?
- Why were emergency communications unreliable in remote areas?
- Does everyone know how to sign up with SoCoAlerts and/or Nixle - what phones and technology work best?
- Do residents know their evacuation zones and why have the evacuation maps been unreliable or confusing?

Finally, why do people still seem frustrated and confused by the alerts while County government, cities, and the Fire Districts seem confident about their progress with the alert systems and emergency communications? *What do they know that we don't know?*

The investigation looked at how the County government supports-community preparedness efforts through its administrative diligence in updating key documents and in securing needed funding. This administrative oversight role pertains to any potential disaster; wildfires, floods, hazardous materials, earthquakes, the collapsing of dams, and public health crises.

The Grand Jury learned of concerns from interviews with emergency first responders. All expressed their certainty of another fierce wildfire occurring such as the Tubbs Fire: that it is not a matter of *if* but of *when*. They shared their concerns about the human limitations in fighting such a force of nature, and how their jobs as firefighters and police would become not about battling the blaze, but getting people out of harm's way, and protecting their own personnel as well.

With each succeeding emergency event, the County Department of Emergency Management (DEM), the Sheriff's Office and city Police and Fire Departments have adapted their use of emergency communications. However, the Grand Jury found that not all cities and agencies

have updated their Emergency Operations Plan (EOP) with the new findings. In addition, the County’s EOP of 2014, overdue for an update, is being revised and under review. This is important because the cities and agencies either rely upon the County’s EOP or use it as a base to create their own local EOPs. In effect, both the County and the local EOPs are an extension of the State of California’s Emergency Operations Plan.

In parallel, the County’s DEM, fire agencies, and many others are reaching out to educate the general population and to encourage their personal preparations. It is in this area that the Grand Jury recommends greater effort be applied. With the threat of large-scale events—mega fires, a major earthquake, extended power outages—first responders would be quickly overwhelmed and residents would be on their own and cut off from the usual assistance. In light of this, residents share in the responsibility for emergency preparedness in partnership with local government. They can organize into neighborhood groups, fire hardening homes, create vegetation setbacks, and stay informed. By working together and adopting emergency preparedness as an ongoing process, the entire community will improve its resiliency. Signing up for alerts and warnings, knowing evacuation zones, and being connected with neighbors will make living here safer and more secure in this time of increased wildfires.

For a comprehensive reference on emergency preparedness, valuable resources, contact information, and to sign up for alerts, see the [SoCo Emergency](#) website or Appendix A at the end of this report.

## **SUBSEQUENT EVENTS**

We want to acknowledge that on May 21, 2021 the County and the nine cities updated their Evacuation Maps with zones. To view; go to SoCo Emergency or city websites for the zone of your home, work, or children’s schools.

## **GLOSSARY**

- ARES Amateur Radio Emergency Service
- BOS Board of Supervisors
- CAL FIRE California Department of Forestry and Fire Protection
- CERT Community Emergency Response Teams
- COAD Community Organizations Around Disasters
- COPE Citizens Organized to Prepare for Emergencies
- DEM Department of Emergency Management
- EAS Emergency Alert System
- EMS Emergency Medical Services
- EOC Emergency Operations Center
- EOP Emergency Operations Plan
- FEMA Federal Emergency Management Agency
- Fire Agencies County and City Fire Departments or Fire Districts
- IPAWS Integrated Public Alert & Warning System
- Nixle Email, text, and web messages from local fire and law enforcement agencies that include public safety messages as well as emergency information.
- NOAA National Oceanic And Atmospheric Administration

- PSPS Public Safety Power Shutoff
- REDCOM Redwood Empire Dispatch Communications - 911 Fire and EMS dispatch
- SoCoAlerts Sonoma County Alerts
- SoCo Emergency Sonoma County Emergency and Preparedness Information
- Sonoma County 2-1-1 Information and referral service for Sonoma County. During times of disaster, 2-1-1 provides incident-specific information.
- WEA Wireless Emergency Alerts

## BACKGROUND

### The Experience of Sonoma County

Sonoma County has made rapid progress with its alert and warning systems, expanding and refining its capabilities with use of technology and striving towards an integrated approach using multiple systems. This is not surprising, looking back at the series of wildfires and floods. Our County is among the top of the approximately 25 fire-prone counties of California, with higher populations and more frequent disaster threats; these counties have worked to develop the best tools and best practices around the State.



The Counties of San Diego, Santa Cruz, Santa Barbara, and Sonoma stand out for their combined use of both low-tech and high tech alerts:

- Opt-in Alert - Nixle and SoCoAlerts
- Non-opt-in systems that broadcast over a defined geography - IPAWS (WEA, EAS, and NOAA)
- Community Emergency Response Team (CERT) program communications and preparation for emergencies
- Air raid Sirens (sometimes installed for special safety zone alerts, such as at refineries in Contra Costa or the nuclear power station in San Luis Obispo)
- Amateur Radio Emergency Service (ARES) or Ham Radio, as in Santa Cruz

This follows the strategy of using multiple methods to reach the broadest group of residents. Sonoma County has applied all of these tools and techniques, to some degree. The primary opt-in alert tool, SoCoAlerts is much like other county alert systems (e.g., AlertMarin, MendoAlert, SacramentoAlert, Alert San Diego, *et al*). Many counties, including Sonoma, use a dual system of these tools plus Nixle in their opt-in communications. Many California Counties have worked with the Federal alert tools (IPAWS) to adapt its use for their local messages and alerts.

These same Counties have also advocated for localized community response groups such as CERT. In Sonoma County, fire agencies have been instrumental in their support of community preparedness groups, such as Citizens Organized to Prepare for Emergencies (COPE). This is an on-going effort that has best traction in areas of the county that are at highest risk. The Auxiliary Communications Service (ACS) of 125 volunteers operates under the Department Emergency Management (DEM) and gives added support to emergency communications between the county and outlying areas. Trained in all aspects of communications from amateur radio to satellite and cellular phones, the ACS is an invaluable resource.

Sonoma County is making use of most of the tools, and has become more proficient at using them in recent years. However, there remains opportunity to continue to develop the types of alerts and the procedures employed with each, along with creating enough redundancy in the alert systems, so they may benefit all segments of the community.

### **New Statewide Warning Guidelines Issued in March 2019**

The State of California issued the California Alert & Warning Guidelines (Guidelines) in response to the increasingly dire fire seasons throughout California, starting with 2017. The previous alert systems had proved inadequate and inconsistently applied. Echoes of the landline era quaintly remain in the new Guidelines with the inclusion of low-tech alerts like church bells and foghorns to warn residents. The Guidelines state:

*“A comprehensive alert and warning program is a critical component to a community’s ability to effectively respond to emergencies. With recent disasters in California highlighting the differences and inconsistencies among various alert and warning programs across California, emergency management leadership representing California’s Standardized Emergency Management System identified the need to establish statewide guidelines for the purpose of enabling and encouraging consistent application of alert and warning best practices, procedures, and protocols.”*

The guidelines include all manner of warnings: the state of the art in wireless technology, the IPAWS federal alert system developed in 2012, along with low-technology systems such as NOAA radios, air sirens, loudspeakers, and door-to-door notification for rural areas. The Guidelines advise on making sure that redundancies are built in for local emergency alert plans.

Local jurisdictions are tasked with enacting ordinances and developing policies for roles and responsibilities in disseminating emergency alerts. San Francisco Bay Area Counties, of which Sonoma County is part of, is responsible for submitting annually a Local Emergency Alert System Plan (EAS Plan) to the State EAS Committee. All local entities are to coordinate closely with one another to become familiar with all alert and warning systems prior to an emergency.

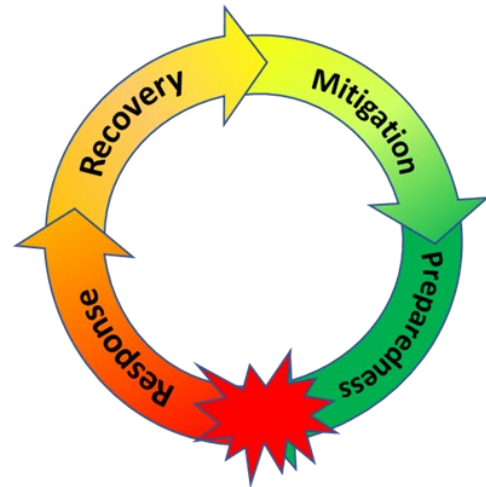
A model Local Alert and Warning Plan which supports the jurisdiction Emergency Operations Plan is appended to the state Guidelines. It covers such topics as the maintenance of 24/7 staffing for emergency alerts, training, a backup emergency system, periodic testing of the emergency alert systems, as well as requiring After Action Reports after an officially declared emergency, either by the state or a local entity. Sonoma County is currently updating its EAS Plan to submit to the State.

## The Emergency Management Cycle

It takes up to 10 years or more for a community to recover from a major disaster. Comparative studies have looked at the impact of disaster recovery in places as diverse as Haiti, Christchurch New Zealand, and New Orleans with Hurricane Katrina. There is greater understanding about how and why communities recover differently and how communities can “Build Better”<sup>1</sup> afterwards. Recovery has more to do with the conditions existing prior to an event, such as economic resources, capacity, and social capital, than the event itself. On one hand Sonoma County is strong in all these ways and we have the ability to rebound successfully; however; recurring fires make recovery more difficult with people deciding to move to less threatened locations.

The emergency management cycle illustrates an ongoing process, with no beginning or end, that organizations and individuals can plan for and take steps to reduce the impact of disasters.

- Mitigation: Activities designed to reduce the effects of a major disaster and future ones. For wildfires, clearing vegetation and hardening of homes.
- Preparedness: Activities, programs and systems that exist before an emergency and are employed to enhance response to any emergency or disaster. Including emergency communications, neighborhood groups, family plans for evacuation, plans for pets and livestock, and “go bags”.
- Response: Activities, agencies, and first responders addressing the immediate effects of the onset of a disaster. Firefighters, Red Cross, and police deployed and residents evacuating.
- Recovery: Long-term activities and programs to return systems and support the community back to a normal status. Planning for ways to avoid future emergencies.



Communities can be in several places of the cycle at the same time and for differing lengths of time. Sonoma County currently is in mitigation, preparedness and response and recovery – all at the same time! We are preparing for the next fire with mitigation and preparedness efforts, responding to the Covid-19 health crisis, and still recovering from the previous wildfires.

### It Is Not Just Wildfires That Create an Emergency Situation

While in recent history the focus of emergencies in Sonoma County has been on wildfires, the dangers caused by flooding, earthquakes, and tsunamis must not be overlooked. Residents need to prepare for these disasters as well, along with knowing about evacuation routes and emergency communications.

