

Appendix N-2
Evacuation Travel Time Assessment

Memorandum

Date: January 31, 2024
To: Jennifer Wade and Bibiana Sparks, Acorn Environmental
From: Ian Barnes, PE, and Grace Chen, Fehr & Peers
Subject: Koi Nation Shiloh Resort & Casino Evacuation Travel Time Assessment

WC23-4046

This technical memorandum documents the results of the evacuation travel time assessment for the proposed Shiloh Resort & Casino project in the unincorporated Larkfield-Wikiup area of Sonoma County, California. The project is located at a 68.6-acre site at 222 East Shiloh Road, and the proposed development includes a casino, hotel, ballroom/meeting space, event center, spa, and associated parking and infrastructure. While the project has multiple alternatives, this evacuation assessment is focused on the full buildout alternative (Alternative A, hereinafter referred to as the "Project").

The primary purpose of this evaluation is to document the effect of the proposed Project on evacuation times for the area surrounding the project (including the Town of Windsor) and other adjacent areas along the US 101 corridor during potential wildfire events, as required by the National Environmental Policy Act (NEPA), the Council on Environmental Quality Guidelines for Implementing NEPA, and the BIA NEPA guidebook. As this is a new area of study under NEPA, few studies of this type have been completed for NEPA purposes, and as wildfire behavior is unpredictable, this analysis is not an exhaustive review of all potential wildfire and evacuation scenarios in the study area. Rather, the analysis was based on early evacuation recommendations and scenarios developed through conversations with the project team's local experts in wildfire behavior and evacuation events¹ that represent scenarios that are based on actual wildfire and evacuation history in the study area and provide a good faith effort at the disclosure of the Project's impacts on study area evacuation times for NEPA purposes.

¹ These experts include: Vern Losh at Losh & Associates (former head of the Sonoma County Department of Emergency Services); Robert Giordano (former Sonoma County Sheriff) and Clint Shubel (former Sonoma County Assistant Sheriff) at CAS Safety Consulting, LLC., who served as the Sonoma County Sheriff's Incident Commander during the 2017 Sonoma County Complex Wildfire Disaster.



Project Elements and Project Evacuation Demand

The Project is expected to have about 5,110 passenger vehicle parking spaces, including a parking garage of 3,692 parking spaces, surface parking of 618 spaces, and an entry area parking of 800 spaces. It will also have nine spaces for bus parking. To be conservative, this study assumes maximum capacity of the passenger parking, and further increased demand loading by five percent (5%) to reach the conservative estimate of 5,367 vehicles that would need to evacuate from the Project site.

Study Background, Study Area, and Study Scenarios

Background

Sonoma County has undergone multiple wildfire evacuation events since 2017, including the 2017 Tubbs Fire in Santa Rosa and 2019 Kincade Fire near Geyserville. In the case of the Tubbs Fire, evacuations occurred with little warning as the Tubbs Fire was driven by high winds. In the case of the Kincade Fire, evacuations in other communities like Windsor and Santa Rosa occurred with some warning time as the Kincade Fire had started near Geyserville a few days prior and eventually spread through Sonoma County. These fire events show that some events result in evacuations with “no notice” and some events result in evacuations “with notice.”

Study Area

During an evacuation event, key bottlenecks² in the circulation system can develop due to a combination of through-traffic demand and demand from evacuating vehicles. Based on the large geographic range of the bottlenecks, the experts on the project team recommended a study area for the Shiloh Resort analysis generally bound by the following:

- US 101/Healdsburg Avenue-Old Redwood Highway interchange in the north
- US 101 at the northern Santa Rosa city limit in the south
- The Russian River and Laguna de Santa Rosa in the west
- The intersection of Mark West Springs Road/Porter Creek Road/Leslie Road in the east

This study area includes the Town of Windsor. It does not include land uses within the City of Santa Rosa, other land uses that would primarily evacuate south along Calistoga Road or Wallace Road into the City of Santa Rosa, or other land uses taking access along Porter Creek Road or along Chalk Hill Road north of Jacobson Road; these areas in and around Santa Rosa would use roadways and/or the City of Santa Rosa street grid system where Shiloh Resort evacuation

² Traffic engineers use the term “bottlenecks” to describe potential congestion points. Others use the term “choke points”. These two terms are synonymous.



demand is anticipated to have little effect on evacuation times (due to the spread of vehicle demand along numerous roadways).

Based on the wildfire history in the Project area, the locations of key bottlenecks, and the need to understand the benefits of early evacuation of the Project site (should conditions provide an opportunity for early evacuation), the project team and its experts defined the following study scenarios for the analysis of the Shiloh Resort's effect on evacuation times. Each scenario is analyzed for the Project opening year (2028) and buildout year (2040) conditions, both with and without the Project.

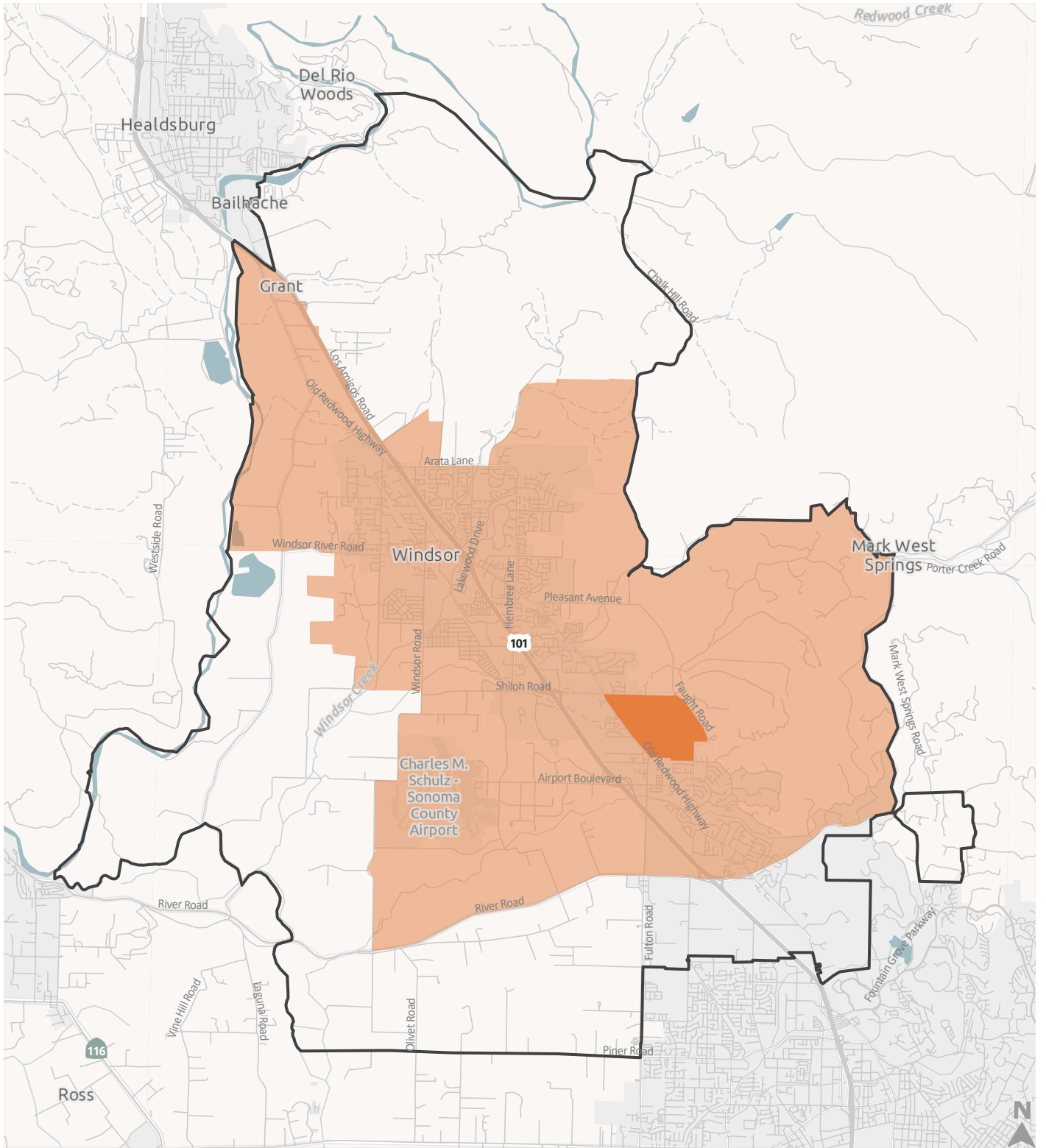
Scenarios

"No Notice" Scenario (Tubbs Fire-inspired)

In the No Notice scenario, it is assumed that a rapidly spreading wildfire requires the simultaneous evacuation of all land uses within the entire study area without notice; this is a reasonable worst-case scenario event based on expert opinion. These zones are shown in **Figure 1**. As noted by the local experts, such no notice evacuation scenarios are unlikely to happen in the future given the current fire detection and alert technologies. To maximize the Project's potential to impact evacuation times, Fehr & Peers assumed that an evacuation order would be issued at 4:30 PM (the afternoon peak hour of typical travel) on the Friday before Labor Day (when wineries are in the harvest period, and the Friday before a major holiday weekend). This scenario has a theoretical maximum background utilization of the study area's roadway network, with limited remaining capacity to accommodate the Project's evacuation demand.

