



# Assessment Report: Community Alert and Warning

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**FIRE & EMERGENCY SERVICES DEPARTMENT**

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## SCOPE

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This report provides the key results of an assessment examining Sonoma County's current public safety Alert and Warning systems, capabilities and challenges. Key findings are provided as well as recommendations.

The County's Interim Emergency Services Manager reviewed existing Alert and Warning system policies, procedures, tools, and references. Stakeholder outreach was conducted via two dozen individual or group meetings and interviews (see Attachment 3 – Resources Consulted).

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*A **public alert** is a communication intended to attract public attention to an unusual situation or circumstance connected with someone or something. The measure of an effective alert is the extent to which the intended audience becomes attentive and searches for additional information.*

*A **public warning** is a communication intended to persuade members of the public to take one or more recommended protective actions in order to reduce losses or prevent harm. The measure of an effective public warning message is the extent to which the intended audience takes the protective action and/or heeds the guidance.*

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## INTRODUCTION

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Following the devastating wildfires of October 2017, Sonoma County residents and their local governments have placed public Alert and Warning in the spotlight. The County's experiences in the wildfires and ongoing efforts to assess and prioritize this mission have produced a tipping point in the state and national conversations on this issue:

- The Federal Communications Commission has fast-tracked a long-stalled effort to increase the capabilities of warning system technologies.
- Alert and Warning is now a leading subject of discussion and action for emergency management program and associations across the country.
- The State of California conducted an assessment of the county's Alert and Warning capabilities at the time of the fires and provided recommendations (see Attachment 2), which has encouraged dozens of local jurisdictions across the state to review their own processes and tools.



- Significant efforts are underway across the state to develop and implement improvements in systems, governance, and resources this includes pending legislation and development of state guidelines for local government Alert and Warning programs.
- Commercial warning system vendors are revising their products to make it easier to send out alerts & warnings and in forms and languages that all people can understand.

The County now has the opportunity to move forward and serve as a state and national leader in this conversation. By developing a truly comprehensive, integrated, and sustainable Community Alert and Warning Program, the County can meet the increasing expectations and challenges of this vital public safety mission for its residents, communities, and visitors.

## **INTERIM ACTIONS ALREADY TAKEN BY THE COUNTY OF SONOMA**

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After the wildfires, the Division of Emergency Management within the Fire & Emergency Services Department (FES) has worked to maximize the capabilities and effectiveness of existing Alert and Warning systems. These efforts have included:

1. Expanding the number of staff and jurisdictions that can activate the SoCoAlert system and the Integrated Public Warning and Alert System (IPAWS) which includes the Wireless Emergency Alert system (WEA) and the Emergency Alert System (EAS). Sheriff's Dispatch and the City of Santa Rosa can now activate IPAWS.
2. Revising the policy regarding the use of WEA in life-safety hazard incidents.
3. Conducting outreach to Operational Area stakeholders to provide information on when and how they may request activation of the SoCoAlert or IPAWS systems.
4. Increasing warning system activation training and exercising for FES staff.
5. Integrating SoCoAlert and IPAWS/WEA/EAS into the new Burn Area Contingency (Response) Plan.
6. Formalizing the FES Emergency Services Staff Duty Officer procedures to improve after-hours response including warning system activations. Procured wireless tablets to allow for Duty Officers to activate warning systems in the field.

## KEY FINDINGS

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1. Sonoma County currently manages a public warning system capability on par with most counties in California. This includes documented activation procedures, established warning branding program, and subscription to a recognized private vendor subscription-based warning software. The County is one of only 25% of counties nationwide certified to access IPAWS which enables use of WEA and EAS. However, this level of capability may no longer be sufficient.
2. Alert and Warning technology has been transformed in the last 10 years in both capability and complexity:
  - a. The widespread adoption of mobile devices and supporting data networks has produced a radical increase in individual connectivity.
  - b. The increased use of Geographic Information Systems (GIS) enables the rapid identification and analysis of specific geographic locations. Specialized GIS hazard assessment models provide rapid forecasts of potential effects.
  - c. The development of competing commercial software systems has produced a new service line which can rapidly deliver multi-modal messages to a variety of personal devices and systems (text, cell phone, cable/internet, etc.).
  - d. Wireless alert and warning systems now hold the promise of enabling message activators to more accurately define target geographic areas.
  - e. Maintenance of the Local Emergency Communications Committee (LECC) for the Emergency Alert System has languished with the advent of IPAWS.
3. Public expectations for local government alert and warning services have escalated significantly beyond current industry practices:
  - a. Time: community members expect alert and warning messages to be delivered within minutes of a no-notice event (e.g. fire) and hours in advance of a slowly developing event (e.g. flooding).
  - b. Custom delivery: many community members have an expectation that even if they are not enrolled in a local system, that the government will locate them and deliver warning messages to the device/system at hand and in a form/language that is understandable to the recipient.
  - c. Detailed situational awareness: Given the specificity and timeliness of the alert and/or warning message, recipients assume that first responders fully



understand the nature, scope and severity of the incident and this information will be immediately conveyed to the recipient.