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<sup>1</sup> Sendai Framework for Disaster Risk Reduction 2015-2030. adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015

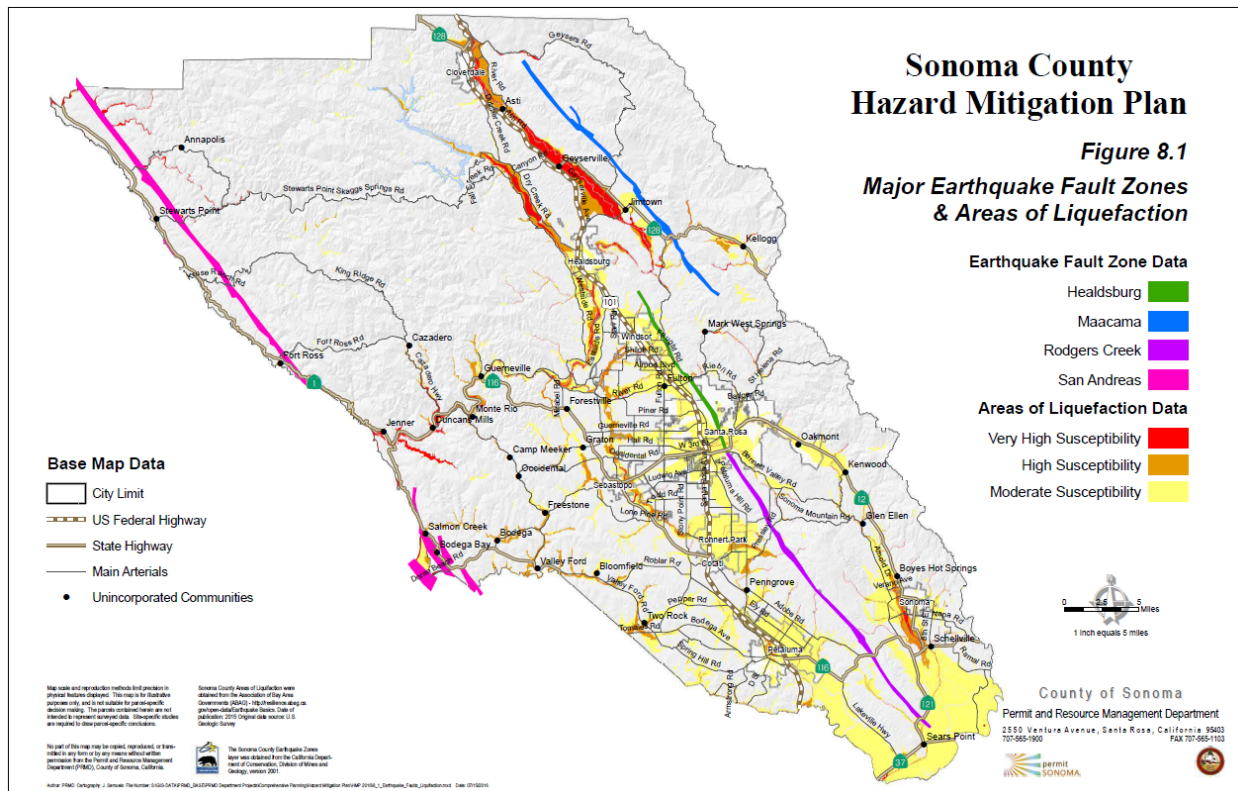
## Earthquakes

Sonoma County has experienced a few strong earthquakes over the years. The first notable one was the 1906 San Francisco earthquake on the San Andreas Fault, destroying a large portion of downtown Santa Rosa with a magnitude 7.9. It happened again in 1969, when the Rodgers Creek Fault, which passes beneath Santa Rosa, damaged many structures with a pair of back-to-back earthquakes at a magnitude 5.6 and 5.7. According to the U.S. Geological Survey (USGS), the Rodgers Creek fault has a potential for strong shaking from an earthquake. They gave a 33% probability of at least one large earthquake (magnitude 6.7 or greater) occurring on this fault or the adjoining Hayward Fault by the year 2043.

Sonoma County has four major earthquake zones:

- Healdsburg – running east of Cloverdale south towards Mark West Springs
- Maacama – running just east of Hwy 101, south of Healdsburg to central Santa Rosa
- Rodgers Creek – running from central Santa Rosa south past Sears Point
- San Andreas – running just south of Bodega Bay along the coast into Mendocino County

There is a potential for an earthquake to happen in any part of Sonoma County. Residents need to be prepared to receive emergency alerts, warnings, and notifications. They also need to know routes of potential evacuations. Individuals can receive automated notification emails from the [Earthquake Notification Services](#) (ENS) when an earthquake happens in their area. The default to receive this notification is a magnitude 6.0 or greater earthquake.



Source: SoCo Emergency website

### *Flooding in Sonoma County*

Flooding in Sonoma County is a common occurrence during the rainy season. Every community has the potential to be impacted by a flood. It destroys homes, blocks roads, disrupts agricultural lands, and isolates whole communities. It turns roads to streams where boats become the only mode of transportation. Heavy rainfall in 2017 caused a series of floods throughout California; Northern California saw its wettest winter in almost a century, breaking records set in 1982-1983.

### *Russian River*

The Russian River is one area of concern every year as the rains move into Sonoma County. The Russian River starts just east of Willits in Mendocino County, moving into Sonoma County north of Cloverdale. South of Healdsburg, it receives water from Lake Sonoma via Dry Creek. As it continues past Forestville, Rio Nido, Guerneville and Monte Rio it picks up water from Mark West Creek, Green Valley Creek, and Austin Creek. After passing Duncans Mills, it flows into the Pacific Ocean between Goat Rock Beach and Jenner.

The Russian River Flood Stages are as follows ([Sonoma Water website](#)):

- NORMAL FLOW CHANNEL - The flow based on average channel depth in winter months (November - February).
- MONITOR STAGE - The stage at which initial action must be taken by concerned interests. This level may produce overbank flows sufficient to cause minor flooding of low-lying lands and local roads.
- FLOOD STAGE - The Stage at which overbank flows are of sufficient magnitude to cause considerable inundation of land and roads and/or threat of significant hazard to life and property.

In recent years, the Russian River has risen above flood stage causing the evacuation of communities, blocking roads, and inundating agricultural lands. In February 2019, flooding impacted large parts of Sonoma County when the Russian River crested at 45 feet, 13 feet over flood stage.

### *Warm Springs Dam*

With the construction in 1983 of the Warm Springs Dam across Dry Creek, Lake Sonoma was born. When full, the lake has more than 2,700 acres of surface area, 50 miles of shoreline, and holds 381,000-acre feet of water. Built and maintained by the U.S. Army Corps of Engineers, the dam is a rolled-earth embankment dam at 319 feet high, 3,000 feet long, and 30 feet wide at the top. The dam produces electricity from its hydroelectric plant and aids in flood control. Thankfully, Sonoma County has not yet experienced an emergency when it comes to our dams.

### *Spring Lake*

As part of the Central Sonoma Watershed project in 1964, Sonoma Water constructed Spring Lake as a flood protection reservoir. Unlike Warm Springs Dam, it consists of three steel and concrete dams, spillways, and channels. The lake helps divert floodwaters from the springs and Santa Rosa Creek to alleviate flooding in downtown Santa Rosa. In 1986, according to the Sonoma Water website, Spring Lake exceeded its capacity resulting in floods.

## Tsunamis

A tsunami is a series of waves or surges that may be generated by earthquakes along subduction zones around the rim of the Pacific Ocean or submarine faults causing vertical movement of the sea floor. They have the potential of traveling 20-30 miles per hour with waves forming 10-100 feet high. The [NOAA - U.S. National Tsunami Warning Center](#) (NTWC) provides reliable detection, forecasts, and warnings to promote public safety.

While tsunamis are rare, residents still need to be prepared. Tsunami inundation areas in Sonoma County have been identified as:

- Bodega Head Quadrangle – Valley Ford Quadrangle (Salmon Creek, Bodega Bay)
- Arched Rock Quadrangle– Duncan Mills Quadrangle (Jenner, Ocean View)
- Sears Point-San Pablo Bay National Wildlife Refuge (Up Sonoma Creek to the west & Petaluma River to the east)

## Wildfires, Floods, and Public Health Crisis

After four years of repeated emergencies, Sonoma County has well earned its “Sonoma Strong” badge. A sequence of emergencies began in early January of 2017 when the Russian River rose 3 ft. above flood stage in Sonoma and Mendocino Counties, inundating 500 homes in Guerneville, leading to the evacuation of 3,000 residents. Later in October, the Sonoma LNU Complex Fires, best known as the Tubbs and Nuns Fires, tore through the County destroying 5,400 homes with a loss of 22 lives. While 2018 was a relatively quiet year, the skies became smoke-filled and ominous from the Mendocino Complex and Camp Fires. The next year 2019 ushered in two major winter storms in February each with more flooding of the Russian River. This was followed in October with four PG&E power shutoffs and the Kincade Fire where 77,758 acres burned, 374 structures (including 174 homes) were lost, one-third of the County was evacuated (190,000 residents) but thankfully there were zero deaths.

Since 2015, Sonoma County has made CAL FIRE’s Top 20 lists in all three categories; most destructive, deadliest, and largest; including having the dubious distinction five times of being in the Top 20 Most Destructive category. (Figure 1 below)

It’s not always worth being in the “Top 20”

Date	Fire	County	Acres	Structures* Damaged	Structures* Destroyed	Deaths	CalFire Top 20 lists
Sep 2015	Valley	Sonoma, Lake, Napa	76,067	93	1,955	4	#6 - Top 20 Most Destructive
Oct 2017	Tubbs	Napa, Sonoma	36,807	317	5,636	22	#2 - Top 20 Most Destructive #4 - Top 20 Deadliest CA Wildfires
Oct 2017	Central LNU Complex (Nuns, Adobe, Norrbon, Pressley, Partrick, Oakmont)	Napa, Sonoma	54,382	172	1,355	3	#13 - Top 20 Most Destructive
Oct 2019	Kincade	Sonoma	77,758	60	374	0	Largest fire of the 2019 California wildfire season
Aug 2020	LNU Lightning Complex	Napa, Sonoma	363,220	unkn	1,491	6	#11 - Top 20 Most Destructive #16 - Top 20 Deadliest CA Wildfires # 5 - Top 20 Largest CA Wildfires
Sep 2020	Walbridge	Sonoma	55,209	unkn	334	0	(within LNU Lightning Complex)
Sep 2020	Glass	Napa, Sonoma	67,484	282	1,555	0	#10 - Top 20 Most Destructive

\*Structures include homes, outbuildings, and commercial properties destroyed.

Figure 1 – Source: CAL FIRE

Toward the end of 2019, in response to the homelessness crisis with the encampment on the Joe Rodota Trail, the Emergency Operations Center (EOC) was activated and would remain open through February of 2020. The arrival of Covid-19, in mid-March 2020, further compounded the emergencies for the year 2020. From August through October, the Walbridge and Glass Fires and several other fires burned approximately 125,000 acres and destroyed 334 homes in the County. Responding to the Covid-19 crisis and wildfires, the EOC was open a record 123 days.

### **The Board of Supervisors Expand the Department of Emergency Management**

These intense years of coping with a variety of natural and man-made disasters have made an impact upon the local government and the residents of Sonoma County. With so many people in our county experiencing grief and trauma; with the loss of homes, businesses, and overwhelmed first responders; our county has been hard hit and stretched to its capacity. Out of this, however, has developed a resolve to meet the devastation at hand by organizations and local governments and individual's communitywide. It is commonly understood among professionals and organizations involved in disaster relief that it can take a community anywhere up to ten years or more to fully recover. What may not be fully understood is what happens when the disasters keep happening?

In response to the longer fire season and extreme weather events, the DEM became an independent county department in July of 2019, under the direction of the Board of Supervisors (BOS) and County Administrator's Office. Its increased staff now also includes a Community Preparedness Program Manager, a Community Alert & Warning Manager, and dedicated technicians for alerts and other needs. Its areas of focus are: mitigation, preparedness, planning, coordination of response, and recovery activities related to emergencies and disasters. For planning, the DEM oversees and maintains the Sonoma County/Operational Area Emergency Operations Plan (2014), with the oversight of the Emergency Council.

### **Emergency Operations Centers**

The Sonoma County Operational Area EOC, located at the county government campus, dates back to 1974 and was remodeled in 2004 for dual use as a computer-training center during nonemergency times. The EOC is equipped with a Local Area computer network, communications equipment, an EAS transmitter for local emergency alerts, a twelve-line Public Information Hotline, and a wireless local area network. During an emergency, Auxiliary Communications Operators (ACS) will link the County EOC to its volunteer network throughout the county. The EOC is activated only at times of emergency and will have up to 75 individuals working at its center.

Cities within Sonoma County also activate local EOC's during disasters. These city EOCs maintain vital communication with the County to ensure coordination amongst all disaster responders.

### **Overview of Firefighting: County Firefighters and CAL FIRE**

During an emergency, a local Fire Department will be the first responder to a disaster site. If this should evolve into a much greater emergency that requires additional support, the Fire Chief becomes the Incident Commander in charge of the firefighters from outside their area until the arrival of CAL FIRE, who will assume lead of the Incident Management Team under Unified

Command<sup>2</sup>. There may be a representative from the local Fire Department who goes to the County EOC to assist with their staff about the fire conditions.

