

Lincoln County

State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

LANDSLIDES IN THE NEWPORT, OREGON, AREA

Location: This report and accompanying map are concerned with the beach section of Newport, Oregon, between Alpine Place and Line Street.

Purpose: At the request of the Oregon State Department of Veterans Affairs a brief study was made to determine the area of active slide movement and to outline an area which could be affected by sliding in the near future.

Method: The geology was reviewed from several reports on the area, especially a thesis, Stratigraphy of the Miocene Agate Beach formation in Lincoln County, Oregon, by John E. Herron, Oregon State University, 1953, and by a field investigation on March 21-22, 1961.

Geology

Stratigraphy

The older rocks exposed in this area have been named the Nye and the Agate Beach formations. They are composed of evenly bedded layers of sandstone alternating with siltstone. Frequently the sediments contain considerable tuffaceous material which has been altered to clay. Overlying the older rocks is Pleistocene to Recent sand up to 30 to 40 feet thick. In general the overlying sands are uncemented, but locally calcium carbonate and iron oxides form a weak cementing agent.

Structure

The older formations are exposed at low water along the beach near the Natatorium and in the cliffs at Jump-off Joe and northward between Newport and Agate Beach. These rocks dip westward at 15° to 25°. The younger unconsolidated sand rests with angular unconformity upon the older sandstones and shales.

The sea cliffs are presently being eroded by wave action. Normally wave action cuts a steep cliff, thus rendering it unstable, and failure occurs by the spalling off of small chunks, the shearing of a small area in the form of a landslide, or the slumping of a huge block. The type and size of sliding depend upon the slope of the ground, height of the cliff, dip of the bedding, and strength of the material.

Conclusions

The area of active landslides is shown on the map in red. The area shown in blue appears to be susceptible to landslide failure at some future time and is related to continued movement within the active sliding area. The actual area in immediate danger of sliding is probably somewhat less than that shown in blue. It can be assumed that the danger decreases with the distance away from the active slides. In the area farthest from the slide, consideration should be made of properties on an individual basis.

Report by: H. G. Schlicker
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