

# Chronic Geologic Hazard Map of the Seal Rock Area, Coastal Lincoln County, Oregon

EXPLANATION OF MAP UNITS

Mass Movement Hazards

PHls

PHb

PHt

PAIs

PAa

Als

Ab

Prehistoric complex landslide

Prehistoric slide block or slump

Prehistoric rock or soil flow

Potentially active complex landslide

Potentially active slide block or slump

Active complex landslide

Active slide block or slump

Shoreline Geology

Fill

Qal

S + Qal

Qc

Qmt

Tmcf

Tmwc

Tmdb

Tma

Tmn

Toym

Toys

Tech

Ten

Tib

Artificial fill

Alluvium

Vegetated dune sand

Dune-covered alluvium

Colluvium

Marine terrace deposits

Cape Foulweather Basalt

Sandstone of Whale Cove

Depoe Bay Basalt

Astoria Formation

Nye Mudstone

Yaquina Formation (mudstone)

Yaquina Formation (sandstone)

Basalt of Cascade Head

Nestucca Formation

Intrusive basalt

MAP SYMBOLS

Contact -- Approximately located contact between formations or areas of differing type or age of mass movement

Contact between areas of mass movement and other areas -- Approximately located. Outlines a general area of mass movement of one or several ages and types

Zone of particularly active landslides and slide blocks -- Area vulnerable to episodic loss of large amounts (>40 feet) of headwall in back of landslides or slide blocks

Fault zones -- Arrow showing dip; bar and ball on downthrown side; dashed where approximate; dotted where concealed; diamond-headed arrow showing rake; vertical offset of marine terrace in feet in parentheses

Boundary of slide block within larger slide block -- Approximately located; bar and square on downthrown side

Rock fall hazard -- Areas of major rock fall hazard at high-use beaches

Rock unit label within a prehistoric slide block or slump -- Parentheses differentiate formation labels within a prehistoric slide block from the mass movement label Phb

Rock unit label for unit making up less than 3 ft of the sea cliff -- Brackets are utilized to indicate that the rock unit has little control on sea cliff erosion

Uncertainty -- Question mark used to indicate uncertainty about a mass movement label because the area was examined only by aerial photo analysis or had ambiguous field information

Erosion rate transects -- Points where shoreline erosion rates were examined for entry into the database of Open File Report O-94-11; spacing on straight shorelines is about 150 feet; every tenth is labeled for reference to the database

Generalized erosion rates -- Feet per year of erosion (negative sign = erosion); mean is in parentheses; range separated by a small arrow; applicable to the shoreline segment marked by the arrows perpendicular to the shoreline

Shoreline protection structures -- Sea walls or riprap

Strike and dip of bedding

Oregon Department of Geology and Mineral Industries Open-File Report O-94-11 should be utilized with this map to provide detailed information on the hazard mapping techniques and appropriate use of the information. Data fields summarizing erosion rates, geologic data, and mass movement hazards at each transect are listed in a digital database included with Open-File Report O-94-11.

Erosion rates estimated from data in Open-File Report O-94-11

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Scale 1:4800

Horizontal datum: 1983 North American Datum

Base map is a 1993 orthophotograph; photography was produced from a positionally controlled flight in the late summer of 1993; the flight was conducted by Spencer B. Gross, Inc., in cooperation with Bergman Photographic Services, both of Portland, Oregon.

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DISCLAIMER: The Oregon Department of Geology and Mineral Industries is publishing this paper because the subject matter is consistent with the mission of the Department. To facilitate timely distribution of information, this report has not been edited to our usual standards.