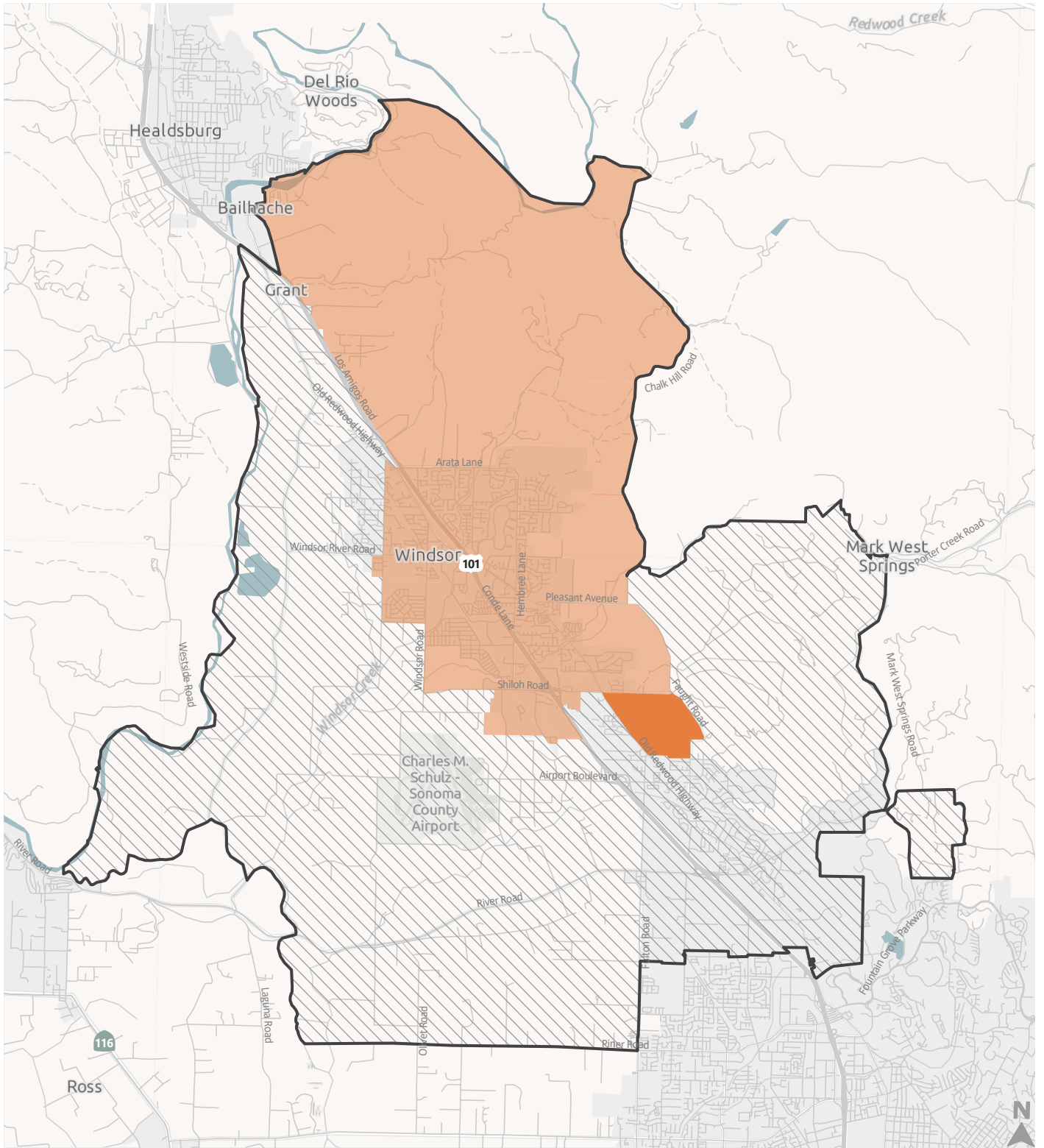
"With Notice" Scenario (Kincade Fire-inspired)

The With Notice scenario assumes a wildfire scenario similar to the 2019 Kincade Fire. In this scenario, there would be some knowledge of a wildfire burning in the direction of the study area before an evacuation order or warning was issued. A time-shifted version of the Kincade Fire Evacuation Warning and Order timeline was used as a basis for this scenario, which is included in **Appendix A**. Using the designated evacuation zones in the Kincade Fire timeline and maintaining the same mandatory evacuation time differences, two evacuation phases have been created: phase 1 zones evacuating at 4:30 PM, and phase 2 zones evacuating at 1:00 AM, as shown in **Figure 2**. In this analysis, the Project zone is assumed to evacuate at the same time as the phase 1 zones. The With Notice scenario evaluates if the evacuation demand from the phase 1 land use and the proposed Project completely exits the southern and western bounds of the study area prior to the phase 2 evacuation order goes into effect. Like the No Notice scenario, the With Notice scenario assumes that an evacuation order would be issued at 4:30 PM on the Friday before Labor Day.



- Study Area
- Project Zone
- Evacuation Zone

Figure 1
Evacuation Zone for No Notice Scenario







-  Study Area
-  Project Zone (Phase 1)
-  Phase 1 Evacuation Zone
-  Phase 2 Evacuation Zone

Figure 2
Evacuation Zone for With Notice Scenario





Assumptions

The following key assumptions were used in the development of background and evacuation traffic demand. All assumptions follow typical traffic engineering practice or were verified as appropriate by the project team's experts.

Background Traffic

- Background traffic data was based on outputs from the SCTA travel demand model from the traffic study for the Project. Adjustments were made using location-based services "Big Data" ³ for locations along US 101 to establish an evacuation scenario baseline condition that more closely aligns with critical fire season in Sonoma County.
- As noted by the Project team's experts, background traffic demand on US 101 and other key regional routes remained throughout the analysis period. However, trips into the evacuation area are excluded starting 4:30 PM, as it is unlawful to enter an area under an Evacuation Order. Trips leaving the evacuation area were configured to represent evacuation demand.
- Year 2040 background traffic demand was developed based on applying a 1.4% per year straight-line growth factor to base traffic volumes. The growth factor was developed using information from the SCTA travel demand model.

Evacuation Demand

Evacuation loading has the following distribution by time period:

- 30% evacuating from 4:30 PM to 4:45 PM
- 60% evacuating from 4:45 PM to 5:00 PM
- 10% evacuating from 5:00 PM to 5:15 PM

Evacuation Destination Patterns

In the No Notice scenario, the evacuating traffic zones have the following distribution:

- 15% evacuating north (via US 101 and Healdsburg Avenue)
- 10% evacuating west (via Eastside Road and River Road)
- 75% evacuating south (via Laguna Road, Olivet Road, Fulton Road, Barnes Road, US 101, Old Redwood Highway, and Cross Creek Road)

³ LBS data is provided from devices, primarily smart phones, which run applications and connect to cellular, WiFi, and/or GPS networks. LBS data is carrier-neutral and uses multiple location technologies, providing few gaps in coverage and high spatial precision.



In the With Notice scenario, the evacuating traffic zones have the following distribution:

- 5% evacuating west (via Eastside Road and River Road)
- 95% evacuating south (via Laguna Road, Olivet Road, Fulton Road, Barnes Road, US 101, Old Redwood Highway, and Cross Creek Road)

Methodology

EVAC+ Tool

The wide geographic range of both scenarios would result in a large-scale evacuation which would affect multiple bottlenecks in the study area. Evacuation demand was modeled using the EVAC+ tool developed by Fehr & Peers. The EVAC+ tool uses socioeconomic data from the U.S. Census and other data from the SCTA travel demand model such as number of households, population, vehicle ownership, and employment to forecast the number of vehicles that would be generated during an evacuation event. The number of visitor evacuation trips was estimated according to a Sonoma County tourism report in 2023.⁴

The 2028 opening year analysis scenario was interpolated from the 2019 and 2040 scenario years of the SCTA travel demand model as the basis for the travel demand forecasts. A 2040 far-term analysis was also analyzed using data from the SCTA travel demand model; future year land use information from the SCTA travel demand model was used as the basis for the EVAC+ analysis, and SCTA model growth rates were used to inform the process of growing Year 2019 background traffic volumes to arrive at background Year 2040 volumes. The Year 2028 and 2040 analyses also include the proposed Shiloh Terrace residential development and Shiloh Crossing and Clearwater mixed-use developments that are to be built near the Shiloh Resort site by 2028, using publicly available data for the three projects.

Dynamic Traffic Assignment

The background traffic demand and EVAC+ evacuation demand was input into a dynamic traffic assignment (DTA) model, which uses the SCTA travel demand model network capacities to route the travel demand between origin points (Project site, residential areas, etc.) to evacuation gateways at the boundary of the study area (e.g., US 101 just north of Santa Rosa). When traffic demand exceeds capacity, vehicles are stored on the roadway (i.e., vehicles are stuck in traffic) between time intervals in the model. Thus, one of the key outputs of the DTA is how long it takes to evacuate the study area given the amount of development in the study area and the capacity of the roadway system. A comparison of the No Project and Plus Project DTA outputs indicates the Project's effect on evacuation times for the study area.

⁴ See *2023 Quick Facts, Sonoma County Tourism – Visitor Profile Highlights*, Sonoma County Tourism (SCT).
https://www.sonomacounty.com/sites/default/files/2023_quick_facts_sonoma_county_tourism.pdf.



Roadway capacities were determined from the SCTA travel demand model, but with a 15% reduction in capacity to account for the various incidents that may occur during a wildfire event that might limit or reduce the capacities of these roadways (i.e. presence of debris, lowered visibility due to smoke, or other hazards). The free-flow speeds of roadways were set as their speed limits, with special attention paid to base operating speed on US 101 to reflect congestion patterns. For this analysis, evacuation elapsed time was considered as ended when the network returned to an uncongested state (all links with 15-minute volume to capacity ratio of 0.75 or less).

Results

No Notice Scenario

As noted previously, the No Notice scenario assumes a mass evacuation of the entire study area concurrent with a theoretical peak in background through traffic associated with Labor Day holiday and harvest season traffic. This evacuation was considered by the experts on the project team to be a reasonable worst-case wildfire evacuation scenario.

As expected, given the large geographic scale of the evacuation event, the EVAC+ DTA model runs indicate substantial congestion in the study area in the event of a mass evacuation. In the Plus Project scenario, the following vehicle demand would be added to the key bottlenecks in the study area:

- Southbound Old Redwood Highway and Faught Road towards westbound Airport Boulevard
- US 101 on-ramps at Airport Boulevard, River Road, and Windsor River Road
- Southbound US 101 corridor between Windsor and Santa Rosa (corridor is already congested with afternoon peak hour traffic)

The results of the evacuation travel time analysis are presented below in **Table 1**. The results of the analysis indicate the modeled amount of time to clear the study area of evacuation demand under the No Project and Plus Project scenarios. It is noted that the estimates are based on assumptions (as previously described) and, given the unpredictable nature of fire behavior, should not be taken as an evacuation time standard for the study area.



Table 1: No Notice Scenario Evacuation Time Results

Scenario Year	Total Elapsed Time to Evacuate Study Area (min)		
	No Project	Plus Project	Delta
2028	210	270	+29%
2040	315	420	+33%

Source: Fehr & Peers, 2024.

With Notice Scenario

As noted previously, the With Notice scenario assumes an evacuation pattern similar to that of the 2019 Kincade Fire. The scenario setting remains at 4:30 PM on the Friday before Labor Day as the background traffic level. In this analysis, the project employees and visitors evacuate with the phase 1 evacuation zones.