The County EOC handles logistical needs for the firefighting crew at the Incident Command Base; everything from food to supplies and equipment. At the EOC site, dedicated communications staff keep the public informed through a variety of alert systems. They coordinate the messages with the other city EOCs and departments as well as the County Sheriff's Office.

By 2019, Nixle was in full use, there was a fully staffed County EOC, and each city had its own EOC, many with a dedicated Public Information Officer (PIO) to handle alerts and communications. Using the Incident Command Structure<sup>3</sup> as its organizational base, the Fire and Police Departments have worked to more closely align themselves to this structure, which is also adhered to by CAL FIRE. Every Police Chief and Fire Chief we interviewed for this report explained in detail how their departments followed this structure and how it enables a ready and coordinated response. Everyone knows their job and whom to report to.

## **Alert Systems in Sonoma County**

### *SoCo Emergency*

Operating under Sonoma County's Department of Emergency Management (DEM), [SoCo Emergency](#) supplies emergency information regarding but not limited to: evacuation orders, active alerts and warnings, links to road closures, pandemic information, and police and fire departments. This site also provides information on how to prepare for and recover from a disaster.

### *SoCoAlerts*

[SoCoAlert](#), managed by the DEM, is a free emergency notification service which provides information about public safety, property or the community's welfare. It gives Sonoma County the ability to utilize a library of preformatted messages to quickly send in an emergency.

This provides the County's first responders a greater ability to notify residents and businesses through a broader medium using landline and mobile phone, text message, email, and social media regarding time-sensitive, geographically specific emergency notifications. The system also works with devices for the hearing impaired.

### *Nixle*

Nixle is a service used by the Sheriff's Office, city law enforcement, and fire agencies to send email and text messages that include public safety messages as well as emergency information. While each subscribing agency determines how they will utilize the messages, they also recognize the system has limitations. An example of this is the limited amount of data that can

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<sup>2</sup> Unified Command - In the incident *command* system, a *unified command* is an authority structure in which the role of incident commander is shared by two or more individuals, each already having authority in a different responding agency.

<sup>3</sup> Incident Command is a standardized approach to the command, control, and coordination of emergency response providing a common hierarchy within which responders from multiple agencies can be effective.

be sent with each alert. As messages are targeted to specific geographic regions based on cell phones and email accounts, there is the possibility to receive messages outside the designated emergency area.

As with SoCoAlerts subscribing agencies have the ability to utilize a library of preformatted messages to quickly send them in an emergency. Messages are created and assigned a priority level to ensure important information reaches the public.

#### Nixle Guide for Law Agencies

Level of Notification	Description	Examples	Geo Fence	Contact method	Message Type
<b>Tier 1 – General Information</b>  Responsibility: PIO team	General Awareness Information	<ul style="list-style-type: none"> <li>Community Events &amp; Awareness</li> <li>Low Impact Police Activity (arrest, investigations)</li> </ul>	None	Community Type: <ul style="list-style-type: none"> <li>✓ EMAIL</li> <li>✓ Social Media</li> </ul>	
<b>Tier 2 – Low Urgency</b>  Responsibility: Patrol/Dispatch (PIO Team if available)	Medium Level Warning: Impact the Residents but NON-Threatening	<ul style="list-style-type: none"> <li>Road Closure due to Police Activity (avoid the area, in progress event)</li> <li>BOLO Suspect (Limited threat)</li> </ul>	<ul style="list-style-type: none"> <li>Geo Fence 5 mile radius.</li> <li>IC to define</li> </ul>	Advisory Type: <ul style="list-style-type: none"> <li>✓ SMS</li> <li>✓ Email</li> <li>✓ Facebook</li> </ul>	
<b>Tier 3 – High Urgency Requires Immediate Action</b>  Responsibility: Dispatch (PIO Team if available)	Severe Threat: Requiring Action Taken, Immediate Threat to Life/Property	<ul style="list-style-type: none"> <li>Evacuation</li> <li>Shelter in Place</li> <li>BOLO Suspect, imminent threat</li> <li>Missing Child/Person, extraordinary circumstances.</li> <li>Active Shooter</li> <li>Major Incident</li> </ul>	<ul style="list-style-type: none"> <li>IC to define</li> <li>IC to define</li> <li>IC to define</li> <li>1 mile per hour missing, depending on mobility.</li> <li>None</li> <li>None</li> </ul>	Alert Type: <ul style="list-style-type: none"> <li>✓ SMS</li> <li>✓ Email</li> <li>✓ SoCoAlert</li> <li>✓ Social Media</li> <li>✓ WEA/EAS Alert (if directed by W/C)</li> </ul>	

Note: Issuing an ALL CLEAR should be issued for evacuations, shelter in place, when a major thoroughfare (HWY 101 & HWY 12) is reopened or when any incident needs an official closure message.

Source: Emergency Management 2019 Annual Report

#### Nixle Guide for Fire Agencies

Level of Notification	Description	Examples	Geo Fence	Contact method	Message Type
<b>Tier 1 – General Information</b>  Responsibility: PIO/Office staff as appointed	General Awareness Information	<ul style="list-style-type: none"> <li>Community Events &amp; Awareness</li> <li>Low Impact Activity (vehicle accidents, fires, investigations, localized flooding, street closures)</li> <li>Prescribed burning/Vegetation management recommendations</li> <li>Drift smoke</li> </ul>	None	Community Type: <ul style="list-style-type: none"> <li>✓ Email</li> <li>✓ Social Media</li> </ul>	
<b>Tier 2 – Low Urgency</b>  Responsibility: PIO/Office staff as appointed	Medium Level Warning: Impact the Residents but NON-Threatening	<ul style="list-style-type: none"> <li>Road Closure due to Fire Activity (avoid the area, in progress event)</li> <li>Train/Aircraft/MCI incident</li> <li>Landslides</li> <li>Red Flag Warning</li> <li>Fire related incident impacting dispatch services</li> </ul>	<ul style="list-style-type: none"> <li>Geo Fence 5 mile radius</li> <li>Geo Fence 5 mile radius</li> <li>Geo Fence 5 mile radius</li> <li>Countywide</li> <li>Countywide</li> </ul>	Advisory Type: <ul style="list-style-type: none"> <li>✓ SMS</li> <li>✓ Email</li> <li>✓ Social Media</li> </ul>	
<b>Tier 3 – High Urgency Requires Immediate Action</b>  Responsibility: PIO/Office staff as appointed	Severe Threat: Requiring Action Taken, Immediate Threat to Life/Property	<ul style="list-style-type: none"> <li>Hazmat</li> <li>Major Incident</li> <li>Evacuation/Shelter in Place*</li> </ul> <p>*Coordinate with Law/Sheriff</p>	<ul style="list-style-type: none"> <li>IC to define</li> <li>IC to define</li> <li>IC to define</li> </ul>	Alert Type: <ul style="list-style-type: none"> <li>✓ SMS</li> <li>✓ Email</li> <li>✓ SoCoAlert</li> <li>✓ WEA/EAS Alert</li> <li>✓ Social Media</li> </ul>	

Note: Issuing an ALL CLEAR should be issued for evacuations, shelter in place, when a major thoroughfare (HWY 101 & HWY 12) is reopened or when any incident needs an official conclusion message.

Source: Emergency Management 2019 Annual Report

#### Wireless Emergency Alerts – WEA

[Wireless Emergency Alerts](#)(WEA) are free messages sent directly to cellular phones in a geographically targeted affected area. WEAs are sent by state, local public safety officials, the National Weather Service, the National Center for Missing and Exploited Children, the U.S. Geological Survey, and the President. They have a limited number of characters and notifications are designed to get your attention and alert users with a unique sound and vibration. The unique sound and vibration cadence are particularly helpful to people with visual or hearing disabilities.

WEAs are one-way alerts to any cell phones in range of the cell tower, which ensures that authorities cannot collect any data from an individual.

### *Emergency Alert System*

The [Emergency Alert System](#) (EAS) is a national public warning system that requires radio and TV broadcasters, cable TV, wireless cable systems, satellite and wireline operators to provide the President with capability to address the American people within 10 minutes during a national emergency. These are the messages most of us are aware of as the messages can interrupt radio and television to broadcast the emergency alert information.

## **METHODOLOGY**

This is a self-initiated investigation by the 2020-2021 Sonoma County Civil Grand Jury.

The Grand Jury held interviews with:

- Representatives from law enforcement and fire agencies
- Appointed and elected officials and governmental department heads

The Grand Jury reviewed and evaluated documents from a wide range of sources addressing emergency communication and evacuations including Emergency Operations Plans, After Action Reports, Alert and Warning systems, Newspapers and regional news sources, as well as websites from County and City departments and agencies.

## **DISCUSSION**

### **On the Receiving End**

Communication shortcomings during the many emergencies have been of grave concern for everyone in the county. Broadband access remains uneven throughout Sonoma County because of its unique topography, and this affects the reliability of emergency notifications. The 2017 Grand Jury Report “October Firestorm Emergency Response” captures the lack of developed infrastructure for emergency preparedness of Sonoma County at that time.

### *Communication Breakdown of County Agencies During the 2017 Sonoma Complex Fires*

During the Tubbs Fire, Police and Fire Departments found their radios unable to connect to one another or to other fire crews arriving from out of the area. The extreme conditions of the fires made communications chaotic as firefighters were overwhelmed at the front lines and police were focused primarily upon evacuating residents. Communications between the County EOC and the city EOCs was inadequate in meeting their needs. The emergency notification systems did not reach most residents in time, nor had residents or the county agencies held recent trainings or practice drills for preparedness.

Residents were unable to find updates online or with their cell phones about the fires or the evacuations. There were widespread power outages and further problems compounded by the conditions of thick smoke, strong winds and the rapid speed of the fire. Navigation for the fire engines at Coffey Park was difficult. Residents drove their cars literally through flames and falling embers and tree limbs. There was a fundamental lack of widespread notifications such as Hi-Lo Sirens on police cars, or public sirens. In its place, door-to-door notifications were employed by police and firefighters and others whose heroic effort saved countless lives.

## *How Technology Plays a Role in Residents' Response to an Emergency*

For the residents living in Sonoma County, some in remote areas, others in neighborhoods, just how to respond to an emergency and knowing what to do has not always been clear. Some of the reasons for this include:

- Lack of dependable access to broadband (see companion report *Broadband Access in Sonoma County*)
- Not enough ongoing specific information in local newspapers and press releases about Nixle, SoCoAlerts, NOAA radios and other emergency alerts: how they function, what they do, how to sign up, and who needs which alert system
- Confusion about the evacuation zones
- Inconsistencies in receiving messages through Nixle or SoCoAlert
- Multiple non-emergency Nixle messages from different agencies about community news and police activity in addition to the alerts and warnings
- Not knowing where to get updates and news during power outages
- Isolation due to the suspension of normal activity during an emergency and being cut off from other people
- Not having up-to-date phones or computers
- Being unprepared for an emergency and overwhelmed by the situation

While the police and fire departments and other emergency responders have worked to build redundancies into their communication systems, residents do not always have the resources or know-how for going about this for themselves.

### *Evacuation Alerts and Notifications*

Evacuations require a concentrated and coordinated effort on the part of fire and police departments and emergency personnel. Numerous emergency alerts and communications will be sent out repeatedly. During fast-moving fires, these notifications become critical to the success of timely evacuations and lives saved.

In 2017 and 2018, the massive scale of the fires and evacuations throughout the state of California exposed inconsistencies of the evacuation messages used by local governments that often led to confusion by the public at a critical time. In response, the California Governor's Office of Emergency Services brought together an Evacuation Terminology Working Group<sup>4</sup> and in May of 2019 the Governor's Office announced new standard evacuation terminology be used throughout the state.

