

**GEOLOGIC AND GEOMORPHIC FEATURES
RELATED TO LANDSLIDING
NORTH AND SOUTH FORKS OF CASPAR CREEK,
MENDOCINO COUNTY, CALIFORNIA**

1995



DEPARTMENT OF CONSERVATION
DIVISION OF MINES AND GEOLOGY
GEOLOGIC INFORMATION AND PUBLICATIONS
801 K STREET, MAIL STOP 14-33
SACRAMENTO, CA 95814-3532
(Phone 916-323-5336)



OPEN-FILE REPORT RELEASE

OFR 95-08 "Geologic and geomorphic features related to landsliding, North and South Forks of Caspar Creek, Mendocino County, California" -- 1995, 2 plates, map scale 1:12,000, \$6.00

SUMMARY: This set of two maps, prepared for the California Department of Forestry and Fire Protection under the Pilot Monitoring Program, is intended to provide information of geology and geomorphic features of the watersheds of North and South Caspar Creek. The mapping for these areas was done at a scale of 1:12,000. Mapping was based on aerial photograph interpretation, compilation of unpublished data, and limited field reconnaissance. The maps depict significant geologic and geomorphic features of the watersheds including transitional/rotational landslides, debris slides, debris flow/torrent tracks, disrupted, hummocky ground, landslides, and inner gorge areas. The maps also identify relative ages of landsliding.

Plate 1, which depicts geologic and geomorphic features related to landsliding, was mapped by Thomas E. Spittler. The North Fork of Caspar Creek was never logged with tractors, whereby the details of the-surface morphology are well preserved. The lack of ground disturbance allows the landslides to be subdivided into five relative age classes. None of the landslides observed in the North Fork of Caspar Creek have occurred following the clear-cut logging in the watershed that has occurred during the past 9 years.

Plate 2, which depicts geologic and geomorphic features related to landsliding, was compiled by Mary A. McKittrick. The South Fork of Caspar Creek watershed was logged using tractor yarding methods in 1971, 1972, and 1973. As a result of this style of logging, numerous skid trails as well as dense vegetation obscure subtle geomorphic features on hillslopes causing landslide mapping to be difficult. Most of the small landslides observed in the field are associated with disturbed land resulting from timber harvesting; however some small slides pre-date tractor logging as evidenced by the age estimates of tree growth within the slide features.

Of the 15 landslides in the watershed that are fresh appearing, seven are associated with the existing roads across the upper slopes and eight occurred in areas not adjacent to roads. The landslides in the clear-cut blocks appear to predate the timber harvesting based on the age of vegetation growing on the scars.

The North Fork of Caspar Creek above its weir drains a watershed of 500 ha (1225 acres), while the South Fork watershed above the weir is about 425 ha (1050 acres). These watersheds are about 11 km (7 miles) southeast of Fort Bragg, inland from the central Mendocino County coast. The Caspar Creek area is one of three areas selected for geologic mapping under the Pilot Monitoring Program. The other two areas studied include the North Fork Mokelumne River (OFR 95-06) and North Fork of the Gualala River (OFR 95-05).

AVAILABILITY: This Open-File Report is available for reference at the Division of Mines and Geology offices in Sacramento, San Francisco, and Los Angeles. A copy may be purchased for \$6.00 at the San Francisco and Sacramento offices.

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