The results of the evacuation travel time analysis are presented below in **Table 2**. The results of the analysis indicate the modeled amount of time to clear the study area of phase 1 evacuation demand under 2028 and 2040 conditions is less than 8.5 hour (510 minutes), which is the time difference between phase 1 and phase 2 zones receiving the evacuation orders. The key bottlenecks in this scenario are:

- Southbound Old Redwood Highway and Faight Road towards westbound Airport Boulevard
- US 101 on-ramps at Airport Boulevard, River Road, and Shiloh Road
- Southbound US 101 corridor between Windsor and Santa Rosa (corridor is already congested with afternoon peak hour traffic)

Table 2: With Notice Scenario Operations Analysis Results

Scenario Year	Total Elapsed Time to Evacuate Study Area (min)		
	No Project	Plus Project	Delta
2028	195	300	+54%
2040	345	360	+4%

Source: Fehr & Peers, 2024.

It is noted that, while the calculation summarized in **Table 2** is based on several conservative assumptions, the results of the analysis indicate that the phase 1 zones and the Project site would be able to fully evacuate before phase 2 zones would have to evacuate.



Project-Site-Only Evacuation Time

To mitigate the impact of the Project on evacuation times in the area, a possible provision is that the Project can evacuate early. This means that the employees and visitors on the Project would evacuate when a nearby evacuation zone receives an evacuation warning or an evacuation order, prior to the project's evacuation zone receiving an evacuation order, should a wildfire event allow for sufficient warning ahead of time. Thus, the Project-site-only evacuation time is modeled while maintaining the rest of the With Notice scenario assumptions, such as the level of background traffic and the evacuation destinations.

The results of this Project-only evacuation travel time analysis show that in 2028 and 2040, the Project vehicles would need a maximum of 52 and 54 minutes, respectively, to evacuate study area. Thus, with early evacuation, the vehicle demand generated by the Project would have exited the study area before neighboring evacuation zones are ordered to evacuate, if the Project began evacuating about one hour ahead of other zones.

Conclusion

The results of the No Notice scenario indicate that the Project would have a 29%-33% (60 to 105 minute) effect on the overall time to clear the study area of evacuation demand. It is noted that the No Notice scenario represents a mass evacuation that experts indicate is far larger than what would be reasonably expected in the future, and thus represents a worst-case scenario based on analysis of historic events. The results of the With Notice scenario indicate that the Project would have a 4%-54% (15 to 105 minutes) effect on the overall time to clear the study area of phase 1 and Project evacuation demand. An additional Project-only evacuation analysis shows that the Project's early evacuation procedure under a 2019 Kincade Fire scenario would result in all project-related evacuation demand destined towards Santa Rosa or west of the Town of Windsor clearing the study area within an hour.

This completes our evacuation travel time assessment for the proposed Shiloh Resort & Casino project in Sonoma County, California. Please call Grace Chen at (707) 582-0039 with any questions.

Appendix A
Kincade Fire Evacuation
Warning/Order Pattern

Kincade Fire Evacuation Orders



Date	Time	Mandatory Evacuation Zones	Evacuation Warning Zones	Open Zones
October 23, 2019	11:34 PM	Community of Geyserville (Census Designated Area) Population: 874	N/A	N/A
October 26, 2019	10:00 AM	Zones: 1, 2, 3 Population: 44,131	Zones: 4, 5 Population: 14,459	N/A
October 26, 2019	6:30 PM	Zones: 1, 2, 3, 4, 5, 7 Population: 83,764	Zones: 6, 8 Population: 41,668	N/A
October 27, 2019	4:30 AM	Zones: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 Population: 186,651	N/A	N/A
October 27, 2019	12:45 PM	Zones: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 Population: 186,651	Zone: 21 Population: 6,256	N/A
October 28, 2019	2:00 PM	Zones: 1, 2, 3, 4, 5, 6, 8A, 9, 10 Population: 136,148	Zones: 7, 8B, 21 Population: 56,804	N/A
October 28, 2019	6:00 PM	Zones: 1, 2, 3, 4, 5, 6, 8A, 9, 10 Population: 136,148	Zones: 7, 8B, 21, 31 Population: 58,681	N/A
October 29, 2019	2:00 PM	Zones: 1, 2, 3, 4B, 5, 6, 8A, 9, 10 Population: 133,740	Zones: 4A, 7, 8B, 21, 31, 32, 33, 34 Population: 65,046	N/A

Kincade Fire Evacuation Orders



Date	Time	Mandatory Evacuation Zones	Evacuation Warning Zones	Open Zones
October 30, 2019	1:00 PM	Zones: 1B, 2, 3C, 5B Population: 3,381	Zones: 1A, 3A, 3B, 5A, 6 (original revised to remove City of Santa Rosa), 21, 31, 32, 33, 34 Population: 64,860	Zones: 4A, 4B, 7, 8A, 8B, 9, 10, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa) Population: 130,544
October 31, 2019	2:00 PM	Zones: 1B, 2, 3C, 5B Population: 3,381	Zones: 1A, 3A, 3B, 5A, 6 (original revised to remove City of Santa Rosa) Population: 52,770	Zones: 4A, 4B, 7, 8A, 8B, 9, 10, 21, 31, 32, 33, 34, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa) Population: 142,634
November 1, 2019	1:00 PM	Zones: 1B (original reduced to remove a portion of Dry Creek Rancheria), 2, 3C, 5B Population: 3,376	N/A	Zones: 1A (original expanded into 1B to include a portion of Dry Creek Rancheria), 3A, 3B, 4A, 4B, 5A, 6 (original revised to remove City of Santa Rosa), 7, 8A, 8B, 9, 10, 21, 31, 32, 33, 34, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa) Population: 195,409

Kincade Fire Evacuation Orders



Date	Time	Mandatory Evacuation Zones	Evacuation Warning Zones	Open Zones
November 1, 2019	3:00 PM	Zones: 1C, 2, 3C, 5B Population: 2,608	Zone: 1B (original reduced to remove a portion of Dry Creek Rancheria; further reduced to remove new Zone 1C) Population: 768	Zones: 1A (original expanded into 1B to include a portion of Dry Creek Rancheria), 3A, 3B, 4A, 4B, 5A, 6 (original revised to remove City of Santa Rosa), 7, 8A, 8B, 9, 10, 21, 31, 32, 33, 34, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa) Population: 195,409
November 2, 2019	3:00 PM	Zones: 1C (original reduced to remove new Zone 1D), 2, 3C (original reduced to remove new Zone 3D), 5B (original reduced to remove new Zone 5C) Population: 978	Zones: 1D, 3D Population: 1,324	Zones: 1A (original expanded into 1B to include a portion of Dry Creek Rancheria), 1B (original reduced to remove a portion of Dry Creek Rancheria; further reduced to remove new Zone 1C), 3A, 3B, 4A, 4B, 5A, 5C, 6 (revised to remove City of Santa Rosa), 7, 8A, 8B, 9, 10, 21, 31, 32, 33, 34, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa) Population: 196,483

Kincade Fire Evacuation Orders



Date	Time	Mandatory Evacuation Zones	Evacuation Warning Zones	Open Zones
November 3, 2019	3:00 PM	N/A	<p>Zones: 1C (original reduced to remove new Zone 1D), 2, 3C (original reduced to remove new Zone 3D), 5B (original reduced to remove new Zone 5C)</p> <p>Population: 978</p>	<p>Zones: 1A (original expanded into 1B to include a portion of Dry Creek Rancheria), 1B (original reduced to remove a portion of Dry Creek Rancheria; further reduced to remove new Zone 1C), 1D, 3A, 3B, 3D, 4A, 4B, 5A, 5C, 6 (revised to remove City of Santa Rosa), 7, 8A, 8B, 9, 10, 21, 31, 32, 33, 34, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa)</p> <p>Population: 197,807</p>