- d. Specific instructions: The capacity for systems to deliver detailed information and graphic content leads recipients to expect instructions customized to their specific circumstance on what action to take, which evacuation routes are recommended and where additional resources are available.
- e. Additional information: Community members expect to be able to corroborate the warning message with other sources and obtain additional details (e.g. a phone number to call or an immediately available website).

## RECOMMENDATIONS SUMMARY

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1. Commit. Establish a first-class comprehensive, county-wide community alert and warning program incorporating clear policy, innovative technology, real-time situational awareness, and robust community engagement. See *Program Description* section below.
2. Resource. Commit staff and funding resources to develop and sustain 24/7 life-safety standard operational capabilities, expand stakeholder technical expertise, and maintain effective community engagement. See *Program Resources* section below.
3. Manage. Immediately begin to develop and implement the comprehensive Community Alert and Warning Program in the Division of Emergency Management (or successor organization). Continue to explore the potential for moving the program to a more appropriate public safety communications organization in collaboration with Operational Area stakeholders.
4. Test. Conduct a live, end-to-end test of current alert and warning systems no later than September 25, 2018.

## PROPOSED COMMUNITY WARNING PROGRAM

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Community Alert and Warning represents a scope of service more significant than the delivery systems. There are four basic program elements:

1. Threat/Hazard Identification
  - a. Conduct and regularly revise the analysis of the County and stakeholder jurisdictions to identify areas that are at risk for natural hazards, man-made threats and large-scale emergencies.
  - b. Recognize warning system requirements to reach the full spectrum of populations in each area (e.g. tourists in a tsunami inundation zone).
  - c. Identify alert and warning challenges in each area (e.g. no cell phone coverage or limited evacuation routes).
  - d. Integrate hazard and threat assessment information into GIS data sets for use as templates in relevant warning systems.
2. Situational Awareness
  - a. Develop and maintain systems, procedures and resources that will enable the timely identification and communication of tactical threat information into the warning program. Review the potential for integrating new and existing technologies (ex. fire cameras).
  - b. Ensure visibility of incidents and use of warning systems in adjacent jurisdictions.
  - c. Develop the capability to identify and implement appropriate actionable warning information (in real time) for all areas and populations.
3. Warning Procedures and Delivery Systems
  - a. Develop and maintain the appropriate Operational Area and local jurisdictional governance, authorities, policies, and procedures to provide a seamless process for conducting integrated alert and warning functions. Address standardizing triggers and thresholds for issuing Alert and Warning messages (ex. WEA). Develop procedures for cancelling, revoking or correcting accidental alerts.
  - b. Install and maintain operational readiness of dedicated alert and warning systems, technology, and supporting structures. Assess current commercial software-as-a-service public warning platforms and develop a single Operational Area system. Coordinate technical and operational support with county departments. Explore the potential of community 2-1-1 as a supporting resource to Public Safety Answer Points (9-1-1 centers).



- c. Coordinate and integrate the spectrum of warning systems/platforms including Nixle. Develop coordination processes to augment warnings with social media platforms. Maintain a "dark website" landing page to which individuals receiving warnings can be referred for additional information.
  - d. Implement a sustained, standards-based, training program for message originators, system activators, incident commanders, public safety leadership, and emergency communications personnel. Conduct outreach and provide training on a consistent basis. Develop and maintain practical system activation guides and tools. Address and clarify issues of liability.
  - e. Develop standardized, pre-scripted message templates including protective actions adapted for each delivery system. Ensure suitability for individuals with Access and Functional Needs and non-English speakers. Continue to refine messaging by integrating best practices from actual events and social science research.
  - f. Maintain, test, and exercise processes and Alert and Warning systems including periodic live, end-to-end tests. Consider conducting an annual test on the observance of the 2017 wildfires event.
  - g. Develop and revise an Operational Area Alert and Warning Plan as a functional annex to the Operational Area Emergency Operations Plan. Address multi-jurisdictional warnings and integrate emergency public information procedures. Maintain an Operational Area Alert and Warning System User's Group to review procedures, technology, and program effectiveness. Participate in the regional Public Information & Warning Working Group.
  - h. Coordinate preparedness and incident activations with adjoining jurisdictions, EAS Local Primary broadcasters, telecommunications providers, state agencies, National Weather Service, and Federal Communications Commission. Represent the Operational Area and provide support to the San Francisco Bay Area Local Emergency Communications Committee (LECC).
  - i. Develop and maintain parallel and corresponding internal notification systems for Operational Area jurisdictions and staff. Support creation and maintenance of internal callout rosters; train internal notification system activators.
4. Community Engagement and Public Education
- a. Engage residents, communities and stakeholder organizations in the development and revision of warning system capabilities and features.



