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GEOLOGY OF THE MARIN HEADLANDS





Trace of 1906 earthquake through the Skinner Ranch, Marin County. Photo by G.K. Gilbert.

THE EARTHQUAKE TRAIL

AT POINT REYES NATIONAL SEASHORE



View northwest along the 1906 fault trace towards Skinner Barn. The western portion of the barn remained intact during the earthquake while the southeastern corner was torn 16 feet off its foundation. This barn was reconstructed on the same site in 1940. The barn will be used as a movie theater during the special educational programs that will accompany the earthquake trail dedication ceremonies.

On Thursday, 18 April 1974, officials of Point Reyes National Seashore will commemorate the 68th anniversary of the 1906 San Francisco earthquake by dedicating a new earthquake trail along the San Andreas fault. Park headquarters at Point Reyes lies at the very heart of the region where the earth's crust suddenly began to shift in 1906 offsetting the roads, fences, and buildings that crossed the San Andreas and spawning the destructive waves that flattened much of Central California. Via a cooperative effort between park

naturalists and geology students from Foothill College, a new interpretive trail has been built along the fault that uses the unique geologic and cultural features of this epicentral region to tell the story of "plate tectonics" - the global geologic forces that shape our planet.

The Point Reyes Peninsula has been called an "Island in Time". Geologically speaking the park is an "island" of granite bedrock that has slid into its present position from southern California along the San An-

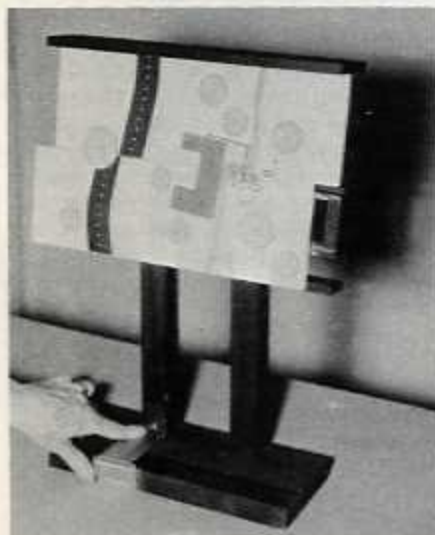
dreas fault. This great fault system marks the boundary between two great plates of the Earth's crust which have been grinding slowly past each other for millions of years. Friction along the plate boundaries causes the plates to move with a series of destructive "jerks" or jumps which generate earthquakes like the 1906 episode. Since the plates continue to move and build up the energy stored along the fault, Bay Area residents can expect more major shakes in their future. This new earthquake trail is dedicated to helping Bay Area

Foothill College students building bridge over Bear Valley Creek.





Foothill College students reconstructing offset fence along the new earthquake trail.



Scale model of "earthquake machine" for the new Point Reyes Trail. As the treadle is depressed, resistance from an attached spring is increased. When the treadle is completely depressed, a latch is triggered and the stored spring energy causes a sudden right lateral shift. When the treadle is released, the adjacent blocks slide back to their initial zero strain position.

residents better understand their physical environment so that they can minimize the geologic hazards posed by it.

Foothill's involvement with the earthquake trail began casually in 1970 during a geology field exercise along the forerunner of the new trail. Students felt that the old trail did not adequately develop the geologic story of the San Andreas, particularly as it related to the rapidly evolving theories of global evolution. Their suggestions for possible revisions were welcomed by the Chief Park Naturalist Bill Germeraad who subsequently enlisted Foothill's help. Working both in special geology classes and as VIP's (Volunteers in the Parks), Foothill students rerouted part of the old trail, built a new 40-foot long bridge across Bear Valley Creek, reconstructed a fence that was offset 16 feet in 1906, moved in boulders for a trail exhibit that came from as far away as the Salinas Valley, and installed a line of blue posts along the line of the fault that shifted in 1906. A series of new signs that com-

bine the latest technical information on earthquakes with explanations of the unique fault features of Point Reyes were designed jointly by Foothill geology students and the park interpretive staff. The new earthquake trail will feature an "earthquake machine" designed and built by David Hughes of the National Park Service staff headquarters in San Francisco.

The dedication ceremony will begin at 10:00 A.M. and will feature offset cake and original earthquake music by the Foothill College fanfare. Distinguished guests will include Dr. Robert E. Wallace, chief scientist of the U. S. Geological Survey's Office of Earthquake Studies, and Dr. Alan Galloway of the California Academy of Sciences, authority on the geology of Point Reyes. Margot Patterson Doss, the Bay Area's best known walker, will lead the first tour of the new trail. A series of special geologic programs and exhibits are planned for the weekend of 20-21 April. The public is cordially invited to all events. . . . *Tim Hall*