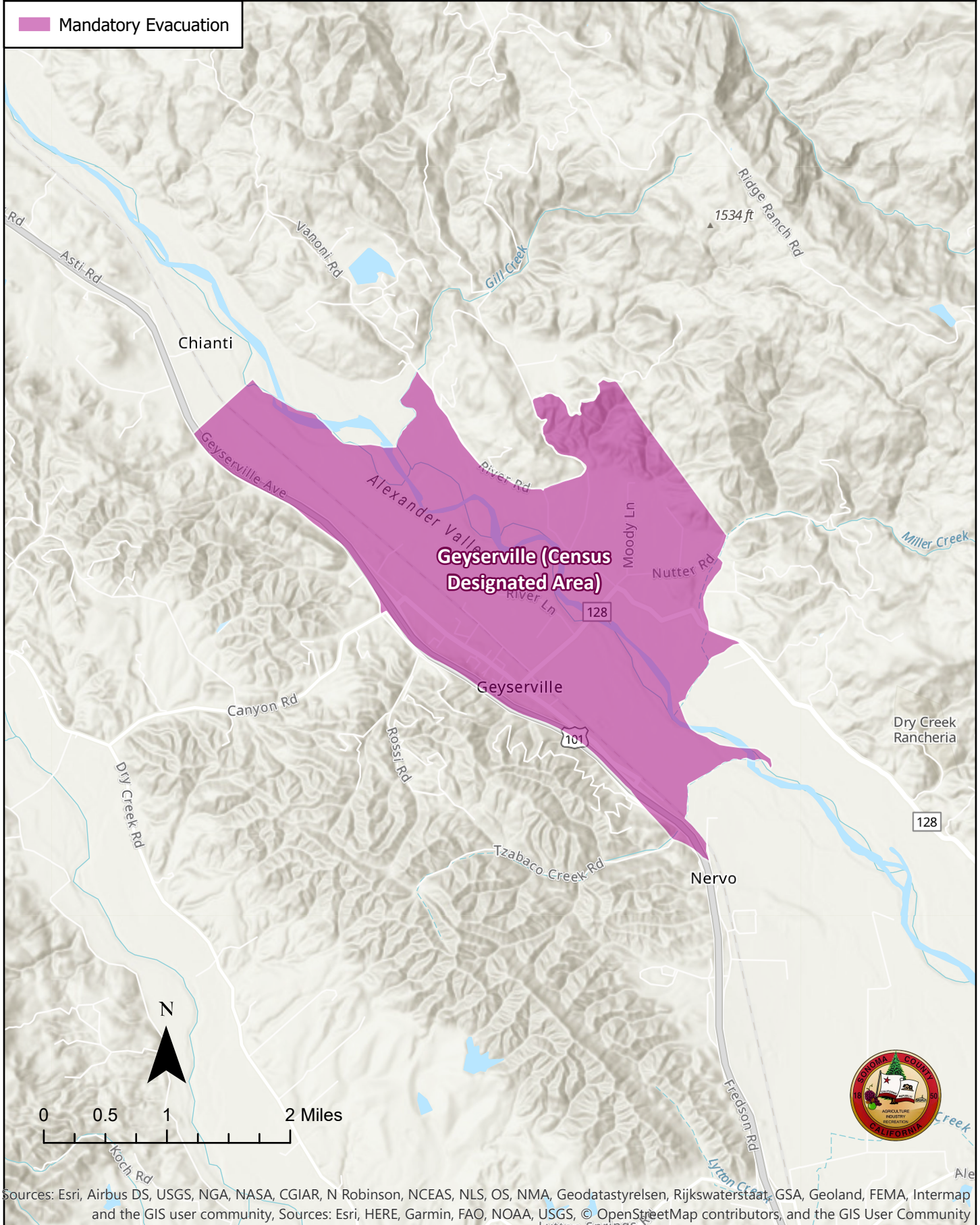
Kincade Fire Evacuation Orders



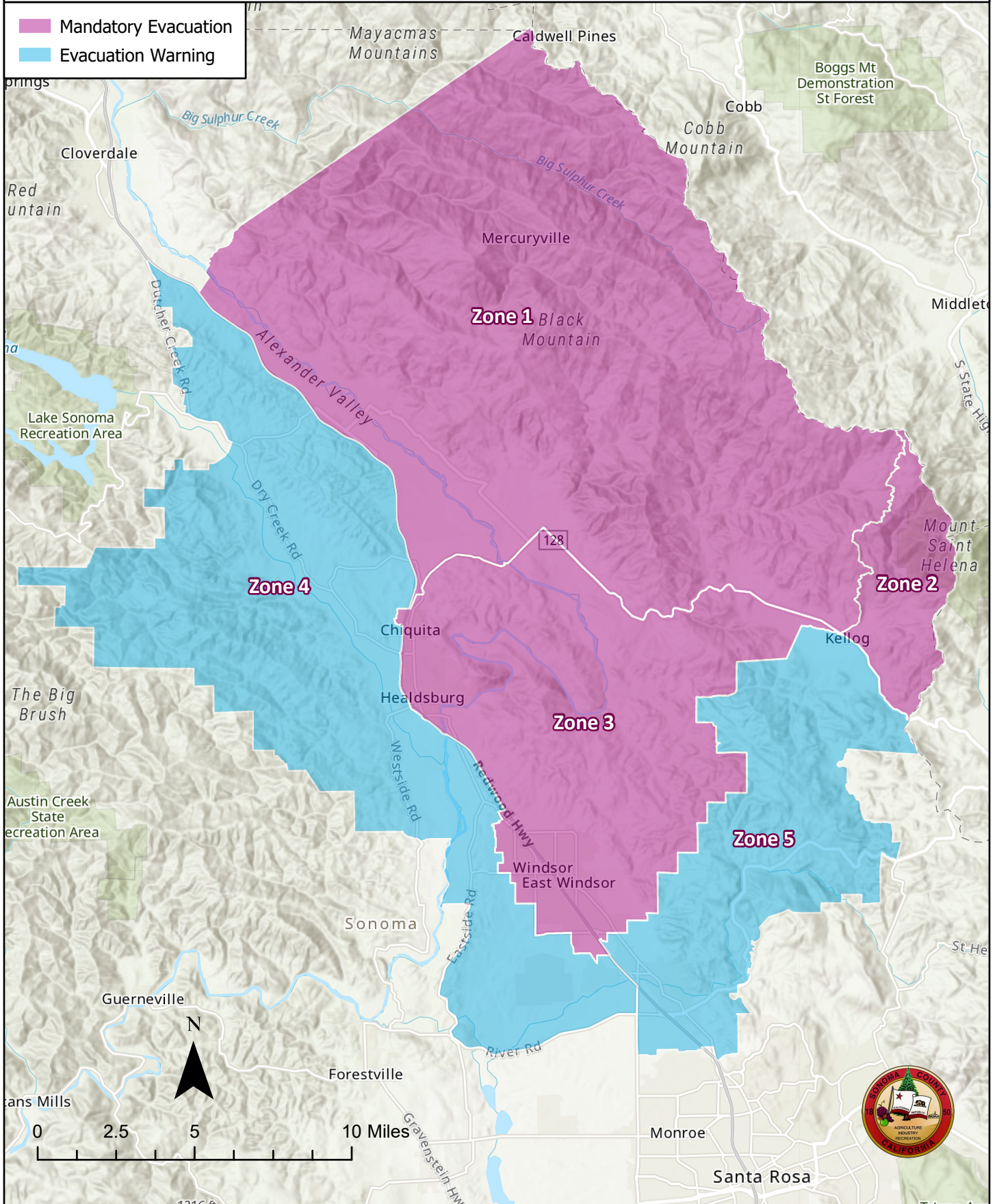
Date	Time	Mandatory Evacuation Zones	Evacuation Warning Zones	Open Zones
November 4, 2019	3:00 PM	N/A	N/A	<p>Zones: 1A (original expanded into 1B to include a portion of Dry Creek Rancheria), 1B (original reduced to remove a portion of Dry Creek Rancheria; further reduced to remove new Zone 1C), 1C (original reduced to remove new Zone 1D), 1D, 2, 3A, 3B, 3C (original reduced to remove new Zone 3D), 3D, 4A, 4B, 5A, 5B (original reduced to remove new Zone 5C), 5C, 6 (revised to remove City of Santa Rosa), 7, 8A, 8B, 9, 10, 21, 31, 32, 33, 34, Unnamed (portion of original Zone 6 that was within the City of Santa Rosa)</p> <p>Population: 198,785</p>

Kincadee Fire Evacuation Order as of October 23, 2019 at 11:34 PM

 Mandatory Evacuation



Kincadee Fire Evacuation Orders as of October 26, 2019 at 10:00 AM



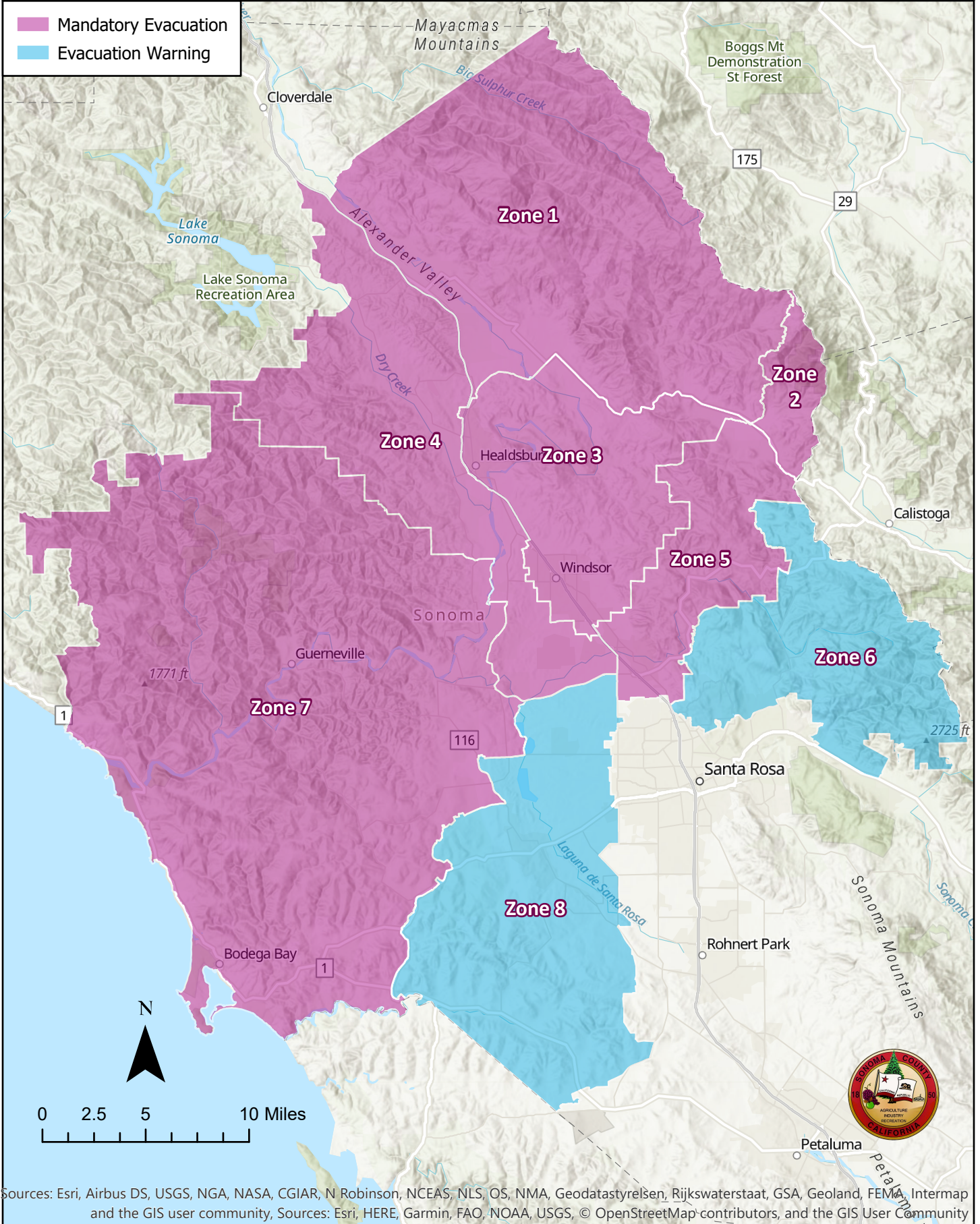
- Mandatory Evacuation
- Evacuation Warning



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap, Inc. and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