Clarify the roles of available public information, notification, and warning systems (e.g. Nixle vs. SoCoAlert). Develop branding for the system and to simplify public access and understanding of how they might be warned.

- b. Review and validate messaging systems, language and mode of delivery. Solicit feedback following use of systems.
- c. Educate potential Alert and Warning message recipients to understand and respond appropriately. Develop community trust.

## **ALERT AND WARNING PROGRAM MANAGEMENT**

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An effective and responsive Alert and Warning program effectively requires the same capabilities present in the 9-1-1 emergency telephone and public safety dispatch system:

1. Immediate, 24/7, availability and responsiveness
2. Trained/experience message originators and system activators
3. Clear operating authority and established procedures
4. Capability to obtain and integrate additional resources
5. Robust, redundant, and survivable technology systems
6. Resources that effectively serve individuals with Access and Functional Needs

Since the 1980s, the County's Alert and Warning systems have been managed by the emergency management function – currently, the Division of Emergency Management in the Fire & Emergency Services (FES) Department. However, that program lacks true 24/7 operational capability and survivable technology systems. Currently, the FES Duty Officer and his/her cell phone are the primary Alert and Warning system activation link. As the Alert and Warning function now most closely resembles the public safety communications function, consideration should be given to aligning the two.

As several jurisdictions in the Operational Area have developed forms of community notification and warning systems, the potential for consolidating this effort is significant. Consolidation into one program (or system of systems) would provide benefits including increased responsiveness, operational redundancy, greater adherence to standards, as well as cost savings in procurement and administration. This could eventually lead to Alert and Warning as a service managed by an existing or new Joint Powers Agreement.

## **ALERT AND WARNING PROGRAM RESOURCES**

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### Staff

Current, FES Emergency Services staff spend approximately 300 hours a year maintaining and testing the system on behalf of the Operational Area as well as training system activators. This is similar to other Bay Area counties which task emergency management staff with public warning system maintenance and operation as an additional duty (See Attachment 1 – Bay Area County Warning Systems).

Sheriff's Dispatch has been trained to activate SoCoAlert since 2016. Following last October's fires, additional system activators have been trained in the City of Santa Rosa. All of Sheriff's Dispatch staff will complete IPAWS activation training this month.

### Technology

Currently, FES expends \$14,500 annually on a contract for CodeRed – the software-as-a-service – that forms the basis of SoCoAlert system. CodeRed also serves as the County's portal into the IPAWS/WEA/EAS system. The CodeRed software is more challenging to activate/maintain than other warning software products currently available. The CodeRed software is also limited in its ability to support internal organizational notification (ex. recalling emergency staff).

A more capable and more readily usable software platform would enable faster and more effective delivery of emergency warnings to the public as well allow for integration of social media systems. A new platform would also enable Operational Area jurisdictions to maintain internal staff contact lists and inform, poll, or recall staff if needed.

As software-as-a-service requires internet connectivity, a satellite data capability is needed to provide a dependable alternate communication link should local or regional internet services be disrupted.

### Recommendation

To develop and sustain the comprehensive Community Alert and Warning Program as described above, the following approximate recurring resources are recommended:

|   |                  |
|---|------------------|
| 1.0 FTE Alert and Warning Program Manager     | \$178,000        |
| 1.0 FTE Alert and Warning Program Coordinator | \$153,000        |
| Enhanced Warning System Technology            | \$125,000        |
| Operational Overhead Expenses                 | <u>\$ 40,000</u> |
|   | \$496,000        |

Note: should the Alert and Warning Program transition to another public safety communications-oriented organization, additional funding may be required to fully staff for 24/7 availability.



