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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.

Fish Creek basin faults (Class A) No. 1163

Last Review Date: 2001-08-16

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Synopsis	The southeastern Fish Creek Mountains fault is comprised of several faults with contrasting geologic settings and geomorphic expression. The northern group of faults includes both north- and south-side-down, block-bounding faults that define a broad graben (the Fish Creek basin) within the southern Fish Creek Mountains. They apparently lack scarps on surficial deposits or erosion surfaces. The southwest fault is mostly a south-side-down range-bounding fault that forms the south-central margin of the Fish Creek Mountains. Associated with the faults are several northwest- to northeast-linear and curved lineaments on Tertiary volcanic bedrock of the southeastern Fish Creek Mountains. These lineaments may reflect poorly expressed faults that connect the Fish Creek basin faults with the Southeast Fish Creek Mountains fault [1147]. Alternatively, they may be Tertiary volcano-tectonic structures (Class D faults) with no Quaternary history. Little is known about the age of Quaternary deposits

	along the faults, for geomorphic information about associated scarps. Neither slip rates nor recurrence times can be reliably estimated.
Name comments	Informally named herein for a group of faults that lie within Fish Creek basin, a low area in the southern part of the Fish Creek Mountains. As compiled herein, the faults are comprised of a group of parallel faults that trend northwest in and along the margins of Fish Creek basin and, to the south, a sub parallel east-west fault that bounds the southern margin of the Fish Creek Mountains, about 5 km south-southeast of Mount Moses. These faults are herein described collectively owing to their similar trend and apparent age.
County(s) and State(s)	LANDER COUNTY, NEVADA
Physiographic province(s)	BASIN AND RANGE
Reliability of location	Good Compiled at 1:100,000 scale. *Comments:* Fault traces taken from the 1:250,000-scale reconnaissance photogeologic compilation of young faults by Dohrenwend and Moring (1991 #282). That map was produced by photogeologic analysis of 1:58,000-nominal-scale color-infrared photography transferred directly to 1:100,000-scale topographic quadrangle maps enlarged to scale of the photographs. Dohrenwend and Moring (1991 #282) mapped several additional W- to NW-striking faults that are marked by scarps or lineaments on Tertiary volcanic or sedimentary rock in the southeastern Fish Creek Mountains. These faults are considered to be Class C (pre-Quaternary) structures, and thus are not shown on the map or described further herein.
Geologic setting	The southeastern Fish Creek Mountains fault has two parts with contrasting geologic settings. The northern part is comprised of lineaments or scarps along which Quaternary deposits are juxtaposed against Tertiary or older bedrock (Dohrenwend and Moring, 1991 #282). On the basis of topographic expression, the features appear to form a broad almost equidimensional graben. The southern part is comprised of a singular range-bounding (but not major) fault that forms the south-central margin of the Fish Creek Mountains. None of the faults in this area were mapped as

	Quaternary features by Ferguson and others (1951 #4355) or by Stewart and Carlson (1978 #3413).
Length (km)	13 km.
Average strike	N45°W
Sense of movement	Normal
Dip Direction	SW; NE
Paleoseismology studies	
Geomorphic expression	The north group of part faults form lineaments or scarps along which Quaternary deposits are juxtaposed against Tertiary or older bedrock (Dohrenwend and Moring, 1991 #282). On the basis of topographic expression, the scarps face southwest and northeast to form a broad almost equidimensional graben. There are no reports detailing the geomorphic expression of the scarps. No basal fault facets were identified by dePolo (1998 #2845).
Age of faulted surficial deposits	These faults form lineaments or scarps along which Quaternary deposits are juxtaposed against Tertiary or older bedrock (Dohrenwend and Moring, 1991 #282). There are no detailed maps that differentiate or subdivide the Quaternary deposits.
Historic earthquake	
Most recent prehistoric deformation	undifferentiated Quaternary (<1.6 Ma) *Comments:* Based on reconnaissance photogeologic study, Dohrenwend and Moring (1991 #282) assign a Quaternary time to these faults (<1.6 Ma).
Recurrence interval	
Slip-rate category	Less than 0.2 mm/yr *Comments:* No data available to constrain slip-rate estimate. Low slip-rate category chosen in accordance with other relatively inactive faults in the region (Wallace, 1978 #2648).
Date and Compiler(s)	2001 Michael N. Machette, U.S. Geological Survey, Retired

References	#2845 dePolo, C.M., 1998, A reconnaissance technique for estimating the slip rate of normal-slip faults in the Great Basin, and application to faults in Nevada, U.S.A.: Reno, University of Nevada, unpublished Ph.D. dissertation, 199 p. #282 Dohrenwend, J.C., and Moring, B.C., 1991, Reconnaissance photogeologic map of young faults in the Winnemucca 1° by 2° quadrangle, Nevada: U.S. Geological Survey Miscellaneous Field Studies Map MF-2175, 1 sheet, scale 1:250,000. #4355 Ferguson, H.G., Muller, S.W., and Roberts, R.J., 1951, Geology of the Mount Moses quadrangle, Nevada: U.S. Geological Survey Geologic quadrangle Map GQ-0012, 1 sheet, scale 1:125,000. #3413 Stewart, J.H., and Carlson, J.E., 1978, Geologic map of Nevada: U.S. Geological Survey, Special Geologic Map, 1, scale 1:500,000. #203 Wallace, R.E., 1979, Map of young fault scarps related to earthquakes in north-central Nevada: U.S. Geological Survey Open-File Report 79-1554, 2 sheet, scale 1:125,000.