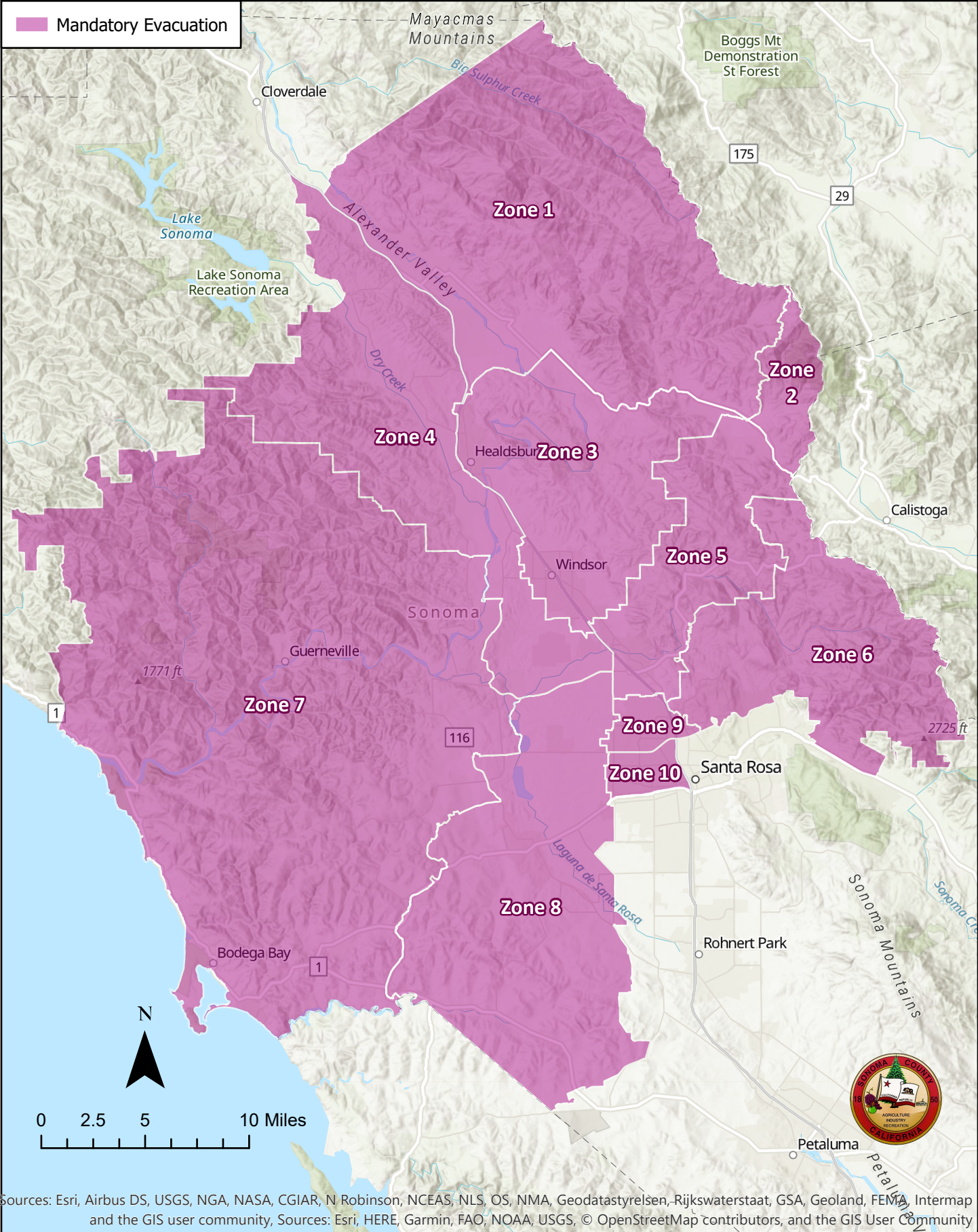
Kincade Fire Evacuation Orders as of October 26, 2019 at 6:30 PM

- Mandatory Evacuation
- Evacuation Warning



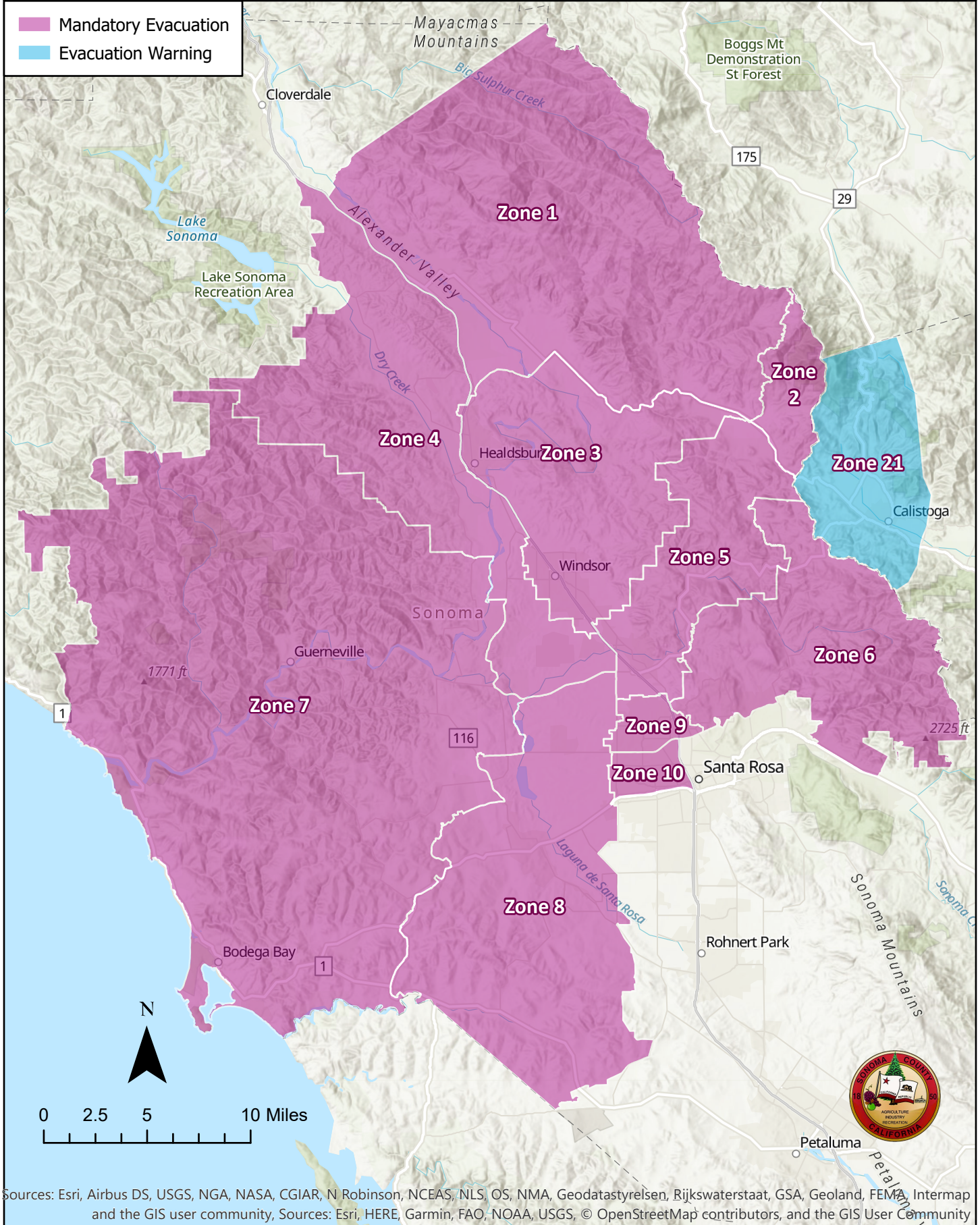
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincadee Fire Evacuation Orders as of October 27, 2019 at 4:30 AM

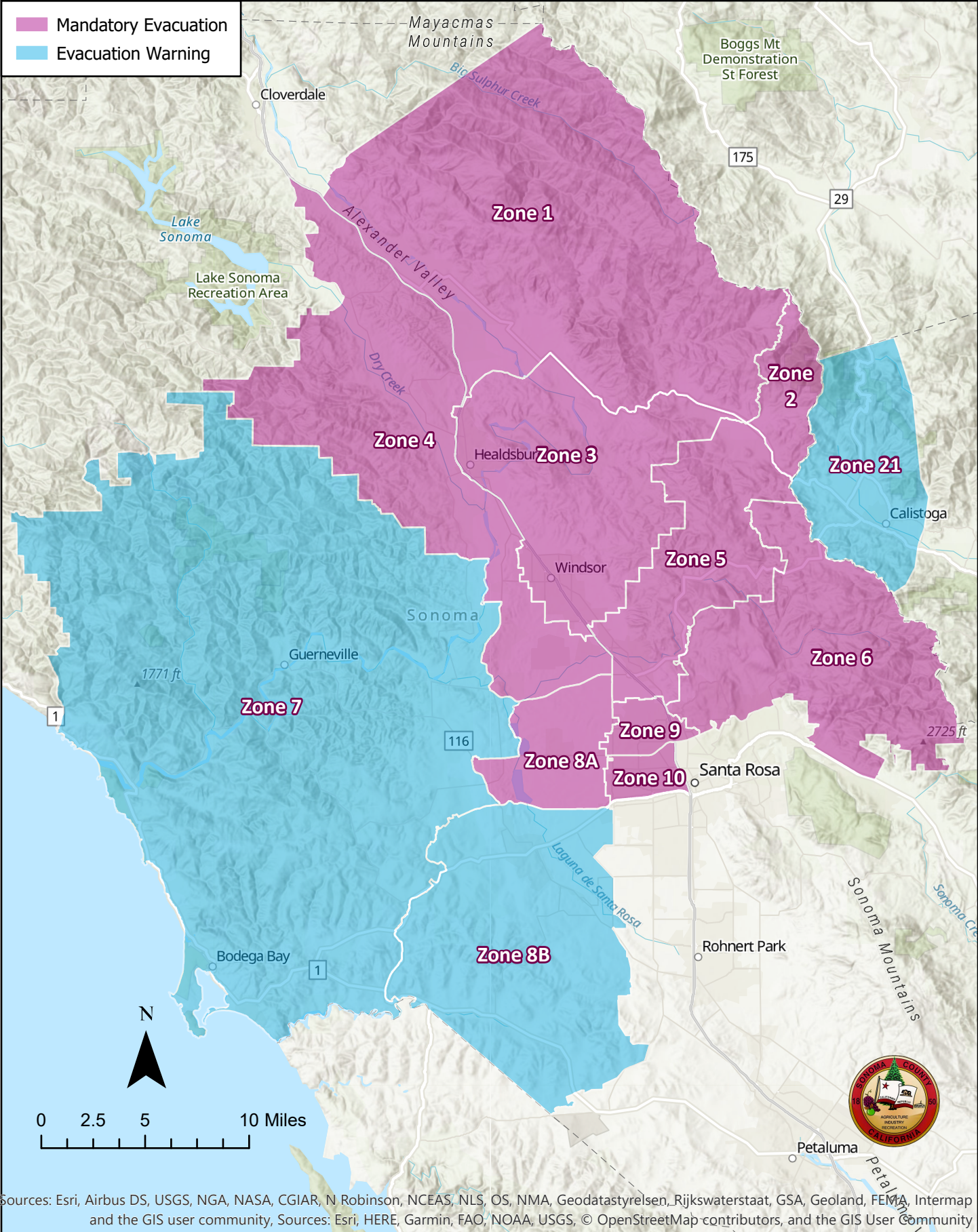


Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincadee Fire Evacuation Orders as of October 27, 2019 at 12:45 PM



