

Not My Fault: About those tsunami sirens

Lori Dengler/For the Times-Standard

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I had second thoughts about writing this column. Focusing on sirens could give them a more important emphasis than they deserve. But there is still a substantial number of people who equate sirens with safety. And from the feedback after the tsunami test ten days ago, sirens are a confusing topic for many.

What is the purpose of a siren? To make you take notice and immediately respond. You hear a siren when driving and pull over to let emergency vehicles pass. Few of you have experienced air raid sirens firsthand, but we've all seen them in movies. Those sirens mean get to safety right now as bombs will be arriving in minutes.

The emergency vehicle behind you is a targeted siren. It's obvious who needs to respond. Air raid sirens have a broader reach, as no one knows where bombs might hit, but everyone was potentially at risk. The North Coast's tsunami sirens are not intended for instant response, and they aren't meant for everyone to hear.

Wait a minute – we could have as little as ten minutes between an earthquake and the arrival of tsunami waves, and you say sirens aren't for immediate reaction? True, but this is comparing apples and oranges. Our sirens are not intended for that type of tsunami, the one beneath our feet where everyone feels the shaking. They alert people when tsunamis come from far away – from Alaska, Chile, or Japan when we have anywhere from 4 to 15 hours before the surges arrive.

Humboldt County's 13 sirens came to us via a circuitous route. Anyone fortunate enough to have met the late Jimmy Smith, former District 1 Supervisor, made a friend for life. Jimmy had friends everywhere and one of them worked for PG&E. Jimmy learned that PG&E was replacing obsolete Diablo Canyon nuclear power plant sirens for an up-to-date modern system. With the help of Troy Nicolini at the Eureka National Weather Service office, a truckload of sirens and partial sirens arrived in Humboldt in 2006.

I remember how excited I was when the first siren was installed at the PG&E plant on King Salmon. Troy and I were invited to the site for the first test. We were warned to cover our ears and I am glad I did so. There is nothing quite like a siren to really get your attention. It is impossible to ignore when you are only 100 feet away. It was thrilling.

The second siren was installed at the NWS office on Woodley Island and over the next decade sirens were installed at Samoa, Manila, Big Lagoon, Orick, Fields Landing, Fairhaven, Moonstone, Trinidad, Shelter Cove, Clam Beach, and near the Arcata marsh. Contrary to popular opinion, the noon whistle at the Arcata Plaza was never part of the tsunami alert system. Additional sirens were installed in Del Norte County.

Siren testing became part of the annual Tsunami Communications Test in 2009. The Orick siren never worked properly but the rest did. They were tested again the following year. Planning for the 2011 test was well underway when a real tsunami event occurred. At 4:30 AM on March 11, EAS was triggered and sirens in Humboldt and Del Norte County blared. I know a number of people in Fields Landing and on the Samoa Peninsula who remember them well. They functioned as intended and played an important role in managing the evacuations.

Fast forward eleven years and our sirens have not aged well. In the tsunami tests in 2021 and 2022 only two of the original thirteen still worked (Woodley Island and Arcata) still functioned, the others victim to the salt air and corrosion of critical mechanical parts. PG&E and Shelter Cove have gotten newer sirens, and they worked as well.

Humboldt County OES estimates that it would cost \$500,000 to replace the old sirens with new ones and that cost does not include installation or maintenance. I argue that it would not be money well spent for a simple reason. It is 2022 and we now have other tools that provide more reliable and more targeted alerting for tsunami events.

The purpose of tsunami notifications is to get people out of hazard zones and to keep others from entering them. Wireless Emergency Alerts (WEA), and county notifications systems that use reverse calling to send texts, phone calls, and emails can do just that. Those alerts not only get your attention but can be targeted/prioritized to people in the hazard zone and can also provide information on what to do.

In the annual Tsunami Communications Test, we emphasize multiple ways of notification – radio and TV,

county notification, civil air patrol flyovers, Caltrans message boards. For a real emergency event, WEA would trigger as well. If the tsunami source is in Japan or Alaska, there is also time for officials to go door to door to alert people in at-risk areas.

I have a NOAA weather radio. It has a public alert feature which means even if it is turned off, an EAS trigger will turn it on and alert me. We could buy and install weather radios in every business, school, and home in the tsunami hazard zone for less than the cost replacing our defunct sirens.

Sirens still have a role in some areas. Kudos to Shelter Cove for installing a new state-of-the-art siren. Shelter Cove has terrible cell phone reception and is a place where many people are likely to be on the beach and beyond the reach of other notification systems.

Some people respond in horror when I say I am 'over sirens.' There are so many other ways to get information. And sirens were never going to help us in a local tsunami situation because the earthquake will likely knock out power and communications. The last thing we want to do is train people to expect sirens before taking action. The shaking may be your one and only alert.

Lori Dengler is an emeritus professor of geology at Humboldt State University, an expert in tsunami and earthquake hazards. The opinions expressed are hers and not the Times-Standard's. All Not My Fault columns are archived online at <https://kamome.humboldt.edu/resources> and may be reused for educational purposes. Leave a message at (707) 826-6019 or email rctwg@humboldt.edu for questions and comments about this column, or to request a free copy of the North Coast preparedness magazine "Living on Shaky Ground."