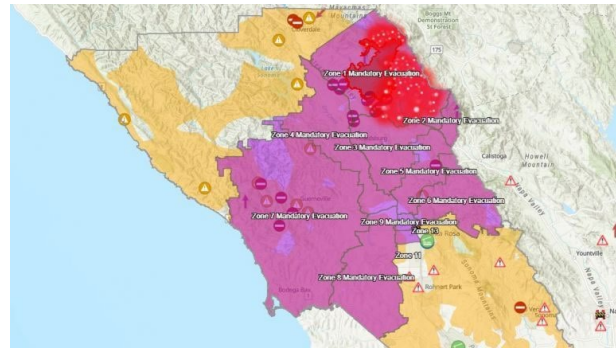
The evacuation conducted for the Kincade Fire in 2019 was by far the largest with about 190,000 residents, or one-third of the county's population. Because it was not a fast-moving fire, the County was able to sequence the alerts which gave residents plenty of time to prepare and get ready to leave. All in all, compared to the 2017 Tubbs Fire, the emergency response was more successful and the increased staffing at the EOC and agency partnerships helped in the

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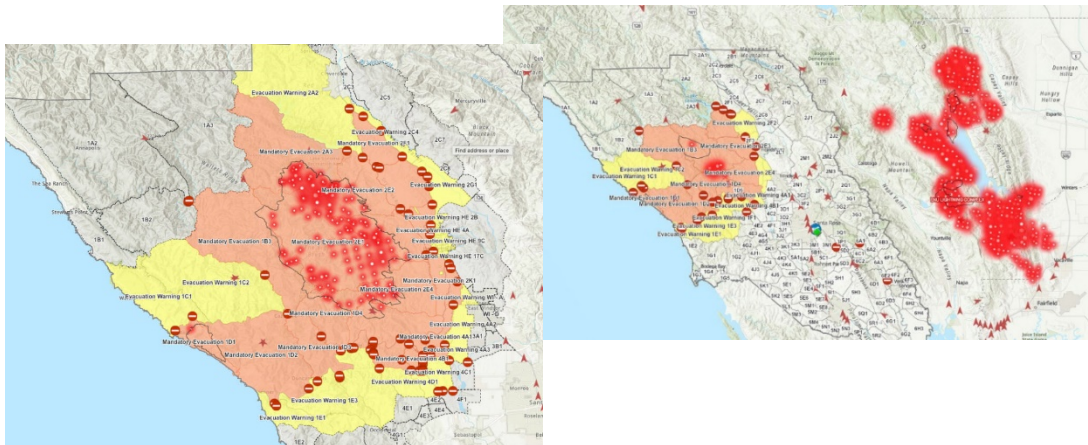
<sup>4</sup> On March 4, 2019, the California Governor's Office of Emergency Services convened law enforcement representatives of FIRESCOPE.

consistency of emergency alerts, the evacuations and in setting up shelters. While there was a loss of homes and structures, there were no lives lost this time.

The unusual electrical storm that moved through northern California on August 15 - 16<sup>th</sup> of 2020 sparked numerous small fires and larger ones, leading to the unprecedented event known as the LNU Lightning Complex Fires (including Glass Fire). There were two major fires in Sonoma County, the Walbridge Fire north of Austin Creek State Park and the Meyers Fire southeast of Fort Ross. Over forty separate emergency messages were sent out to the community, and residents who lived closer to the fires were evacuated. This was the greatest number of messages ever sent out by the EOC to date. Even so, there were residents who did not receive the warnings or emergency notifications to evacuate. For others, it was unclear as to where the fires exactly were in proximity to their homes. In checking County and local websites, residents were directed to ARCgis.com, a mapping website, which at times was not reliable because of connectivity issues and the timing of the updates. The evacuation maps sent out with the alerts caused confusion too; there were differing zones between agencies, such as the County of Sonoma and City of Santa Rosa. There appeared to be other discrepancies in the alerts and unclear expectations for information.



*Kincadee Fire Evacuations*



2020 Walbridge Fire as part of the LNU Lightning Complex

### *University of Florida Survey*

The unusually large number of people evacuated and the size of the Kincadee Fire created a data gold mine that caught the attention of a group of international researchers at the University of Florida. Under the direction of Professor Xilei Zhao, they conducted a survey of residents living in Sonoma County, with the assistance of the DEM. Its objective was to better understand why residents choose to evacuate and how long they are gone. The results should help Sonoma County – and other counties – and countries to prepare and make plans for future evacuations. The report will be posted later this summer on the University of Florida Transportation Institute Facebook page.

### *Evacuation Maps and Zones*

Evacuation maps pose special challenges. CAL FIRE has its own maps that differ from the Sheriff's Office and local police and fire departments. This is not so much of a problem between these experienced parties, but it does cause confusion from time to time for those unfamiliar with these differing maps.

Then there are the zones. Each part of Sonoma County is divided into zones for the Evacuation Maps used by the County DEM and Sheriff's Office. Some maps utilize an alphanumerical sequence while others use common name designations. Residents are expected to know their zone number. Cities are now playing catch up, creating their own city maps, and dividing their cities into zone quadrants. The Sheriff's Office and DEM are working hard to coordinate between the County map and city maps with a rollout in the near future. All this work should greatly enhance the flow of future evacuations, helping avoid gridlocks and traffic jams. Residents should be able to know where the fires are occurring and more precisely when they should evacuate.



During the Kincade Fire, as one-third of the county evacuated, many experienced frustration with the evacuation maps. At this time, unbeknownst to the evacuees, the Sheriff's Office and the DEM were hard at work upgrading the maps to become interactive and more responsive. However, just before they had completed all their testing, the Kincade Fire started and grew, leading to – in this case - the premature release of evacuation maps.

### **The Reliance Upon Technology**

Behind the scenes of emergency communications lies an intricate system of equipment; cell towers and repeater towers, computer networks, etc. Specially trained technicians and managers operate and maintain these systems and send out the alerts. There are the dispatch operators, public information officers of city and county Emergency Operations Centers, who generate and receive emergency alerts. Their know-how and ingenuity are fundamental to the operations of emergency communications.

### *The Heart of Emergency Communications: Infrastructure*

The elements of emergency communications infrastructure are the equipment required for first responders and their support teams to communicate with one another. This same equipment is used by the emergency response team to communicate with the public.

Infrastructure and its equipment includes:

- Radios: The fire and police agencies use different frequencies that sometimes prevent communication between agencies.
- Network equipment: Necessary to relay the messages between Incident Command or dispatch services and the field personnel.

- Dispatch: Computer Aided Dispatch software and their network equipment, including the Public Safety Answering Point which provides telephone links into the dispatch service.
- Phones: Communicate with the public—including landlines, cellular phone towers, peripheral equipment to provide power, et cetera.

### *What Happens When You Make a 9-1-1 Call*

When a person dials 9-1-1 to report an emergency, the call goes through either a landline or by commercial cell phone towers to a dispatch center. From any of the dispatch centers, a first responder will be contacted in the field by radio (e.g., law officials, fire agency, or EMS/ambulance service) to send help. Their radio request is issued from the dispatch service to area towers that can broadcast the request. The responder similarly reports via radio communications that return to a tower, and then to the dispatch service.

### *Towers and Repeaters*

The infrastructure used for all this 9-1-1 communication includes the intermediary towers and repeaters—devices that receive radio signals at one frequency and transmit them at another frequency at higher power and range—that are distributed throughout the County (see Figure 2 below). These are necessary for broadcasting messages to and receiving from individual responder’s radios. The dispatch desk equipment is located in both County and various city offices, the Sheriff’s Office, the Redwood Empire Dispatch Communications (REDCOM) service, city police, and any city or district fire services or medical/ambulance dispatch services that are not part of REDCOM. There are also microwave and fiber optic communications that are used from base stations to the radio repeaters.

The radio towers and their repeaters, power supplies, and related equipment are the crucial links that transmit radio communications between base stations and radios in the field or simply between radios in the field. Without that equipment, the emergency Incident Command cannot get situational awareness updates and cannot order responders to locations and to take necessary action. Those towers are dispersed throughout the County, to assure coverage. They are commonly put into elevated positions on mountaintops that provide for line of sight microwave connectivity among the regional communications. These elevated placements, however, have the risk of being exposed to the emergency conditions such as fire or wind and becoming destroyed or incapacitated. The Wallbridge wildfire, for example, threatened to destroy the tower on Mount Jackson, and necessitated a stand by fire response teams to protect it. Failure to do so successfully could have disabled parts of the County’s central radio system. Without the County’s central radio system, emergency notifications may become disabled and cannot be sent. This continues to be a real threat today to all radio and emergency communications

In addition to exposure to weather conditions, the equipment must be maintained to assure that it is operating and dependable during emergencies. Periodically, hardware has to be upgraded or, when obsolete, replaced.

The County towers are under the control of the Sheriff’s Office and operated and maintained by the Sheriff’s Office Telecommunications Bureau. The towers serve the Sheriff, REDCOM, and various other County entities from bus communications to fire agencies. The County towers are also used by other agencies for their telecommunications equipment (under contract with the Sheriff’s Office for its installation and maintenance).

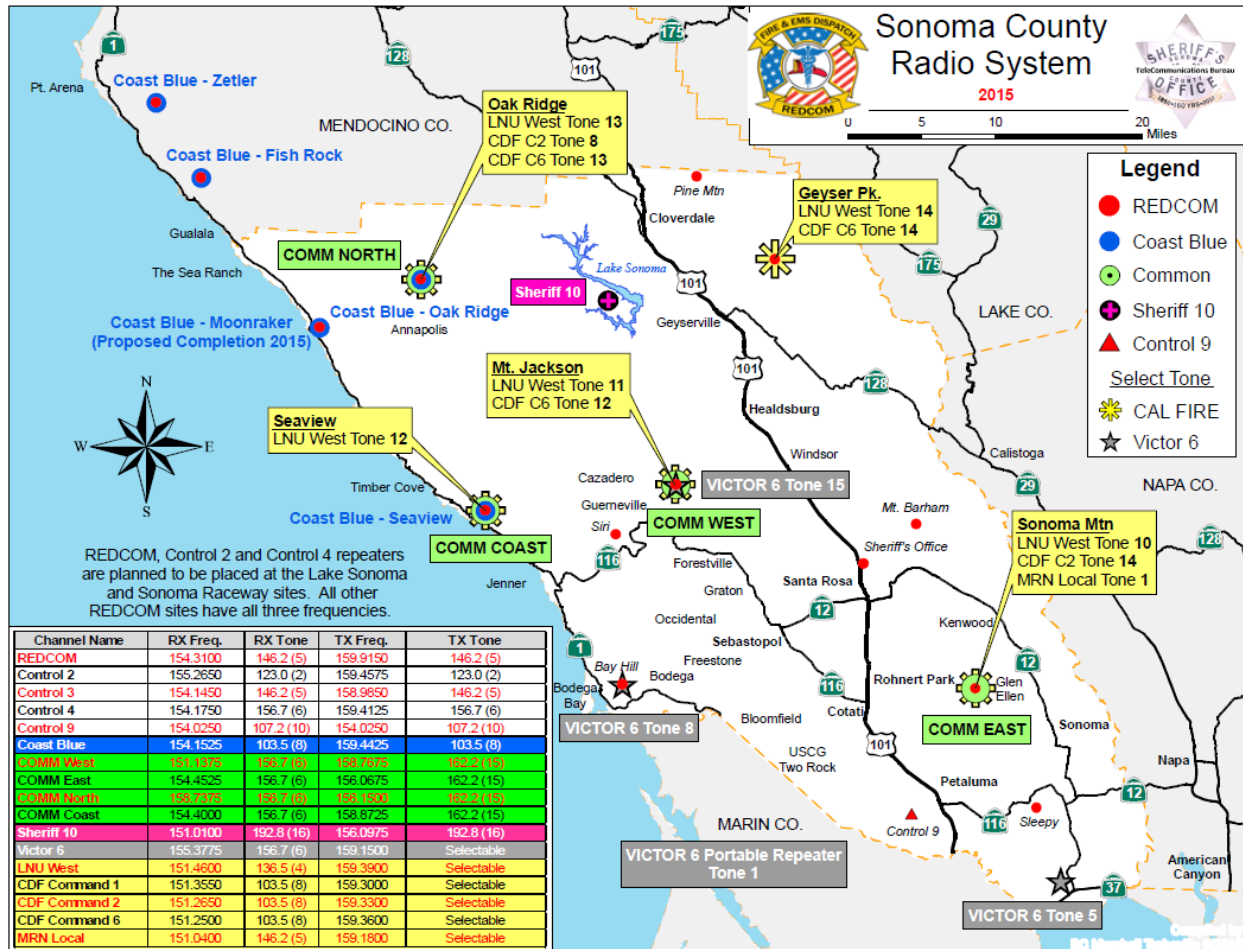


Figure 2 – Repeater Locations Source: REDCOM

**From Few Alerts to Numerous Alerts:**

The Grand Jury heard during the course of this investigation that - *Multiple alerts were intentional – we want people to be bothered.* Sonoma County first responders and the DEM have gained experience from the hard lessons of repeated wildfires. During an emergency, it is their priority for the community to be alerted at the earliest time possible, preferably during the daylight hours. In this way residents can better prepare and make evacuation plans. Using multiple avenues for alerts helps get the message out.