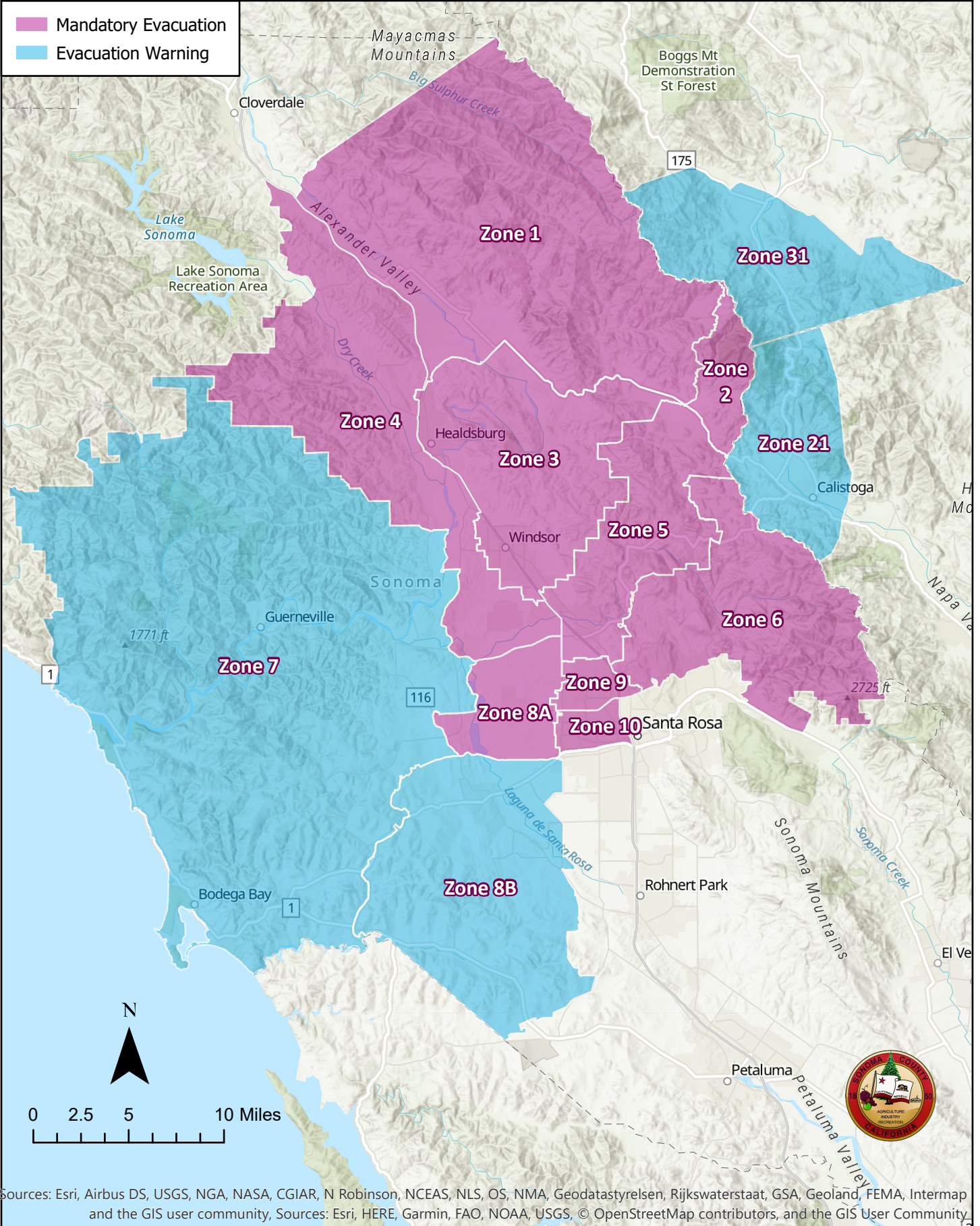
Kincade Fire Evacuation Orders as of October 28, 2019 at 2:00 PM



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community



Kincade Fire Evacuation Orders as of October 28, 2019 at 6:00 PM

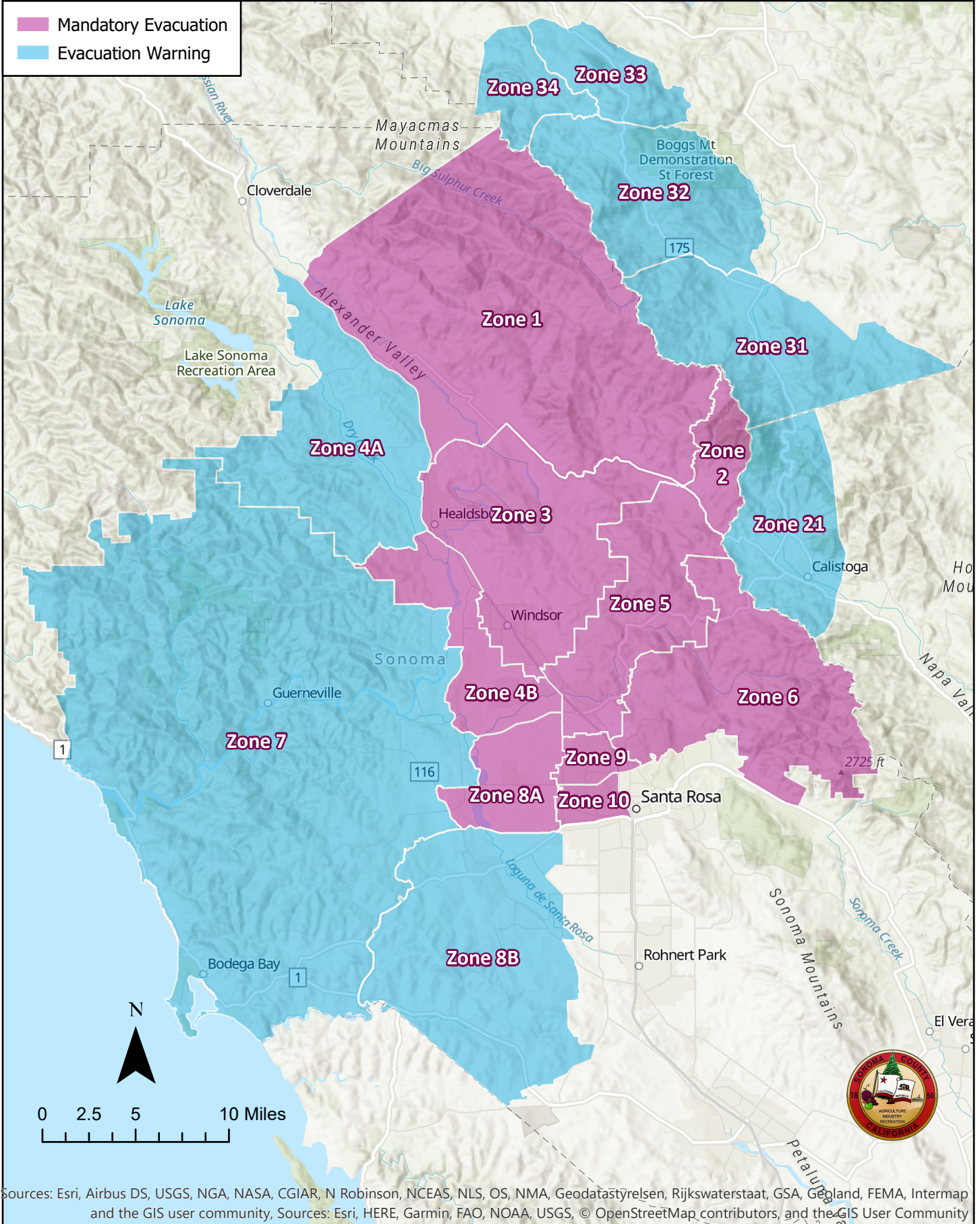
- Mandatory Evacuation
- Evacuation Warning



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community.

Kincade Fire Evacuation Orders as of October 29, 2019 at 2:00 PM

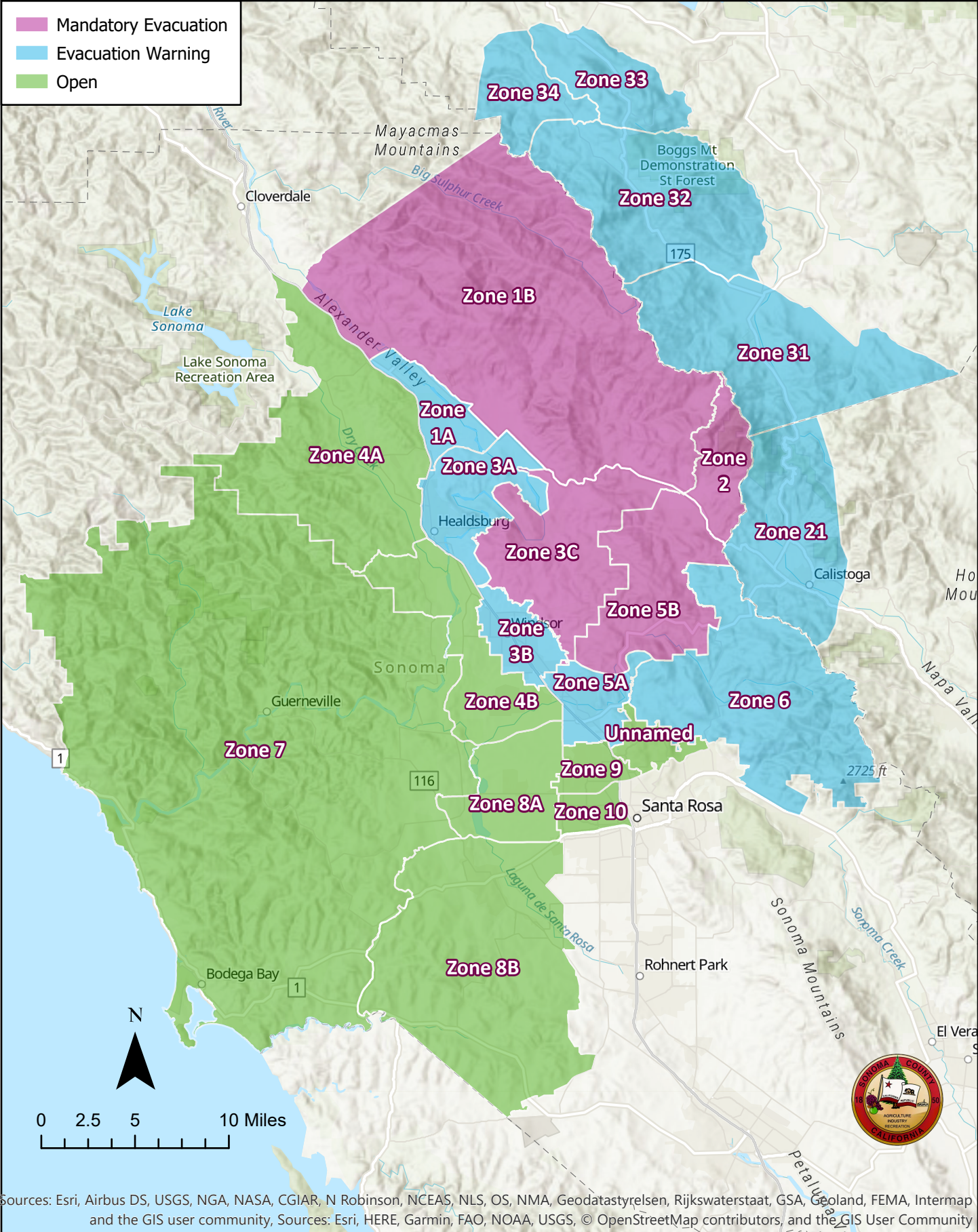
-  Mandatory Evacuation
-  Evacuation Warning