## ATTACHMENT 1: BAY AREA EMERGENCY WARNING PROGRAMS

| Jurisdiction             | Program Location              | Type of Staff        | System Admin Staff | Lead Warning Activator        | Assigned Budget | Notes                                   |
|--------------------------|-------------------------------|----------------------|--------------------|-------------------------------|-----------------|---|
| <b>Alameda</b>           | Sheriff's OES                 | Emergency Management | 1.1 FTE            | OES Duty Officer              | \$202,000*      | Significant internal use                |
| <b>Contra Costa</b>      | Community Warning System Unit | Warning              | 3.0 FTE            | Warning Duty Officer          | \$500,000‡      | Enterprise funded; limited internal use |
| <b>Marin</b>             | Sheriff's OES                 | Emergency Management | 0.25 FTE           | OES Duty Officer, Dispatch    | \$71,000*       | Limited internal use                    |
| <b>Monterey</b>          | Community Warning System Unit | Warning              | 1.0 FTE            | Dispatch, Duty Officer        | \$45,000*       |   |
| <b>San Francisco</b>     | Dept. of Emergency Management | Emergency Management | 3.0 FTE            | DEM Duty Officer              | \$130,000*      | Multiple duty officers                  |
| <b>San Mateo</b>         | Sheriff's OES                 | Emergency Management | 0.35 FTE           | OES Duty Officer              | \$108,000*      | Significant internal use                |
| <b>Santa Clara</b>       | OES                           | Emergency Management | 1.5 FTE            | OES Duty Officer              | \$240,000*      |   |
| <b>Solano</b>            | Sheriff's OES                 | Emergency Management | 0.50 FTE           | OES Duty Officer              | \$60,000*       | MOU w/ cities                           |
| <b>Sonoma (current)</b>  | Dept. of Emergency Services   | Emergency Management | 0.20 FTE           | FES Duty Officer, Dispatch    | \$18,500*       |   |
| <b>Sonoma (proposed)</b> | TBD                           | Warning              | 2.0 FTE            | Dispatch, Warning/FES Officer | \$496,000‡      |   |

\* Does not include staff

‡ Includes staff

## ATTACHMENT 2: CAL OES RECOMMENDATIONS CROSSWALK

The table below summarizes the recommendations made by the California Governor's Office of Emergency Services (Cal OES) in their February 2018 report *Public Alert and Warning Program for Sonoma County*. For each recommendation, the corresponding location in the *Proposed Community Warning Program* section of this report (pg. 7) is listed:

| Recommendation |   | Location Where Addressed in the Proposed A&W Program |
|----------------|---|--|
| 1              | Update and expand alert and warning plans; incorporate into Emergency Operations Plan | 3g, 4a   |
| 2              | Train and authorize Incident Commander to issue warnings                              | 3d   |
| 3              | Train operators on how to compose messages and transmit                               | 3d, 3i   |
| 4              | Develop pre-scripted messages and procedures  | 3e, 4a   |
| 5              | Develop pre-scripted "fill-in-the-blank" message templates                            | 3e, 4a   |
| 6              | Establish documented training/exercise program for authorizers and operators          | 3d, 3f   |
| 7              | Establish procedures for coordinating multiple platforms                              | 3a   |
| 8              | Specify use of WEA for all critical alerts and warnings                               | 3a   |
| 9              | Explore the potential of 2-1-1 as supporting resource to PSAPs                        | 3b   |
| 10             | Review and expand evacuation planning   | N/A; added to Emergency Services plan revision list  |
| 11             | Review and expand procedures for achieving accurate situation awareness               | 2a, 2b, 2c   |



## **ATTACHMENT 3: RESOURCES CONSULTED DURING ASSESSMENT**

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### Sonoma County / Operational Area

Sonoma County Fire Chiefs

Redwood Empire Dispatch Communications Authority (REDCOM): Aaron Abbot, Executive Director

Sonoma County Public Safety Consortium: Connie Douglas, Interim Administrator

Operational Area Stakeholders: Alert and Warning Session

City of Sonoma

City of Santa Rosa: Neil Bregman, Emergency Preparedness Coordinator

City of Sebastopol: Fire Chief Bill Braga

Geyserville Fire Protection District: Chief Marshall Turberville

City Managers Association

Sonoma County Superintendent of Schools

Sheriff's Office: Assistant Sheriff Clint Shubel

Sheriff's Office Dispatch Bureau: Don Jones, Dispatch Manager

County Administrator's Office

County Fire and Emergency Services Department

County Information Services Department

### Other

Contra Costa County (site visit)

San Mateo County (site visit)

Alameda County (site visit)

Marin County (site visit)

Yolo County

Solano County

San Francisco Urban Area Security Initiative: Corey Reynolds

EAS Local Primary 2 Broadcaster: Gordon Zlot, Owner KZST

Joe Perez, Consultant, Joseph M. Perez and Associates

State Emergency Coordination Committee: James Gabbert, Chair

CalOES: SEMS Specialist Committee

FEMA, Region IX