*Redundancy*

Duplicate notifications through both Nixle and SoAlert are designed to mirror each other. However, messages do not stop there, but also through Federal Emergency Management Agency (FEMAs) [Integrated Public Alert & Warning System \(IPAWS\)](#) the use of Wireless Emergency Alerts (WEAs), the Emergency Alert System (EAS), and on the National Oceanic and Atmospheric Administration's Weather Radio (NOAA) which all help to notify the public in times of emergencies.

While they are not an alert and warning system, additional resources are available using app based programs such as PulsePoint, phone and internet information systems like 2-1-1 Sonoma

County. There are also social media sites, under the umbrella of the County, Cities, Board of Supervisors, law enforcement and fire agencies, such as Facebook and Twitter.

There are many benefits when using alerts issued through a variety of public warning systems such as SoCoAlerts and IPAWS. A single emergency alert can trigger a variety of public warning systems, increasing the likelihood that people receive the alert by one or more communication pathways. Multiple messages encourage redundancy of systems to reach various segments of the public and to serve as back up communications in the event of one or more system failures. This is necessary because no one alert system reaches all its targets. The Grand Jury also learned that on average any one alert system may only reach 40% of its targets.

IPAWS indicates The Common Alerting Protocol can:

- Add rich multimedia such as photographs, maps, streaming video and audio
- Geographically target emergency alerts to a defined warning area - limited only by the capacity of the delivery system used
- Serve the needs of people who are deaf, hard of hearing, blind or low vision
- Send alerts in multiple languages

These multiple alerts have assisted residents in their greatest time of need by helping them to understand the disasters and know when to evacuate. They have also helped to reduce the demands on our county police and fire agencies. This can be noted by the dramatic reduction of 9-1-1 calls. (See Figure 3)

911 Calls - Month of Disaster and Month Prior to and After												
	2017 Tubbs Fire			2019 Kincadee Fire			2020 LNU Lightning Complex Fire					
	Sept	Oct	Nov	Sept	Oct	Nov	July	Aug	Sept	Oct		
Sheriff's Office Dispatch	2,394	4,104	2,055	275	2,919	2,461	2,922	2,829	2,809	2,762		
Santa Rosa Dispatch	5,635	8,461	5,487	6,775	7,571	6,033	6,841	6,232	6,384	6,486		
Healdsburg Dispatch	192	206	196	297	285	214	239	220	257	301		
Sebastopol Dispatch	236	256	179	189	296	261	211	297	335	266		
	<b>8,457</b>	<b>13,027</b>	<b>7,917</b>	<b>7,536</b>	<b>11,071</b>	<b>8,969</b>	<b>10,213</b>	<b>9,578</b>	<b>9,785</b>	<b>9,815</b>		
<b>REDCOM Dispatch*</b>												
911 & abandoned calls	2,394	6,027	3,173	3,462	4,510	2,027	3,388	3,853	3,903	4,157		
10 dig & abandoned calls	2,810	5,887	2,449	2,734	3,989	1,382	2,612	3,373	2,891	2,934		
	5,204	11,914	5,622	6,196	8,499	3,409	6,000	7,226	6,794	7,091		
<b>TOTAL CALLS</b>	<b>13,661</b>	<b>24,941</b>	<b>13,539</b>	<b>13,732</b>	<b>19,570</b>	<b>12,378</b>	<b>16,213</b>	<b>16,804</b>	<b>16,579</b>	<b>16,906</b>		
% from mo prior to disaster		183%			143%			104%	102%			
% from mo after disaster		184%			158%			99%	98%			

\*Abandoned Calls - 911 law enforcement transferred call but call was lost > 10 dig - landline

Figure 3 – Source: Law Enforcement and REDCOM Dispatch

*The High-Technology Systems - Effectiveness of Nixle and SoCoAlerts*

There has been improvement at all levels of the alerts and emergency communications used by the cities and their police and fire departments as well as the county since the Tubbs Fire in 2017. Today, we take for granted and benefit greatly from the standardized messages for evacuations. Residents may receive multiple messages during an emergency from these different entities. For the most part, the messages are coordinated carefully among the city's departments

and also with the County's Sheriff's Office and the EOC. Later in the report, this topic of multiple messages and building redundancy among the alert systems will be reviewed.

Although the communications systems have generally improved some confusion still exists. Nixle broadcasts through cell towers in a defined zip code but those broadcasts may extend beyond the boundaries of the zip code. The County Emergency Operations Center uses a different alert system, SoCoAlert, which has the capability of sending messages to cellular, landline, and email systems. Overall, the more alerts and warnings that a resident has access to helps to build redundancy, to ensure at least a few messages get through. Sometimes though there can be differences in the messages that can cause confusion or lack of clarity.

### *The Low-Technology Systems: Hi-Lo Sirens, Air Raid Sirens, and NOAA*

The extremes of Sonoma County topography do not always allow effective transmission of alerts through the high technology systems. Because of this there need to be additional avenues to reach our residents. The California Alert and Warning Guidelines recommends counties look at alternative methods.

#### *Hi-Lo Sirens*

A European-style "hi-lo" siren authorized for use by law enforcement on emergency vehicles indicates an immediate need to evacuate during an emergency. Senate Bill 909, introduced by Senator Bill Dodd (D-Napa), authorized the installation on police, fire, ambulance, lifeguard, forestry or other emergency service vehicles.

The sound alternates between a high and a low frequency that alerts everyone of the critical need to evacuate now - stop everything and leave immediately. During recent fires, these sirens have been instrumental in helping to evacuate residents.

#### *Air Raid Sirens*

Air-raid-style sirens are used at fire stations to call a volunteer fire department into service. In recent years, new restrictions have completely silenced them at night or altogether.

While not traditionally used for wildfires they are used in many parts of the country to warn for tornados or flash floods. Due to the topography in many areas around Sonoma County, residents are unable to receive Nixle, SoCoAlerts and at times NOAA weather radio connections. While some believe that outdoor sirens are disruptive, others consider it as outdated technology. However, if it could be used to provide emergency warnings to the hard to reach populations of approaching danger is it worth a little disruption?



#### *NOAA Weather Radio*

[NOAA Weather Radio All Hazards](#) (NWR) is a nationwide network of radio stations that broadcast continuous weather information from the nearest National Weather Service office.

When properly programmed, the National Weather Service can remotely turn on these radios and send basic alerts, including for wildfire. The message may be accompanied by a warning tone.

The Grand Jury did learn of heartening progress in the community preparedness efforts. The Santa Rosa Fire Department distributed NOAA Emergency Weather Radios to city residents

living in the wildland-urban interface area, which was funded by FEMA. The Geyserville Fire Department distributed NOAA radios as well to its residents in 2020 and will do so again in 2021.

### **False Sense of Security**

For all the pluses of our technology and reliance upon cellphones for information and communicating, there are serious drawbacks during an emergency. The vulnerability of county repeaters, cell towers, and PG&E's electric lines to extreme wind conditions has become more apparent. During this investigation, we heard of worry and caution from first responders. In the likelihood of another catastrophic wildfire (such as the Tubbs in 2017), the first concern would be of resident evacuation. Firefighting may not be possible until this is accomplished. Residents must receive alert notifications about what to do. In the dire scenario of residents not receiving notifications, it will be up to them to help one another and make their own plans to evacuate or seek safety.



### **Leadership Behind the Emergency**

At all levels of government and among residents throughout the County, individuals and groups have worked tirelessly to confront the challenges that face us. Together, goals and work are being identified and delegated. Solid channels of communication are being created throughout the County with new networks among neighborhoods and the sharing of tools and knowledge. This is the building of an infrastructure to bring us through any disaster safely and prepare for the next while carrying on with our lives.

#### *Activities Currently Underway*

In April 2021, "Evacuation tags" were widely distributed to residents by the Sonoma County Sheriff's Office and by cities at designated sites countywide. These tags, placed in a conspicuous place on homes, will indicate to firefighters the homes that have been evacuated thus saving valuable time in checking upon residents. Fire Departments in the County will also fly red flags outside of their stations indicating critical fire weather conditions. Red Flag Warning days are to help alert that conditions are high for a wildland fire - to get ready for possible evacuation. The Grand Jury learned that most of the cities have followed the County Sheriff's Office and also have their police cars outfitted with hi-lo sirens to immediately notify residents in the event of an emergency.

In the County, there are organizational grassroots efforts underway to implement the many goals of fire prevention and preparedness. To become a part of the greater [Sonoma County Wildfire Protection Plan](#), Occidental citizens established a [Community Wildfire Protection Plan-Occidental](#) (CWPP), to strengthen fire prevention and preparedness. Camp Meeker citizens have also completed a draft community plan through Fire Safe Camp Meeker. The CWPPs are based upon the Fire Safe Councils' template and provide a structure for communities to educate residents about wildfire safety and prevention and to seek funding.

### *Expansion of the Department of Emergency Management*

In 2018, the County Administrator's Office (COA) and the Board of Supervisors expanded the DEM into its own independent County department with responsibility of operating the County EOC. Staffed with dedicated Public Information Officers, and highly trained alerts managers/technicians, the EOC functions as the support to the firefighters on the lines; providing supplies, food, coordination of messages, and communications. Representatives from the larger city fire and police departments are stationed at the County EOC to relay messages between their departments in the field and the County.

### *Law Enforcement*

The Sonoma County Sheriff's Office is the main law enforcement agency within the unincorporated areas of the County. By contract, it also serves the needs of the cities of Sonoma and Windsor. The other seven cities in the County have their own police departments. The primary duty of a department is to help protect the people, community, and property. This includes controlling traffic, responding to emergency calls, arresting violators and solving crimes.

In a community's greatest time of need, such as a disaster, they are there to help. During the major wildfires in our county, they were instrumental in leading the evacuation efforts, controlling traffic, monitoring the safety of neighborhoods, and keeping the community updated. Agencies depend on mutual aid agreements to help fill this need. When the EOC is activated, they play a key role in the alerts and warnings sent to the community.

During a disaster, no law enforcement agency has enough staffing to fulfill the immediate needs. They must rely on mutual aid from other agencies who can assist with door-to-door evacuations, direct traffic, and protect the containment areas from looting and for the safety of everyone.

### *Fire Agencies: Their Many Roles*

Firefighters are the front line of our disaster response. They are who residents see first. During the wildfire season, they become the protectors of homes and of entire communities, not to mention lives. During the larger events, through mutual aid agreements, fire departments from other areas will come to the assistance of one another.

An interesting fact about the work of fire departments; a large portion of their calls are health related; paramedics are part of their staff. Their work goes far beyond the front lines. This is more apparent than ever with the increased fires. Fire Chiefs serve as real world representatives on the Emergency Council, and other local government groups. They lobby for bills before the California State Legislature related to fires issues such as hardening of cell towers and vegetation mitigation.

