

The lesson of the Loma Prieta quake

Earthquake 1989 - Geologist

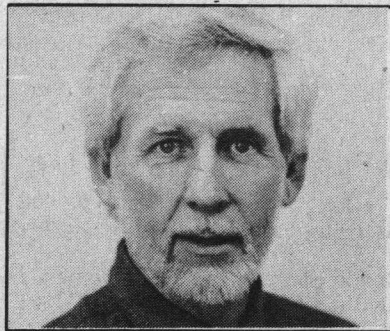
Last week, historian Sandy Lydon took readers on a historical journey through Aptos Canyon on his way to the epicenter of the Oct. 17, 1989 Loma Prieta Earthquake.

This is the conclusion of that journey.

THE APTOS CANYON is landslide country. And, as geologist Jerry Webber always likes to point out (geologists tend to be very fatalistic about this stuff), "gravity always wins." No matter how much the San Andreas fault pushes these ridges up, gravity is always there to pull them down.

The 1906 earthquake is a perfect example of this pushing and pulling phenomenon. It rained like crazy during January, February and March of 1906, so that when the earthquake hit on that April morning, super-saturated hillsides collapsed all through the Santa Cruz

Hindsight



Sandy Lydon

Mountains. Here on the Aptos Creek side of the ridge, a mile-wide landslide plummeted down into Aptos Creek, creating an earthen dam that blocked the creek.

The creek almost stopped running in Aptos, and it took several months before it finally broke

through the obstruction. At the same time, both Buzzard and Whites lagoons drained away through fissures that opened up beneath them. The only surviving place name from the 1906 earthquake is here — Big Slide — where I am standing now.

It was landslides that killed Santa Cruz County residents in the 1906 earthquake, not falling walls or chimneys. No one died in downtown buildings or single family dwellings. (There was also no loss of life in Santa Cruz County in single-family dwellings in 1989, either.) Most of the deaths in 1906 occurred just over the ridge from here where the Loma Prieta Lumber Company was logging in the canyon of Hinckley Creek. The earthquake triggered the entire hillside above the lumber mill, and before anyone could escape the crew was buried beneath tons of mud and trees.

This slide blocked Hinckley

Creek and a lake on Hinckley Creek and for months afterward local folks watched and waited as the lumber company dug down and removed the bodies. (Some accounts say eight men died, other accounts say nine.) The forest was such a shambles of downed trees and landslides that the lumber company abandoned the logging operation in the Hinckley canyon.

The 'Crazy Forest'

In some places in the Santa Cruz Mountains, the 1906 earthquake caused the water-logged earth to shift beneath whole groves of trees, leaving entire stands of mature trees leaning as if blown partly over by a huge wind.

One such stand off Highland became known as the "Crazy Forest" and folks who visited the place found it difficult to stand up because the out-of-plumb trees were

Please see LESSON — D4



Sandy Lydon photo

The power of the quake: ground movement caused whole stands of trees in the Aptos Canyon to lean.

The lesson of Loma Prieta

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so disorienting. The Loma Prieta earthquake left us with similar clumps of trees, and here, a hundred feet above Aptos Creek, many trees now lean out over the chasm, awaiting gravity's final tug.

When we first struggled up to this spot following the Loma Prieta earthquake, our attention was riveted on the drama of the fissures, cliff faces, landslides and downed trees. But for me, the most humbling evidence of the power of a 7.1 earthquake was laying back on the forest floor away from the cliffs.

The earthquake created a rain of dead limbs that littered the ground, but among the brown and gray debris were clumps of bright green vegetation. It was as if someone had dumped a load of Christmas trees through the forest. Upon closer examination the rounded green fronds looked like juniper. Juniper? I knew enough about the local vegetation to know that there was no juniper growing in this canyon.

And then I looked up. Through the lower branches of the second-growth redwoods I could see the pale, white scars where these "junipers" had come from. These Christmas trees were actually the tops of redwood trees that had been snapped off as the trees whipped back and forth during the earthquake. (If you examine a healthy redwood you can see that the needles at the top are rounded and closed, looking very much like juniper fronds.)

Fissures, collapsed walls, dropped freeway overpasses are all very dramatic, but the thought that the force of an earthquake could whip resilient, green, pliable second-growth redwoods back and forth so violently as to snap their tops continues to give me chills.

Since 1989 I have made this broken tree-top phenomenon something of a hobby. UCSC geology professors Gary Griggs and Jerry Webber told me there was no scientific literature about it, and none of the naturalists I spoke with had heard anything about it. The only mention of it that I was able to find was in the work of California's pre-eminent botanist, the late Professor Willis Jepson.

