

SEQUOIA NATURE GUIDE SERVICE

THE GREAT SEQUOIA AVALANCHE

by Walter Fry,
U. S. Commissioner.

Those Valley residents who are cast into a slough of despondency by the recent cycle of dry years, may find fresh courage and hope in this account by Judge Fry of the great rains and flood of 1867, when it rained and snowed for 41 days almost without cessation.

This graphic account of the South Fork avalanche in December, 1867, is one of a series of historical bulletins by Judge Fry, who has others in preparation.

A Big Tree (*Sequoia gigantea*) Grove in the Sequoia National Park was the scene of the greatest known avalanche in the southern Sierra, and this mighty landslide occurred within comparatively recent times. On December 20, 1867, the north side of Dennison Mountain broke away and dropped into the South Fork of the Kaweah River about 15 miles above Three Rivers, and about 42 miles east of Visalia. Apparently without warning, several hundred acres of land and timber crashed 3,000 feet into the South Fork Canyon. The devastated area is in one of the most heavily forested regions of sequoia, pine and fir within the Sequoia National Park, and in the very heart of the Garfield Big Tree Grove. Many of the Sequoias were from 20 to 30 feet in diameter, and from 250 to 300 feet in height. Their ages undoubtedly ran into the thousands of years. The pines and firs were particularly large and fine. I have made a survey of the area involved, and estimate that some 350,000,000 board feet of timber were destroyed. No other figure could better bring out the enormity of the loss to the Park.

The devastated area is between the elevations of 6,000 and 7,500 feet, is about $2\frac{1}{2}$ miles in length, and from 1500 to 4000 feet in width. The avalanche appears to have started near the crest of Dennison Ridge, below 8,000 feet. It gathered volume so that upon reaching the river it formed a dam half a mile wide and over 400 feet high completely across the canyon, and entirely stopped the flow of the river. Naturally, this barrier backed up the stream into a great reservoir. Finally the loosely formed dam broke and the flood swept down the Kaweah River, carrying with it thousands of tons of crashing trees and debris, and spreading for miles over the San Joaquin Valley. Today, sections of huge Sequoia trees will be found in the Valley, scores of miles from the groves in the mountains and great distances from present river beds.

Early settlers of the Three Rivers and Visalia Districts have told me of the great flood of 1867. Joseph Palmer, a homesteader, was the only person in the South Fork Canyon on the night of December 20, 1867, and the statement I obtained from him on October 5, 1890, runs as follows.

"It had been raining in the Three Rivers district almost steadily for 41 days and nights, with heavy snows above the 5,000 foot level. All the rivers were very high. On the morning of December 20, the weather became warmer, and a hard rain fell all day, even at high elevations. It was still raining when I went to bed that night, and a strong wind blew down the canyon. Just before midnight I was aroused by a heavy rumbling sound such as I had never heard before, and which lasted for an hour or more. Then a great calm set in, and even the roaring of the river ceased."

"On leaving my cabin in the morning, I found that despite the heavy rain the river was low. From this I knew that a great slide had blocked the canyon above and that later the dam would give way and cause a flood. I went up the river to Bennett Creek, but saw nothing wrong; returned and watched all day, but no flood came, so I went to bed at 10 P.M. About 1:30 A.M. I was aroused by a

tremendous thundering and rumbling sound which made my hair stand on end. I jumped out of bed, grabbed my clothing, and ran for safety up the mountain side some 200 yards from the river. In a few minutes the flood came along with a breast of water some 40 feet in depth that extended across the canyon, carrying with it broken up trees which were crashing end over end in every direction with terrific force and sound. The river remained high for several days, and all the while timber was going down and being swept clear out to the Valley."

It is interesting to note what old settlers say about the flood upon its reaching Visalia. In the past I have obtained statements from several of those, whose names and the dates of their statements are as follows:

A. J. Samstag, May 14, 1902: "I was living in Visalia at the time of the '67 flood. The flood reached Visalia prior to midnight on December 23. The water was about 5 feet in depth. There were logs and driftwood floating everywhere. Some poultry and live stock were drowned."

Ira Blossom - June 2, 1906: "I was working in the grist mill in Visalia at the time of the '67 flood. It came sometime prior to midnight on December 23. The water was about 6 feet in depth at the mill. There were logs and driftwood scattered for miles around. Many Sequoia logs were left out at the Hilliard place. Some stock was drowned."

Margaret Oaks - October 24, 1925: "I was living in Visalia at the time of the '67 flood. It occurred in the night a few days before Christmas. The water was 5 feet deep where I lived. One big redwood log was left by the flood right along side of the grist mill. Much live stock was drowned."

Betty Townsend - January 31, 1926: "I was living out near Cutler Park at the time of the '67 flood. The flood occurred on the evening of December 23. Mr. and Mrs. S. C. Brown, Mr. and Mrs. Dineley, Frank Kellenberg with his son Frank, Jr., and four other people sought refuge in my home that night, and remained as refugee guests for a week. Our Christmas dinner, in part, consisted of a turkey feast. The turkey was captured by one of the party from a bale of hay which was being swept down the torrent. A pig was similarly rescued and consumed."

The major immediate causes of the avalanche were the geological formation of the area and the prevailing conditions of the weather. The devastated area was on a mountain side resting at about a 45 degree angle. A rich, sandy loam, ranging in depth from 5 to 12 feet, lay over the solid granite formation of the mountain. When the soil down through to bed rock became thoroughly saturated by the heavy rains, and then weighted down by heavy snows, the loosened mass, with all its timber and vegetation, slipped into the canyon below.

Because of its recent occurrence, we consider the crashing of this vast tract of land from the mountain side as a major event in the eyes of mankind; yet it is only a small incident in the age old geological history of the Sierra, which records the constant recession of the mountains to the valleys below.

Although the Garfield Big Tree Grove has been reduced by about one-third of its former size, it still remains third in order of the largest groves within the Sequoia National Park. Careful estimates indicate some 1600 trees over 10 feet in diameter are preserved in this grove alone.

Residents of Visalia may wonder if another flood will ever reach their City from such cause as the one described above. This seems unlikely, as nowhere else in the Kaweah River Basin is there any soil and forest condition so favorable to an avalanche as that on the South Fork which slid in 1867.