Fire preparation and education have become an important part of their community outreach. They encourage and support COPE and CERT groups, the Block Captains Program, and Fire Safe Councils. Fire departments remain actively involved in the recovery process after a major disaster. Immediately after a fire, they spend several weeks mopping up, and restoring damage from bulldozer breaks. Later, they assist homeowners with the rebuilding process and dealing with insurance claims. This administrative support can last years with fire departments handling the aftermath of several fire events.

### *Emergency Council*

The Emergency Council is an advisory body with an oversight role over all aspects of emergency response in the county and the Emergency Operations Plan. They study, advise, and recommend to the Board of Supervisor on all aspects of the Emergency Operations Plan.

The Emergency Council is composed of 22 or more members, including the Fire Chief, the County Administrative Officer, the chairperson of the Board of Supervisors, county department heads, and people representing various private sectors, including the Red Cross and disability advocates. The County Administrative Officer is designated as the Director of Emergency Services.



Wallbridge Fire



Hennessy Fire (seen from Sonoma Co.)

### **How the County and Cities Work Together**

#### *Dusting Off the Emergency Operations Plans*

Following the 2017 Tubbs Fire it was found that the Emergency Operating Plans (EOP), standard required documents of cities and county departments, were outdated and inadequate. . They were too general, and in need of more specific recommendations for different kinds of disaster situations. At the time of this investigation, many of these EOPs were in the process of being closely reviewed for updates – and not yet available for this report.

#### *Overview of Emergency Operations Plans*

The California Governor’s Office of Emergencies Services supports the counties with EOP template plans and best practices. The EOP is designed as a flexible platform to address significant and extraordinary requirements imposed by large-scale disasters on county infrastructure. The purpose of the plan is to “facilitate multi-agency and multi-jurisdictional coordination during emergency operations, particularly between Sonoma County and local governments, including special districts, as well as state and Federal agencies.” (County of Sonoma, State of California, Resolution No. 14-0504, approved, 12/9/2014) In this way, the EOP ensures that emergency responses by local agencies will seamlessly coordinate with larger entities such as the State of California and Federal agencies as necessitated by the scope and nature of the emergency.

#### *Sonoma County/Operational Area Emergency Operations Plan*

The EOP is designed to establish the implementation of the Standardized Emergency Management System (SEMS). As the lead agency for coordinating planning, it states the

Sonoma County Fire & Emergency Services Department (now the Department of Emergency Management) is responsible to maintain the EOP, the EOP's annexes, revision and documentation. The EOP must include all populations, such as the disabled, within its planning. Agencies under the umbrella of the EOP may modify their plans.

The County's current EOP dates from December 2014, in which it identified as "the plan that each jurisdiction has and maintains for responding to relevant threats and hazards that defines the emergency management organization, structure and coordination." The subsequent fire of 2017 and the apparent lack of emergency preparedness triggered the 2017 Civil Grand Jury to query the lack of updates to this plan, which might have better prepared the County and prevented loss of life. In response, the Board of Supervisors committed to update the plan by 2019. This date has come and gone, and the EOP is still under revision.

Investigating this topic produced some rather disturbing insights. At least one member of the current BOS was not aware of this plan. Other County leaders seemed distanced from the particulars of the EOP. Furthermore, interviews with emergency responding agencies produced varying results. Many agencies currently use the County's Plan instead of developing one of their own.

The Sonoma County Fire District's EOP was recently updated. The Healdsburg Fire Department is in the process of updating their plan and expecting to have it completed in 2021. The residents of Healdsburg were smoothly evacuated during the Kincadee Fire. The Sebastopol Fire Department's EOP, last updated in 1996, is currently being updated. It lacks an evacuation plan which resulted in problems during the Kincadee Fire. Lack of a formal plan caused gridlock and "total chaos" while 8,000 people were evacuating. Fortunately, the city was in no immediate danger, so the tragedy of the Tubbs fire was not repeated, but this does not bode well for future emergencies.

Should updates to EOPs be done in response to changing circumstances incorporating best practices from After Action reports (see below After Action Report)? It does not appear that there is any built-in time requirement for when the changes are to be made such as there would be in a living document<sup>5</sup>. This could be a problem. For example, since the adoption of the county EOP in 2014, the Tubbs Fire of 2017 resulted in loss of life when emergency signals failed to be activated in a timely fashion. Without better oversight of the timely updating of County and local agency EOPs, emergency response may fail catastrophically, again.



### **The After Action Reports**

After a declared emergency is over, the County and City agencies involved are required to produce and file After Action Reports to the California Governor's Office of Emergency

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<sup>5</sup> A living document, otherwise known as an evergreen or dynamic document, is a document that is continually edited and updated. Living documents, at a minimum, are reviewed and updated on an annual basis.

Services (OES), which include a Summary of the Incidents, Lessons Learned with Recommendations, and a Conclusion. The departments should then implement the Recommendations made, to make immediate corrections and improvements.

These reports are highly detailed and technical and give an inside look into the complexity of the emergency communications and alerts operations. If it seems obscure to residents how or why changes are being made, the following extracts will provide greater understanding into the behind-the-scenes work.

Excerpts from the January 28, 2020 Power Shutoff and Kincade Fire After Action Report:

- “There were times during the power shutoff where warnings were delayed as the EOC tried to define the power outage area as accurately as possible using GIS maps. However, this turned out to be futile because the shut-off maps were subject to change and not accurate or reliable. The Recommendation is that Alerts for power shutoffs should be widely disseminated even if it means alerting outside the predicted affected areas (unless doing so may cause undue panic).”
- “Testing and operational use of the WEA system has shown consistently that when attempts were made to minimize the alerting area, this resulted in insufficient alerting through the failure to activate cell towers. The Recommendation is to continue to “Go Big” with the WEA system even though it is advertised to have the ability to send focused messages to defined geographic areas. Even if the system works as advertised in no-notice dynamic incidents such as wildfires, we should continue to “Go Big”.”
- Hi-Lo Sirens - “Although not an asset controlled directly by the EOC, we have received anecdotal reports that the sheriff’s use of the Hi-Lo sirens was beneficial during the evacuation. Typically people receiving alerts seek confirmation before acting on alerts; having the Hi-Lo sirens both helps alert people and provides a confirmation mechanism.”

While After Action Reports are completed following a disaster, the lessons from each need to be added to the County and Cities EOPs.

## **Community Preparedness and Outreach**

Outreach and education about disaster preparedness to the community is one of the missions of the newly expanded Department of Emergency Management. The overall objective of disaster preparedness is to save lives and lay the groundwork for a smoother long-term recovery. Individual actions taken altogether are what will comprise a societal shift towards preparedness that becomes a new measure of community well-being.

### *Preparedness Objectives*

The emergency alerts, and knowing how to use them, are part of the preparedness objectives for residents. For the alerts to be fully effective, residents need to sign up for alerts and learn what it means to be prepared for an emergency. Preparation would include everything from having enough food and water supplies for at least three days (or up to a week), a go bag, a family emergency plan for evacuation, taking care of pets, and making homes and landscapes fire-resistant. If a wildfire event or other disaster does occur, residents will be better able to act quickly when they receive an alert to evacuate, and not panic. Importantly, they will not waste valuable time searching frantically on cellphones for updates on the wildfire or for evacuation maps.

### *A 'Whole Community' Approach*

The re-envisioned and expanded 2019 Department of Emergency Management includes a position called the Community Preparedness Program Manager. Its main objective is to develop disaster preparedness strategies through applying a “whole community approach” which will foster countywide resiliency. What this means is that the outreach focuses upon different social sectors and neighborhoods and helps them to develop their own preparedness plans and to work together as a support group. These groups include those age 65 and over, the disadvantaged or homeless, people with children, the Latinx populations and many others. Currently the Community Preparedness Program Manager relies upon volunteers and an intern for assistance, which may not be sufficient for the goals of the DEM.



### *Community Preparedness Plan of 2019*

The Community Preparedness Plan lays out different strategies and outreach activities to move the community toward a culture of preparedness. This includes publicity campaigns to newspapers about signing up for Nixle and SoCoAlerts, and the formation of a new stakeholder committee to reach different sectors of the community. A committee is at work on the 2021-2023 Community Preparedness Plan. This group includes partners from local non-profits, neighborhood preparedness groups, the business sector and local government; representing all the geographic areas of the county. It also included Latinx and senior representatives.

### *COPE: Citizens Organized to Prepare for Emergencies*

COPE organizations are citizen groups that help a neighborhood to prepare before, during, and after an emergency. Very often emergencies create gaps that first responders cannot fill. The gaps can be caused by catastrophic conditions at the onset of an emergency, such as immediate evacuation needs. Other needs include communications to neighbors, visitors who might not be reached through official emergency communications, non-English speakers, and individuals without phones, computers, or the skills to use them. COPE groups are especially important in fast-moving and wide-spread emergencies, where responders are drawn thin or are overwhelmed. This was the case in recent wildfires, where responders were not able to give prolonged support—or any support at all—to some areas because of higher priority demands. It is with this in mind that self-sufficiency of a neighborhood or area, especially through well thought out group action as in COPE, is strongly advocated by fire agencies—especially in messages from fire chiefs who have had to deal with recent major wildfires. *COPE groups cover gaps that government and first responders cannot fill.*

COPE activities include:

- Up-front preparations: personal preparation for emergencies, training, neighborhood mapping, home hardening, defensible space creation and maintenance (fuel management), signage for responders and for evacuees, plans for action by COPE members.
- Actions during an emergency: members of the COPE group may have directed communications planned for emergencies, using radio or phone to provide information

and to check in on residents. At least one Northern Sonoma County COPE has indicated that they also use the application PulsePoint to monitor and inform their members of emergency activity. Checking in with vulnerable residents early in an emergency is one of the most important actions, to assure that everyone is aware of the emergency and is able to get to safety. A COPE group can provide evacuation notifications to residents, and can follow-up with residents who are known to need assistance.

- Post-emergency support: COPE groups in the post-emergency stage disseminate information on recovery, such as insurance, contractors, or erosion control. COPE may facilitate meetings or may circulate information on those topics, and look in on residents to assure that they are aware of information and requirements in a post-emergency period.

Sonoma County government supports the formation of COPE groups through the Sonoma County Emergency Management Department as well as through various fire agencies. Both the County and fire agencies provide start-up and continuous development information and training upon request.

COPE groups are now fairly well-established and active in some of Sonoma County's rural areas and in some town to wilderness interface areas—places where residents understand that fire and other emergency support is limited and exposure to wildfire is potentially high. COPE groups are established in Santa Rosa's Oakmont neighborhood and in the northern Sonoma County area served by the Northern Sonoma County Fire District. The North Sonoma County area has several COPE groups in existence: in Healdsburg as well as areas of Dry Creek, Fitch Mountain, and Mill Creek, Geyserville, Cloverdale, Franz Valley, Knights Valley, Windsor, and Larkfield/Wikiup.

#### *COAD: The Community Organizations Active in Disaster*

Sonoma County's Department of Emergency Management also works with a formally managed group of volunteer organizations that are important for the full span of disaster management. The Community Organizations Active in Disaster (COAD), is a group of community organizations that seeks to maximize the benefits that can be offered in "resources, information and response efforts to best serve Sonoma communities before, during and following a disaster."

The group is actively managed by an executive committee and has additional committees to address communications, long-term recovery, donations, emotional care, preparedness, and functional needs. COAD is a new name for a prior local group called Voluntary Organizations Active in Disaster (VOAD), which was patterned after the national VOAD precepts following the establishment of those in 1970, but which was largely inactive prior to the Sonoma County wildfires of 2017. The COAD has been re-energized subsequent to the wildfires. A new set of Bylaws and a new Executive Committee were established in 2020. Emergency Management and the Office of Recovery and Resiliency work with the COAD under the Community Preparedness programs, and they participate in the COAD leadership and Executive Committee.

