

Newly Discovered Fault Could Shake Lake Tahoe

Polaris fault could trigger a 6.9 magnitude earthquake and rupture a nearby dam

John Upton, Bay Citizen, 6-16-11

Buildings in Truckee and around Lake Tahoe could be severely shaken if a newly discovered fault line ruptures.

The “previously unrecognized and apparently youthful” Polaris Fault could trigger a 6.4- to 6.9-magnitude earthquake if it pops, US Geologic Survey researchers reported in this month’s Bulletin of the Seismological Society of America.

“The Polaris fault is potentially a significant seismic hazard to the region,” the researchers concluded.

The 22-mile fault line crosses Interstate 80 and the Union Pacific railroad east of Truckee. It was named after a 19th-century Truckee River township.

“Shaking from an earthquake on the Polaris fault would likely be felt throughout the Truckee, Lake Tahoe and Reno region,” researchers James Howle said in an email. “[It] might be connected with a fault zone in the Sierra Valley to the north.”

The fault was discovered and mapped using data that scientists obtained in 2006 and 2008 by bouncing laser beams from light planes off the ground.

The study was triggered by concerns about the seismic safety of the Martis Creek Dam – one of 600 dams across the nation owned by the US Army Corps of Engineers. The dam is 32 miles southwest of Reno, NV, on a tributary of the Truckee River.

The fault runs within 200 yards of the dam, according to Army Corps of Engineers spokesman Tyler Stalker. It creates new concerns for the integrity of a reservoir that could flood the homes of 72,000 people if its 113-foot dam wall breaks.

“It’s just one of many problems,” Stalker said. “We have a significant seismic threat out at that dam.”

One other fault passes near the dam and another crosses beneath it, according to Stalker.

Because of the seismic dangers, the reservoir is kept “nearly empty,” but this year's Sierra snow melt could fill it to a dangerous level, according to Stalker.