Jepson heard stories that the 1906 earthquake had snapped off living trees, but after many hiking expeditions throughout the northern Santa Cruz Mountains, he concluded that the only trees that were broken by that earthquake were trees which were sick or already damaged. He concluded that he saw "no sound tree whose trunk could properly be said to be snapped off as a result of direct oscillation of the earth during the seismic disturbances of 1906." Were Professor Jepson still alive, I would bring him up here and show him the force of a humdinger earthquake.

The tree tops have turned brown in the five years since they fell on that October afternoon, but they are still scattered everywhere. Across the canyon I can still see the row of bare tops angling up the north-south ridge tops, and I suppose it will be many more years before new green foliage will hide the scars.



Sentinel photo by Robert Mittendorf

The curious gather at the epicenter of the Loma Prieta quake on Christmas Day, 1989.

The lessons of Loma Prieta

I suppose that each of us has our own personal talisman from the Oct. 17 earthquake. For me it is these tree tops, and as I sit down beside them I try to get some perspective on the past five years. I know now that I went into a mild state of shock several days after the earthquake as I cannot remember much about those weeks except the expedition up here. There are big gaps in my journals, but when I was able to sit and write, I vowed that I would use the earthquake as a turning point — a place from which to start anew.

As my friend Tony Hill continued to remind me during the weeks and months that followed the earthquake, we should not talk about returning to "normal." Earthquakes are really part of "normal" around here, and to see them as an aberration is arrogant. And stupid.

By all appearances, Santa Cruz County is a benign place where soft rounded hills, an almost seasonless climate, and wondrous vistas lull us into forgetting the violence, danger and death that lurk in the recurring earthquakes, floods and fires. To live in this region is to take a calculated risk. As geologist Griggs likes to say, we all have short-term disaster memories. Otherwise we wouldn't be living here.

I am disappointed that I have not taken the lessons of Loma Prieta more to heart. I should know better than to ignore the risks, but I continue to. There's not enough fresh water stored in the basement, and I think the batteries on the portable radio are probably dead. Even though I have worked my way through the endless string of disasters in the history of this county, I still am in denial about what really might happen. I guess that's why I keep coming back here to the epicenter. To keep alive the memory and reality of what "normal" is around here.

The fog has come in while I've been sitting here, and the light has

flattened out and the shadows are gone. It is hard to tell how low the sun is, but when I check my watch, I realize that I only have about two hour's daylight — and five miles to cover. Fortunately, it is mostly downhill going out and as I trot along the deserted trail, I notice that the Big-leaf Maples are starting to turn to bright gold. Winter is coming. I wonder whether this one will bring the rains that will finish off the work of the Loma Prieta earthquake and help those slides which are calving along the canyon to finally drop into the creek.

Postscript

Just beyond the epicenter sign I start hearing a strange whooping sound up the canyon behind me. Coyotes? Not at this time of day. As the sounds grow louder I realize that I am overtaken by a group of illegal mountain bikers — the sprocket-toothed tigers.

Since there are many more of them than me, I slip off the trail into the brush to watch. A couple of minutes pass and then five cyclists come around the corner, hunched over their handlebars, sliding down across a series of switchbacks, shouting things like "Whoa!" "Cool!" and all of it punctuated by the Beavis and Butt-head laugh. Heh. Heh. Heh. Heh.

Obviously hard-of-reading (all the hiking trails are marked with signs indicating that they are off-limits to bicyclists), they pedal past, reminding me of a troop of baboons with their lycra-coated butts sticking into the air. Weaving back and forth across the trail and skidding on the turns they fly down the trail until blessed silence closes in behind them. I try to ignore the interruption, but I cannot, and during the remaining couple of miles I fume about the rude and aggressive mentality that pervades the younger generation.

Back at my car I jot a few notes by flashlight before driving out of the park. Those young bikers are the same folks who see all natural disasters as opportunities — the same ones who were sitting on their surfboards waiting to catch the tsunami for that Ultimate Ride.

There's no humility in that bunch. They will no doubt have to learn for themselves the lesson that was offered to most of us on Oct. 17, 1989 — there's no need to go out and seek the Ultimate Ride. Just living here is Ultimate Ride enough.

Sandy Lydon is a member of the Citizen's Advisory Committee for the Forest of Nisene Marks and the history faculty at Cabrillo College.