## **CONCLUSION**

The Grand Jury initiated this investigation with a set of questions that sought to understand how well County agencies had adapted emergency communications to lessons learned during recent wildfire, flood, and pandemic issues. Additionally, the Grand Jury sought to understand how well the public understood these adaptations. It adds the question: did the public take to heart the

recommendations for all emergency preparations such as home hardening? What was initially a rather specific question of whether Nixle and SoCoAlerts communications have been best used by agencies expanded to whether there has been enough outreach and education by the county on how to prepare for emergencies. We have used the date of October 8, the anniversary of the Tubbs and Nuns Fires, in our Recommendations under Evacuations, to underscore the threats and the need for urgency by Sonoma County for this fire season.

County agencies were very responsive to our questions, and had made significant progress on communications and preparation for emergencies over the last three years. Revision and release of core documents—i.e., the County’s Emergency Operations Plan—is expected be completed this year. It should thereby provide greater confidence in the County’s ability to deal with future emergencies, and may produce better results. It will guide city plans and evacuation zone revisions. The County must continue its public education efforts about evacuation zones. This information is essential in preparing for future large-scale events. Next, the County should take steps to “harden” and update critical communications infrastructure, to assure that responders can communicate in emergencies. Finally, if the County takes steps to improve citizen preparation through education and through establishment of citizen volunteer groups. it will be in a stronger position to mitigate the harm from future emergencies that overwhelm responders.

The Grand Jury was impressed by the improvements that have been put in place for emergency communications and the broader emergency response since the Tubbs and Nuns Fires. There are, as one would expect, items that can be further improved, and there are areas that are deemed to be inadequately addressed to date (perhaps in some cases because County and district agencies have been busy with repeated emergencies). The use of Nixle, SoCoAlerts, and IPAWS communication tools has been demonstrated in recent events to be largely effective to alert the public and to guide evacuations. However, the County and cities may still have a long way to go to ensure all notifications are getting out.

## **FINDINGS**

The Sonoma County Civil Grand Jury determined that:

### **Alerts and Warnings**

- F1. The alerts and warnings, law enforcement and fire response efforts since the 2017 fires have been successful in the mass evacuation of residents, saving lives, and preventing more loss of homes.
- F2. The use of Nixle, SoCoAlerts, 2-1-1 Sonoma County, and PulsePoint has helped to reduce the emergency call load to 9-1-1 during a disaster by providing important information to the public.
- F3. During an emergency, residents in both the incorporated and unincorporated portions of Sonoma County receive multiple and at times conflicting messages.
- F4. There are some groups and individuals of the population who may not receive alerts directly; these include the elderly, tourists, farm workers, migrants, those hard of hearing, non-English speaking, and individuals with special needs.

- F5. Due to the limitations of the alert and warning systems, duplication of alerts and warnings across many platforms helps to get the messages to more residents of the county.
- F6. The role of the Emergency Operations Center during recent emergencies has helped to improve the sharing of information among the many fire and police districts and the County as well as improving the consistency of messaging across alert and warning platforms; particularly, the Nixle, SoCoAlerts.
- F7. The low-technology alert systems (for example hi-lo and air raid sirens), which do not rely on communication towers, provide essential backup during power outages and cellphone tower breakdowns during severe storms or fires.
- F8. Due to the topography within Sonoma County, the re-institution of audible alarms such as air-raid sirens could dependably reach residents in remote areas and work as a reliable tried-and-true alarm system.

### **Evacuations**

- F9. Different evacuation zone designations for the same area (numbers, names, streets, areas, etc.) by the County, cities, CAL FIRE and agencies can lead to confusion for residents during an emergency.
- F10. Because evacuation zones were not published or known, prior to the recent emergencies, residents were unaware of their evacuation zones.
- F11. Not all police and fire agencies within the County show an Evacuation Map on their website.

### **Infrastructure and the Reliance Upon Technology**

- F12. The County communication network is at risk of communication tower/repeater equipment loss through delayed maintenance and failure to update obsolescent equipment, or disaster loss affecting the Sheriff's Department, city, police, fire agencies, and Redwood Empire Dispatch Communications.
- F13. There is no backup system for the County communication towers/repeaters or for commercial cellular towers should they fail to function.
- F14. The County communication towers/repeaters and cellular provider towers are not maintained and protected (including defensible space) sufficiently to ensure alerts and warnings can go out in the event of a disaster.
- F15. Department of Emergency Management does not have documentation/maps of the physical location of the cellular provider communication towers in the event of a disaster.
- F16. PulsePoint is a useful tool for community groups and the public for early notification of fire activities (*e.g.* controlled burns, smoke). Calls dispatched through Redwood Empire Dispatch Communications (REDCOM) are updated onto PulsePoint.
- F17. Residents of Cloverdale and Rohnert Park cannot receive local PulsePoint alerts because those cities do not utilize Redwood Empire Dispatch Communications (REDCOM) for fire and medical dispatch.

## **Emergency Operations Plans**

- F18. The Board of Supervisors has not fulfilled its commitment to update the 2014 Emergency Operations Plan by 2018-2019. This commitment was made in response to a Recommendation by the 2017-2018 Sonoma County Civil Grand Jury.
- F19. Various agencies, cities, and the public rely on the County Emergency Operations Plan for their disaster preparedness and best practices regarding the alerts and warning systems.
- F20. Recommendations documented in After Action Reports following a disaster have not been incorporated into the current Emergency Operations Plans for Sonoma County Department of Emergency Management, the Sheriff's Office, Cities, and fire agencies.
- F21. The Warm Springs dam is under the control of the U.S. Army Corps of Engineers and local fire agencies do not have access to protocols established in the event that the dam fails.
- F22. San Francisco Bay Area Counties, of which Sonoma County is part of, has not yet submitted its annual Emergency Alert System plan to the State Emergency Alert System Committee of California as recommended by the 2019 State of California Alert and Warning Guidelines.
- F23. Disaster and Emergency Preparedness has become an all-year round activity for both County departments and staff and residents alike.

## **Community Outreach-Preparedness**

- F24. Sonoma County has made good progress in Community Outreach and Preparedness since the 2017 Tubbs Fire, however; residents may not fully appreciate or realize that preparing for resiliency during emergencies is an ever-evolving process and requires ongoing attention.
- F25. Government cannot help residents with everything during a disaster. Continued development and expansion of Citizens Organized to Prepare for Emergencies / Community Emergency Response Teams groups are deemed essential as major emergencies could overwhelm agencies' ability to fully reach and protect people and property.

## **RECOMMENDATIONS**

The Sonoma County Civil Grand Jury recommends that:

### **Alerts and Warnings**

- R1. By October 31, 2021 the Sheriff's Office, Department of Emergency Management, and nine cities' departments include within their Emergency Operations Plans action steps to reach all subpopulations within the County who may not otherwise receive an alert. (F4, F6, F7, F8)
- R2. By October 31, 2021 the Board of Supervisors review and propose additional alert and warning methods such as air raid sirens and public address systems to put contingencies in place when broadband fails or is not available. (F5, F7, F8, F13)

- R3. By October 31, 2021, the Department of Emergency Management explain the challenges behind the emergency communications in order that residents may understand, trust, and appreciate the complexity and the ongoing work it takes to maintain effectiveness. (F3, F5, F19)

### **Evacuations**

- R4. By October 8, 2021, the Sheriff's Office, Department of Emergency Management, and nine cities work together to ensure consistent naming for all evacuation maps used by the public and first responders. (F9, F10, F11)
- R5. By October 8, 2021, the Sheriff's Office, Department of Emergency Management, and nine cities work together to ensure the public is informed of their evacuation zones by publishing evacuation maps in local media, online, and through SoCo Emergency. (F9, F10, F11)

### **Infrastructure**

- R6. By December 31, 2021, the Sheriff's Office develop a plan and identify what is needed to bring the communication tower equipment/repeaters up-to-date to ensure during an emergency the systems function (legacy and end of life systems.) (F12, F13)
- R7. By March 31, 2022, the Sheriff's Office and Board of Supervisors provide funding to maintain the communication tower equipment/repeaters. (F12, F13, F14)
- R8. By June 30, 2022, the Sheriff's Office implement the plan to bring the communication tower equipment/repeaters up-to-date. (F12)
- R9. By December 31, 2021, the Department of Emergency Management work with Permit Sonoma to identify where all cellular provider towers are in the county. (F14, F15)
- R10. By October 31, 2021 the Sheriff's Office and Department of Emergency Management work with the Fire Agencies in the county work ensure that defensible space standards (as outlined by CAL FIRE) are met for all county communication towers/repeaters and cellular provider network towers. (F12, F13, F14)
- R11. By September 30, 2021, The Sheriff's Office and Department of Emergency Management work with the Fire Agencies in the County to define actions to take during a disaster for the protection of all County communication towers/repeaters and cellular network towers. (F12, F13, F14)
- R12. By December 31, 2021, the Department of Emergency Management work with cellular tower providers to ensure a plan is developed to ensure defensible space standards are implemented around each tower. (F12, F13, F14)

### **Emergency Operations Plans**

- R13. By October 31, 2021, the Department of Emergency Management update the County Emergency Operations Plan to incorporate and post on the Department of Emergency Management website the most up-to-date information and Recommendations from the After Action Reports since the disasters of 2017 (F19, F20)
- R14. By October 31, 2021, the Board of Supervisors approve the updated County Emergency Operations Plan. (F18, F19)

- R15. By October 31, 2021, the nine cities update their Emergency Operations Plan to incorporate the most up-to-date information and lessons learned since the disasters of 2017 and post it on their websites. (F20)
- R16. By September 30, 2021, Department of Emergency Management obtain from the US Army Corps of Engineers a copy of the Emergency Operations Plan for Warm Springs Dam and incorporate it into the County Emergency Operations Plan and post it on the Department of Emergency Management website. (F21)
- R17. By December 31, 2021, Department of Emergency Management, through the San Francisco Bay Area Counties, submit its annual Emergency Alert System Plan to the State Emergency Alert System Committee of California as recommended within the 2019 State of California Alert and Warnings Guidelines. (F22)
- R18. By December 31, 2021, the Board of Supervisors adopt a resolution that all major County disaster plans having to do with Emergencies and Emergency Preparedness be considered “Living Documents” to be reviewed and updated on an annual basis. (F18, F19, F20)

### **Community Outreach**

- R19. By December 31, 2021, the Department of Emergency Management publicize the work of community preparedness groups such as Citizens Organized to Prepare for Emergencies, Community Emergency Response Teams, and Community Organizations Around Disasters to more effectively reach all residents about emergency alerts and warnings. (F4, F24, F25)
- R20. By December 31, 2021, the Board of Supervisors increase the capacity of the Department of Emergency Management’s Community Preparedness function in order to effectively engage the greater community in disaster preparedness with groups such as Fire Safe Sonoma, neighborhood groups such as Citizens Organized to Prepare for Emergencies, and Community Emergency Response Teams to foster resilience. (F24, F25)

### **REQUIRED RESPONSES**

Pursuant to Penal Code §§ 933 and 933.05, the grand jury requires responses as follows:

- Board of Supervisors (R2, R8, R14, R18, R20)
- Department of Emergency Management (R1, R3, R4, R5, R9, R10, R11, R12, R13, R16, R17, R19)
- Sonoma County Sheriff’s Office (R1, R4, R5, R6, R7, R8, R10, R11)
- City of Cloverdale (R1, R4, R5, R15)
- City of Cotati (R1, R4, R5, R15)
- City of Healdsburg (R1, R4, R5, R15)
- City of Petaluma (R1, R4, R5, R15)
- City of Rohnert Park (R1, R4, R5, R15)
- City of Santa Rosa (R1, R4, R5, R15)
- City of Sebastopol (R1, R4, R5, R15)
- City of Sonoma (R1, R4, R5, R15)

- City of Windsor (R1, R4, R5, R15)

The governing bodies indicated above should be aware that their comments and responses must be conducted subject to the notice, agenda and open meeting requirements of the Brown Act.

