

#### Need for Preparedness: Natural Disasters in Wine Regions

- Wildfire
  - South Australia, Victoria, Queensland and Hunter Valley NSW (2019/2020)
  - Central California (2018)
  - Portugal & Spain (2017)
  - Northern California (2015, 2017, 2019, 2020)
  - Oregon (2018)
- Flood
  - Sonoma County (2006, 2017, 2019)
  - Languedoc (2014)
- Earthquake
  - South Island, New Zealand (2016)
  - Napa Valley (2014, 2020)
  - Chile (2010)







## Research Surveys and Interviews

- Surveyed 1000's of wineries in CA, OR & WA
- Interviewed Bonded wineries
  - Stags Leap AVA (Napa) and Dry Creek AVA (Sonoma)
  - Varying levels of authority
    - Winemakers, Strategy and Operational Executives
    - Tasting Room Staff and Line Workers





## Current Preparedness

- Production OSHA-Based Planning Strong
- Natural Disaster Planning Scarce
- Anticipating Interview = Greater Preparedness

"Thanks to this interview, I now know where our fire extinguishers are!"





### Impact on Preparedness: Proximity to Prior Disaster

Napa: earthquake, floods & fire

"Are we ready for another fire? God no but we will be better prepared."

Sonoma: not touched, no plan

"Nope, no plans. I guess its lazy and wishful thinking...I feel safe here. (if wildfire comes our way,) I guess the plan would be to evacuate and drive away"





## Lessons Learned

- Insurance Issues: Grapes vs Wine
- Iterative Learning: Data on the Cloud
- Need for Back-Up Energy: Generators and Solar Batteries
- Quantifying Baseline "Smokiness"
- Need for Visual Verification Endangered People and First Responders
- Lots of Informal Communication Channels
- Wine Regions are Tight Communities





# In Theory...

Bigger + Older + Higher Level Management

= Better Preparedness







# Role of Organizational Trust

• High Trust: Fairly new, lower-level employee breeches HR security to contact colleagues and ensure they are safe. When asked if she thought she might be reprimanded for breaking rules:

"No, I just wanted to know how people were. It was one of those things where I was lying in bed and I couldn't sleep and I just wanted to try to make sure people were okay...I guess technically I shouldn't (have done that) but I felt that I need to go and do that."

• Low Trust: Production and Procurement Executive with significant disaster preparedness experience:

"I haven't seen an emergency plan or our executives haven't gone over it [with us]... with our culture it's not a priority issue to address."





## What We Know

- Ethical behavior across an organization is shaped by normative behavior - positive and negative (Schaubroek 2012)
- Healthy well-being develops within ethical culture, which increases employees' commitment to and engagement in the organization, breeding organizational trust (Huhtala 2011)
- Employees are more likely to take calculated risks and innovative where high levels of organizational trust exist (Hosmer 1995, Zak 2017)





#### Communication, Trust and Resilience in Times of Disaster

When employees know their management trusts them to do the right thing and make good decisions, they are more likely to take the calculated risks that can make the critical difference in the face of crisis and disaster. When all hands truly come on deck, organizations are more likely to weather the storms of crises.







#### Recommendations: Disaster Demands Communication<sup>3</sup>

- Three layers of communication:
  - Prior communication of plans to employees, families, emergency services, vendors, parent/daughter companies,
  - Internal communication in the heat of the moment
  - External communication to employees' families, community and press in the hours and days
- Establish:
  - Back-Up Management Structure: Disaster is both personal and professional.
  - Employee Contact Info databases and phone trees with multiple contingencies.
  - Call-in Number: Easiest via a remote central point  $\geq$ 200 miles away.
- Register for Alerts
- Maintain multi-channel, continual communication to employees, press, families and EMT





### Recommendations: Wishful Thinking is Not a Strategy

- Drills
- Vineyard Management Employees are Your Employees Too!
- Power Back-up
- Training and Empowerment
- Data Protection
- Insurance Assessment
- Assess off-road capabilities of on-site vehicles
- Safe Structural Assessment (Missed Opportunities?)





### Recommendations: Build Community Resilience

- Community Resilience Planning
- Fire Maps
- Shelter Plans
- Catalog Assets
- Plan for Long Term Climatic Change