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincade Fire Evacuation Orders as of October 30, 2019 at 1:00 PM

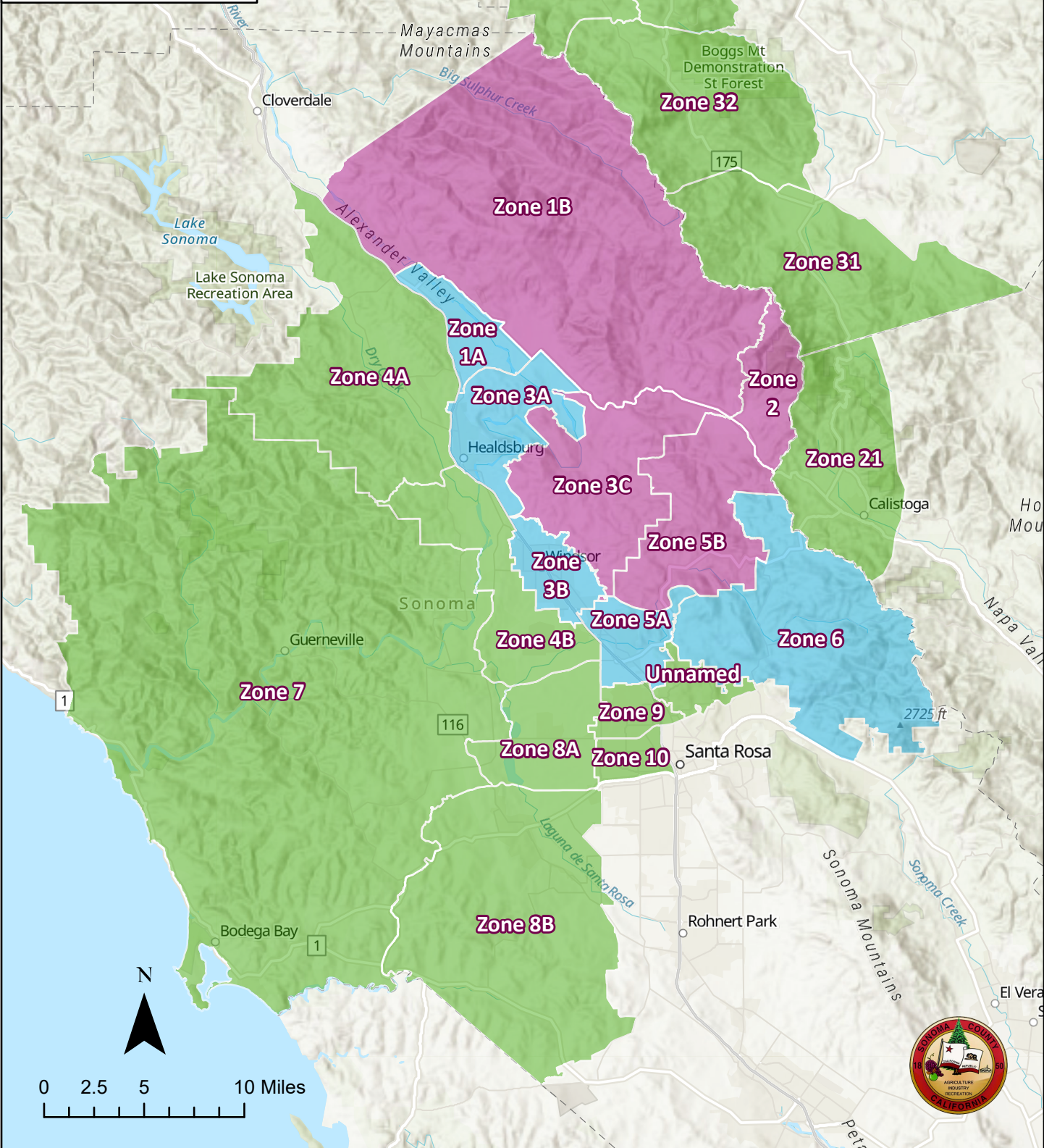
- Mandatory Evacuation
- Evacuation Warning
- Open



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodastyrelsen, Rijkswaterstaat, GSA, Goland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincade Fire Evacuation Orders as of October 31, 2019 at 2:00 PM

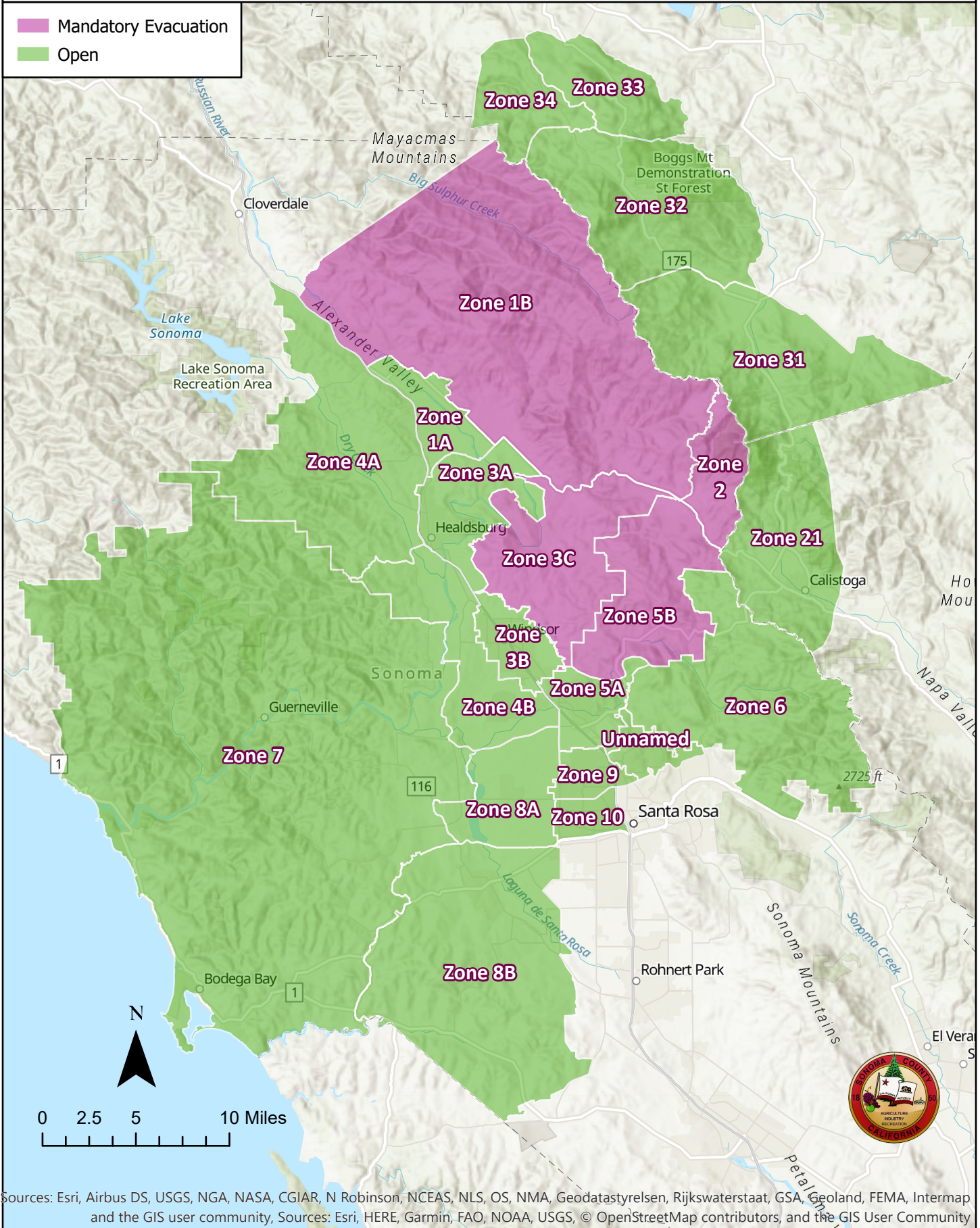
- Mandatory Evacuation
- Evacuation Warning
- Open



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasstyrelsen, Rijkswaterstaat, GSA, Goland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincade Fire Evacuation Orders as of November 1, 2019 at 1:00 PM