## INVITED RESPONSES

The Grand Jury invites the following to respond:

- Sonoma County Fire Chiefs Association (R10, R11)

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## APPENDIX A

### Resources for Sonoma County and National Alert Notifications

#### *SoCo Emergency*



SoCo  
Emergency

[SoCo Emergency](#) supplies emergency information regarding but not limited to: evacuation orders, active alerts and warnings, links to road closures, pandemic information, and police and fire departments. Use the links within SoCo Emergency to sign up for Alerts and Warnings.

#### *SoCoAlerts*



SoCo  
ALERT

[SoCoAlert](#), A free emergency notification service that provides Sonoma County first responders the ability to notify residents and businesses with specific emergency notifications. The user may select to receive alerts through landline, cell phone next messages, or pre-recorded verbal messages and emails. The system also works with devices for the hearing impaired.

- SoCoAlerts has the ability to use reverse 9-1-1. However, it should not assumed that all information is in the system. Visit [SoCoAlert.com](#) to register online.
- Register by phone, at **(866) 939-0911** or **(707) 565-1369** and speak to a communications specialist to complete the registration.
- The SoCoAlert sign-up page allows the subscriber to indicate both primary and alternate phone numbers.
- Subscribe to updates on SoCo Emergency to receive email updates on new safety information and incidents.

#### *Nixle*



NIXLE

[Nixle](#) is a service used by local law enforcement and fire agencies to send email and text messages that include public safety messages as well as emergency information.

Messages are targeted to specific geographic regions based on the cell phone and email account. If your address falls within this geographic area, you will receive the message. Additional locations from across the country may be added.

- Text your **zip code to 888777 to opt-in** or [sign up online](#) to receive email or text messages with alerts and advisories
- Nixle relies on individuals to sign up to receive alerts
- Nixle has the ability for both English and Spanish alerts
- Nixle has a limited amount of data that can be sent with each alert
- Zip codes cross lines there is potential to get alerted no matter jurisdiction

## 2-1-1 Sonoma County



[2-1-1 Sonoma County](#) is an information and referral service connecting the community with information about health and human services. During times of a disaster in coordination with local emergency services will also provide incident-specific information, road closures and shelters.

- Service is 24 hours a day, 7 days a week with interpretation services
- Phone: **Dial 2-1-1** from a landline or cell phone in Sonoma County
- Text: **Text your zip code to 898-211.**
- Phone: By dialing toll-free number **(800-325-9604)**.
- Online: Search the 2-1-1 resource database online at [211sonoma.org](http://211sonoma.org)

## Integrated Public Alert & Warning System

The FEMA's [Integrated Public Alert & Warning System](#) (IPAWS) is a national system for local alerting that provides authenticated emergency and life-saving information to the public through mobile phones using Wireless Emergency Alerts (WEAs), to radio and television via the Emergency Alert System (EAS), and on the National Oceanic and Atmospheric Administration's Weather Radio (NOAA).

### Wireless Emergency Alerts – WEA



[Wireless Emergency Alerts](#) are free messages sent directly to cellular phones in a geographically targeted affected area, to provide brief critical information about a threat in a set location, emergency warning about severe weather, AMBER Alerts and threats to safety in the area.

WEAs are sent by state, local public safety officials, the National Weather Service, the National Center for Missing and Exploited Children, the U.S. Geological Survey, and the President. The notification, with a unique sound and vibration, are designed to get attention. The unique sound and vibration cadence are particularly helpful to people with visual or hearing disabilities.

- [Learn more about WEA](#)

### Emergency Alert System



[Emergency Alert System](#) is a national public warning system that requires radio and TV broadcasters, cable TV, wireless cable systems, satellite and wireline operators.

FEMA, in partnership with the Federal Communications Commission and National Oceanic and Atmospheric Administration (NOAA), is responsible for implementing, maintaining and operating the EAS at the federal level.

### NOAA Weather Radio



[NOAA Weather Radio All Hazards](#) broadcasts official warnings, watches, forecasts and other hazard information 24 hours a day, seven days a week. Use a NWR if cell phones or internet is interrupted.

The National Weather Service can remotely turn on these radios and send basic alerts, including for wildfire. The message may be accompanied by a warning tone, depending on the model of

radio you purchase. If you are deaf or have hearing loss these radios have add-on equipment such as strobe lights and bed shakers.

- Sonoma County residents may tune their NOAA radio to:
  - County of Sonoma Frequency 162.475
  - Northwest Sonoma County Frequency 162.550
  - Southwest Sonoma County Frequency 162.475
- [SoCo Emergency Weather Radio Guide](#)
- [National Weather Radio \(NWR\) Receivers](#)
- [National Weather Service - Forecasts](#)
- [Red Flag Warning NWS](#) > Fire weather watch or RFW
- [NOAA Weather Forecast](#) > Will show forecasted wind events, red flags, etc

*Local Radio Stations*



- [740 AM and 106.9 FM: KCBS Radio](#)
- [89.1 FM: KBBF Radio \(Bilingual/Spanish\)](#)
- [100.1 FM: KZST Radio](#)
- [1350 AM: KSRO Radio](#)
- [91 FM: KRCB Radio](#)

*PulsePoint*

**PulsePoint** [PulsePoint](#) is a 911-connected app that can immediately inform you of emergencies occurring in your community. *In Sonoma County REDCOM connects with PulsePoint related to Fire an EMS dispatch services. PulsePoint is not available in all areas, the service is only offered where adopted by the local public safety agency.*

Users can be notified of significant events and emergency activity in real time. The notifications provide an early and automatic heads-up to local threats such as wildland fires, flooding and utility emergencies. This information can also be used on a daily basis to know when and where there is an accident, controlled burns, or if the smoke is an approaching wildfire.

**Additional Resources**

**CAL FIRE**

<a href="#">Cal Fire</a>	California Department of Forestry and Fire Protection
<a href="#">Statewide incidents</a>	Overview of all CA incidents, can access fire specific info via map or name of the incident
<a href="https://www.readyforwildfire.org/">https://www.readyforwildfire.org/</a>	Ready for a wildfire
<a href="https://incidents.readyforwildfire.org/">https://incidents.readyforwildfire.org/</a>	The Ready for a Wildfire app allows you sign up for text messages to receive information about active CAL FIRE wildfire incidents.
<a href="http://www.alertwildfire.org/northbay/index.html?camera=Axis-Diablo">http://www.alertwildfire.org/northbay/index.html?camera=Axis-Diablo</a>	Fire cameras and associated tools to help discover, locate, and monitor fires. Each camera shows a different view in Sonoma County

**Earthquake Information - U.S. Geological Survey**

<a href="#">USGS</a>	Monitors and reports on earthquakes, assesses earthquake impacts and hazards, and conducts targeted research on the causes and effects of earthquakes.
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<a href="#">USGS Latest Earthquakes</a>	View the latest earthquakes map and list within the past 24 hours (M2.5+)
<a href="#">Earthquake Notification Services</a>	Enroll in the ENS to receive notification emails when an earthquake with a magnitude 6.0 or greater
<a href="https://myshake.berkeley.edu/">https://myshake.berkeley.edu/</a>	Earthquake Early Warning publicly in California and Oregon

### **Flooding Information**

Flooding is a real issue in many areas around Sonoma County. The [Sonoma Water](#) website has many available resources to assist residents of potential and current flood activity.

#### [Sonoma Water - Flood Forecast & Emergency Information](#)

Sonoma Water Flood Forecast Hotline	<b>(707) 526-4768</b> - Sonoma Water updates the Flood Forecast Hotline when the Hacienda Bridge water level is over 20 feet.
<a href="#">Sonoma OneRain website</a>	Interactive map with live data from county-wide streamflow, rainfall gauges, and reservoir data.
<a href="#">Flood Protection Zones</a>	Map of flood control zones and watersheds
<a href="#">Russian River Flood Forecast - NOAA: Hopland</a> <a href="#">Russian River Flood Forecast - NOAA: Healdsburg</a> <a href="#">Russian River Flood Forecast - NOAA: Guerneville</a>	Russian River Flood Forecast
<i>Flooded Road Conditions:</i>	
<a href="#">Transportation and Public Works</a>	County road closure information for closures that will be longer than 8 hours. For more information contact <b>(707) 565-2237</b>
<a href="#">list</a>   <a href="#">map</a>	View road closures (unincorporated County areas)
<a href="#">California Department of Transportation Quickmap</a>	Freeways and State Highways
<i>Russian River Levels and Flow Data</i>	
<a href="#">The California Data Exchange Center</a>	Real-time river level data and forecasts for the Russian River and Dry Creek
<a href="#">California Department of Water Resources - Division of Flood Management website</a>	Provides data for Russian River flows
<a href="#">The U.S. Geological Survey</a>	Provides data on river levels and flows from stream gauges maintained along Dry Creek and the Russian River.
<a href="#">Russian River Flood Stages</a>	View a graphic illustrating flood stage levels for Hopland, Healdsburg and Guerneville.

### **Additional information from SoCo Emergency website**

The [SoCo Emergency](#) website has many available resources to assist residents during an emergency:

<a href="#">Evacuation Updates in Sonoma County</a>	Evacuation Orders
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<a href="#">Road Closures during Emergency</a> <a href="#">Subscribe to Road Closure update</a>	List of road closures in the unincorporated areas of Sonoma County and in the City of Santa Rosa
<a href="#">Law Enforcement</a>	List of law enforcement in County, California State Agencies, and Federal Agencies
<a href="#">Fire Departments</a>	List of fire departments and districts in County
<a href="#">Maps &amp; Data</a>	Interactive maps of recent emergency situations including earthquake faults, power outages and road closures
<a href="#">Power Shutoffs – County and Statewide</a>	Sonoma County Power Shutoff Map & Dashboard
<a href="#">Recovery Resources</a>	Recover resources includes re-entry and recovery information related to a disaster

## Maps

<a href="#">PG&amp;E PSPS and Power status</a> <a href="#">Sign up for alerts</a> <a href="#">medical baseline program</a>	Check for PSPS potential and power restoration status
<a href="#">NASA FIRMS</a>	Fire Information Management System Link is targeted over our area – real time heat map
<a href="#">#Firemappers</a>	Crowd sourced fire mapping
<a href="#">NWCG</a>	National Wildfire Coordinating Group - National Fire Situational Awareness map
<a href="#">CalOES</a>	Comprehensive statewide map info derived from CalFire and all fire teams' reporting.
<a href="#">Sartopo</a>	USGS topographic mapping, use for fire mapping, collaborative trip planning, detailed elevation profiles and terrain analysis.

## Social Media – Facebook AND Twitter

<a href="https://www.facebook.com/CALFIRELNU/">https://www.facebook.com/CALFIRELNU/</a>	CAL FIRE Lake Napa Unit (LNU)
<a href="https://www.facebook.com/CountyofSonoma">https://www.facebook.com/CountyofSonoma</a>	County of Sonoma
<a href="https://www.facebook.com/SoCoDEM">https://www.facebook.com/SoCoDEM</a> Daily briefings during incident, educational events	Sonoma County Dept of Emergency Management
<a href="https://www.facebook.com/newsofthenorthbay">https://www.facebook.com/newsofthenorthbay</a> video updates	News of the Northbay
<a href="https://twitter.com/sonomascanner?lang=en">https://twitter.com/sonomascanner?lang=en</a>	Sonoma Scanners
<a href="https://twitter.com/calfirelnu?lang=en">https://twitter.com/calfirelnu?lang=en</a>	CALFIRE LNU
<a href="#">Broadcastify</a>	REDCOM live feed

## Wind and Air Quality

<a href="#">Windy.com</a>	Real time wind activity in the area and forecasted wind patterns for 72 hours
<a href="#">Purpleair.com</a>	Real time air quality, including PM 2.5
<a href="#">Fire.airnow.gov</a>	Click on yellow dot on side bar for legend

*Reports issued by the Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Civil Grand Jury.*