

Quaternary Fault and Fold Database of the United States

As of January 12, 2017, the USGS maintains a limited number of metadata fields that characterize the Quaternary faults and folds of the United States. For the most up-to-date information, please refer to the [interactive fault map](#).

Rocky Ledge fault zone (Class A) No. 10

Last Review Date: 1995-10-01

Compiled in cooperation with the California Geological Survey

citation for this record: Sawyer, T.L., and Bryant, W.A., compilers, 1995, Fault number 10, Rocky Ledge fault zone, in Quaternary fault and fold database of the United States: U.S. Geological Survey website, <https://earthquakes.usgs.gov/hazards/qfaults>, accessed 12/14/2020 02:20 PM.

Synopsis	Fault is poorly understood, no detailed studies have been complete at time of this compilation. Principal sources of data are unpublished reconnaissance studies of Woodward-Clyde Consultants (1987 #5105) and Wills (1990 #5107).
Name comments	Fault first mapped by Woodward-Clyde Consultants (1987 #5105) and first named by Wills (1990 #5107). Fault ID: Refers to number 30A (Rocky Ledge fault) of Jennings (1994 #2878).
County(s) and	SIESTA COUNTY, CALIFORNIA

State(s)	SHASTA COUNTY, CALIFORNIA
Physiographic province(s)	CASCADE-SIERRA MOUNTAINS
Reliability of location	Good Compiled at 1:62,500 scale. <i>Comments:</i> Locations based on original mapping by Wills (1990 #5107) at 1:62,500 scale.
Geologic setting	High-angle, down-to-east normal fault that bounds the eastern side of Rocky Ledge. The hanging wall block appears to be monoclinaly folded into the footwall escarpment.
Length (km)	17 km.
Average strike	N10°W
Sense of movement	Normal <i>Comments:</i> Wills (1990 #5107)
Dip Direction	E
Paleoseismology studies	
Geomorphic expression	The Rocky Ledge fault forms a 50-m-high scarp on basalt with closed depressions and linear troughs and ridges within the talus slope along the base of the scarp (Wills, 1990 #5107).
Age of faulted surficial deposits	Early Pliocene basalt, late Quaternary talus
Historic earthquake	
Most recent prehistoric deformation	latest Quaternary (<15 ka) <i>Comments:</i> Faulting history is poorly understood, but reconnaissance studies report boulders with very fresh surfaces (i.e., young) in troughs cut into talus slopes having lichen-covered boulders at base of escarpment. The freshness of boulder surfaces and the presence of troughs and closed depressions below the steepest parts of talus slopes suggest Holocene activity (Wills,

	1990 #5107).
Recurrence interval	
Slip-rate category	Between 0.2 and 1.0 mm/yr <i>Comments:</i> The escarpment along the Rocky Ledge fault is lower than the escarpments along either the Mayfield [6] or the Hat Creek [8] faults to the northeast and east, respectively, which have estimated slip rates of 1 mm/yr. Hence, this fault is inferred to have a slip rate of <1 mm/yr, but we categorize it as probably being 0.2–1 mm/y
Date and Compiler(s)	1995 Thomas L. Sawyer, Piedmont Geosciences, Inc. William A. Bryant, California Geological Survey
References	#2878 Jennings, C.W., 1994, Fault activity map of California and adjacent areas, with locations of recent volcanic eruptions: California Division of Mines and Geology Geologic Data Map 6, 92 p., 2 pls., scale 1:750,000. #4860 Petersen, M.D., Bryant, W.A., Cramer, C.H., Cao, T., Reichle, M.S., Frankel, A.D., Lienkaemper, J.J., McCrory, P.A., and Schwartz, D.P., 1996, Probabilistic seismic hazard assessment for the State of California: California Department of Conservation, Division of Mines and Geology Open-File Report 96-08 (also U.S. Geological Open-File Report 96-706), 33 p. #5107 Wills, C.J., 1990, Hat Creek, McArthur and related faults, Shasta, Lassen, Modoc and Siskiyou Counties, California: California Division of Mines and Geology Fault Evaluation Report FER-209, 14 p. #5105 Woodward-Clyde Consultants, 1987, Pit 1 Forebay Dam (97-110)—Evaluation of seismic geology, seismicity, and earthquake ground motion: Technical report to Pacific Gas and Electric Company, p. 2-7-2-10.

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