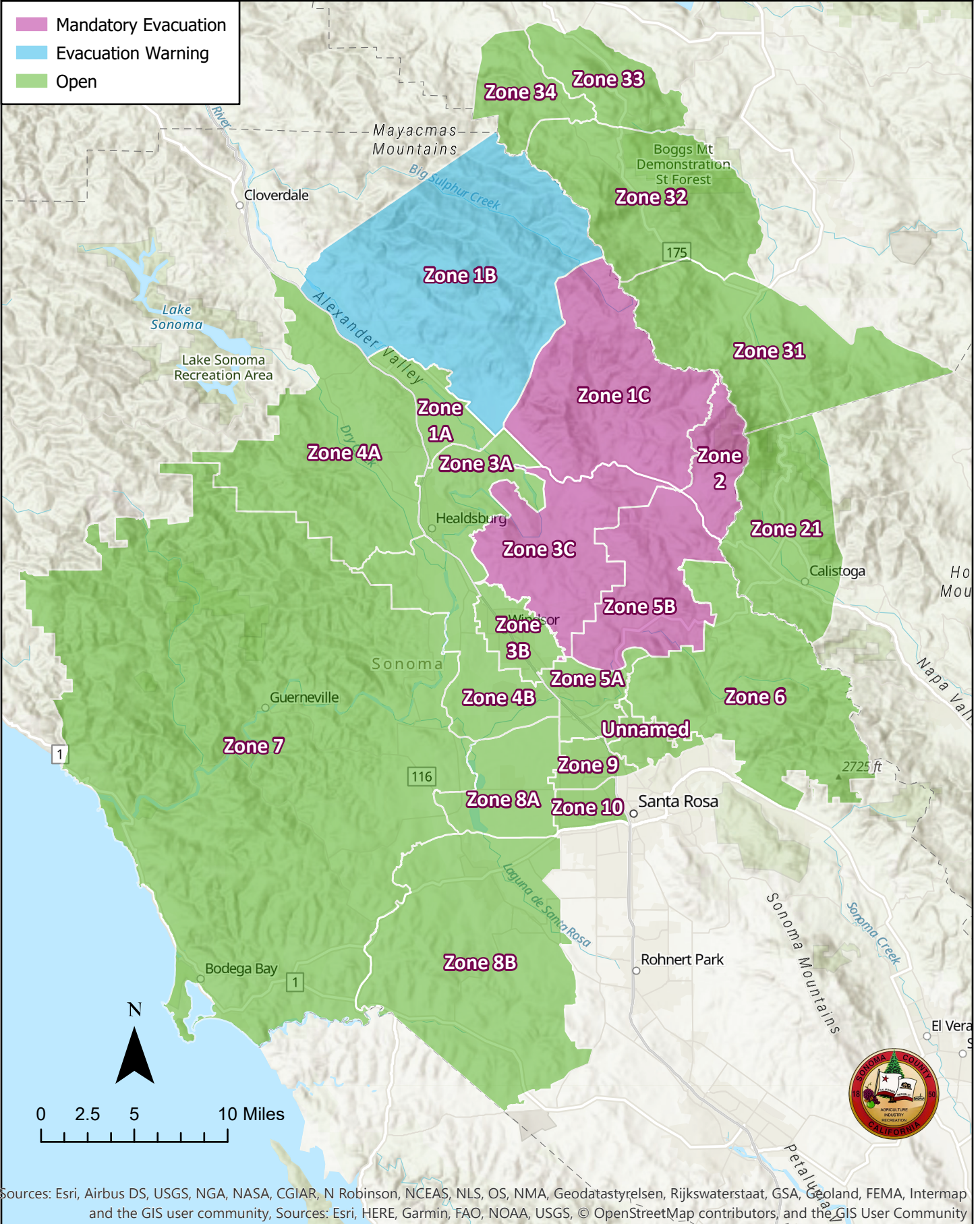
- Mandatory Evacuation
- Open



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasystemen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincade Fire Evacuation Orders as of November 1, 2019 at 3:00 PM

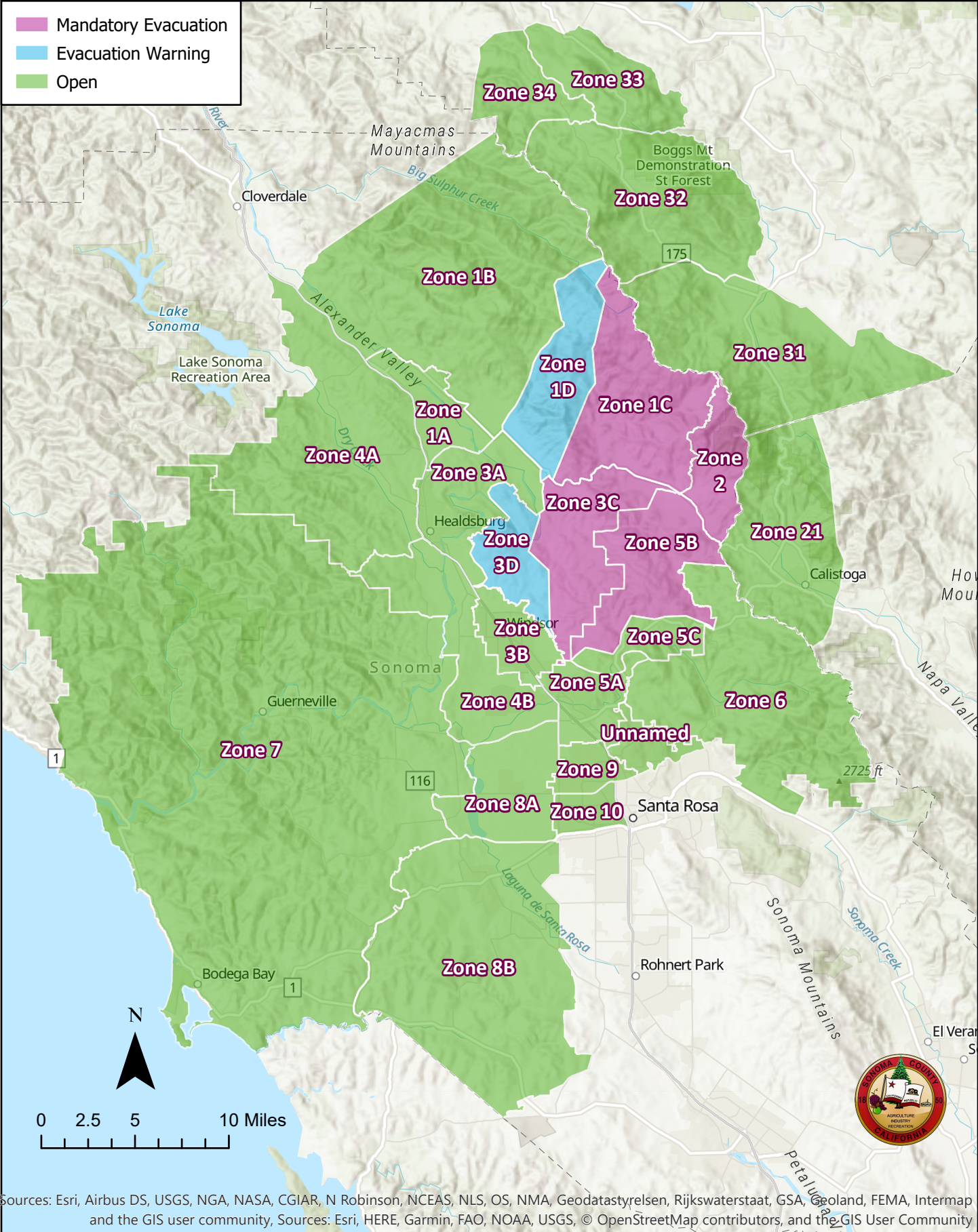
- Mandatory Evacuation
- Evacuation Warning
- Open



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasstyrelsen, Rijkswaterstaat, GSA, Goland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

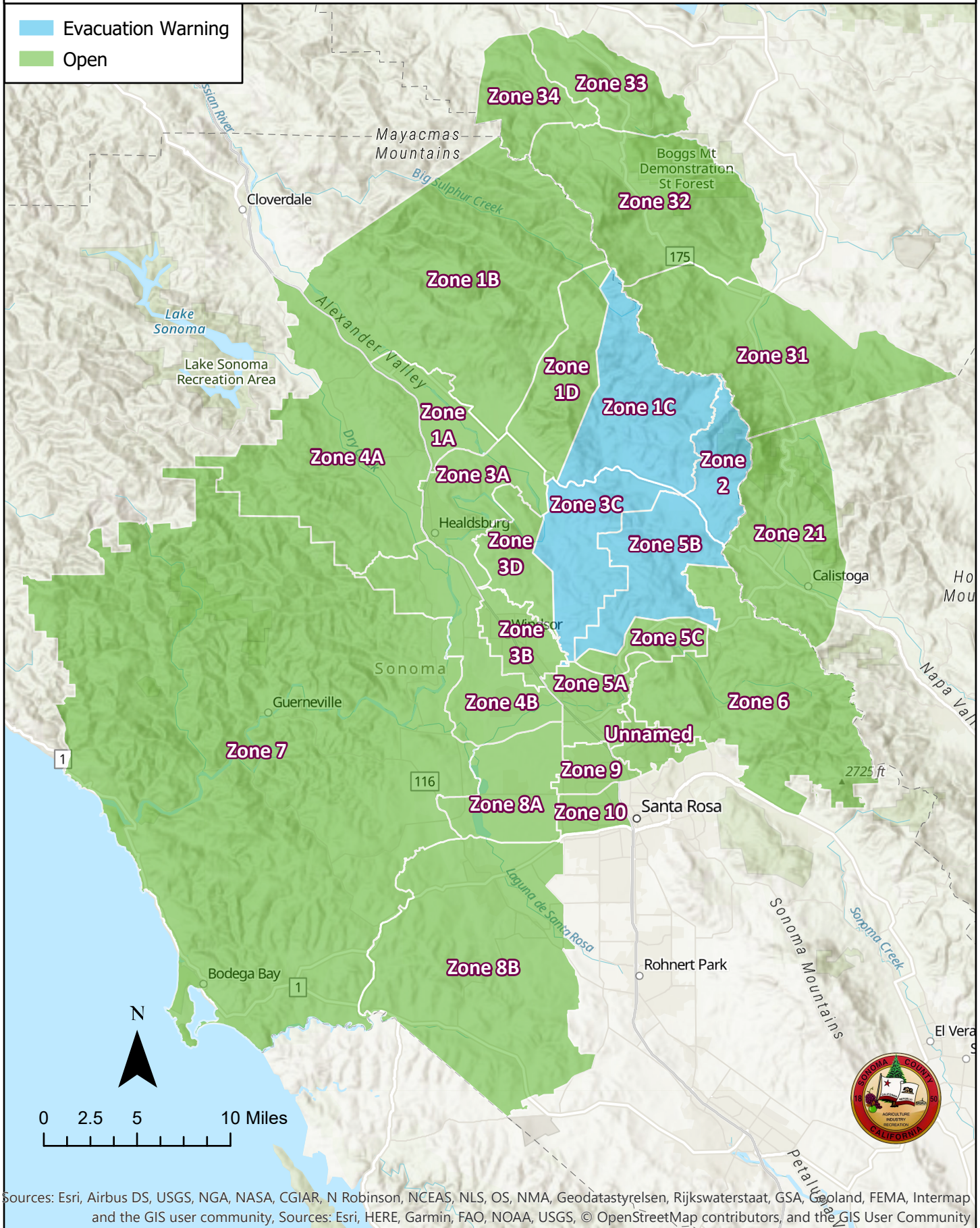
Kincadee Fire Evacuation Orders as of November 2, 2019 at 3:00 PM

Mandatory Evacuation
Evacuation Warning
Open



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasystemen, Rijkswaterstaat, GSA, Goland, FEMA, Intermap and the GIS user community, Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Kincadee Fire Evacuation Orders as of November 3, 2019 at 3:00 PM



Kincade Fire Evacuation Orders as of November 4, 2019 at 3:00 PM

