State of Oregon
Department of Geology and Mineral Industries
Donald A. Hull, State Geologist

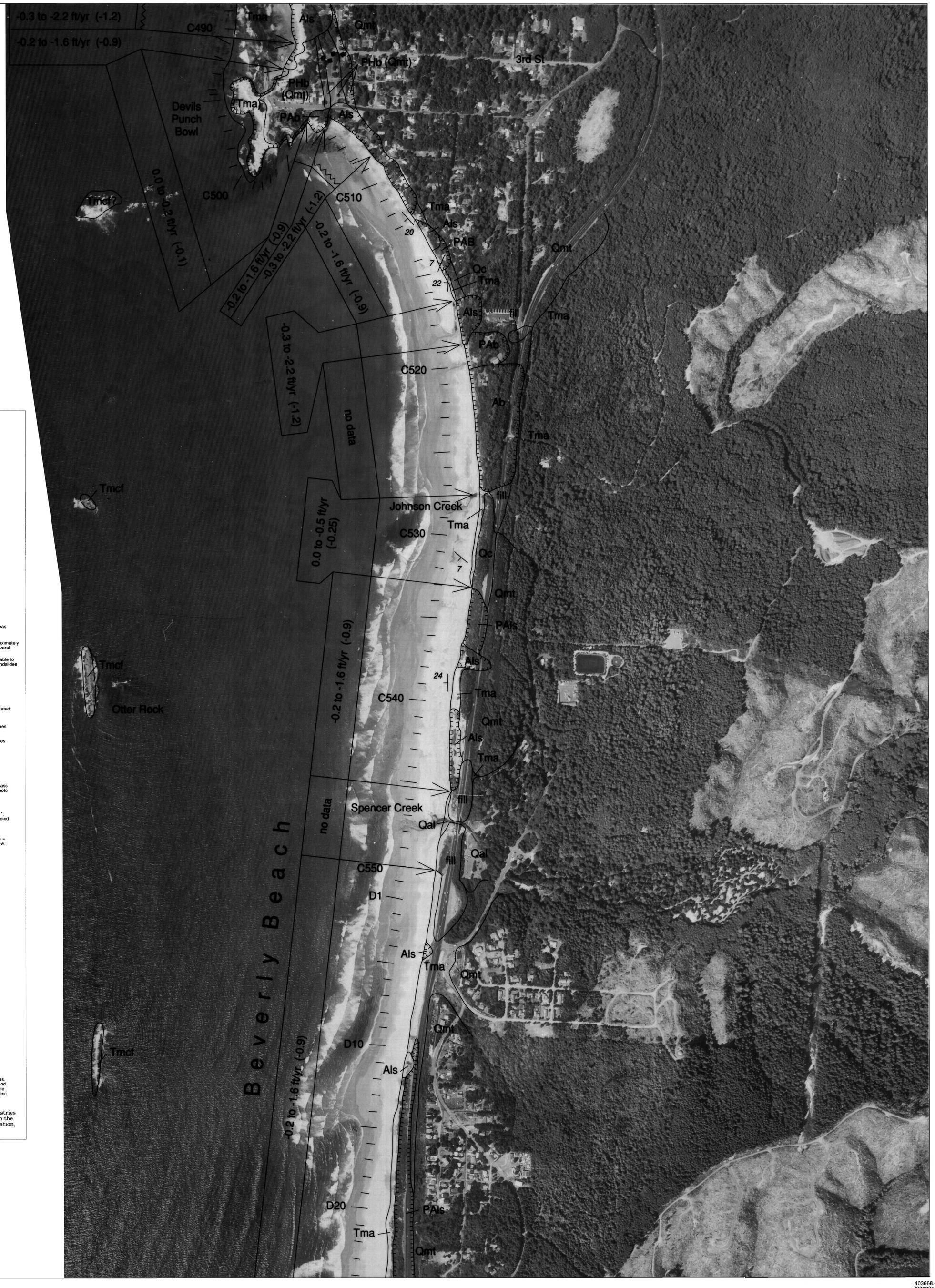
Chronic Geologic Hazard Map of the Beverly Beach Area, Coastal Lincoln County, Oregon

OFR O-97-07

By George R. Priest

415268.83 N
7271831.46 E

415268.83 N
7282231.46 E



EXPLANATION OF MAP UNITS

Mass Movement Hazards

PHls	Prehistoric complex landslide
PHb	Prehistoric slide block or slump
PHf	Prehistoric rock or soil flow
PAls	Potentially active complex landslide
PAb	Potentially active slide block or slump
Als	Active complex landslide
Ab	Active slide block or slump

Shoreline Geology

Fill	Artificial fill
Qal	Alluvium
S	Vegetated dune sand
S + Qal	Dune-covered alluvium
Qc	Colluvium
Qmt	Marine terrace deposits
Tmcf	Cape Foulweather Basalt
Tmwc	Sandstone of Whale Cove
Tmdb	Depoe Bay Basalt
Tma	Astoria Formation
Tmn	Nye Mudstone
Toym	Yaquina Formation (mudstone)
Toys	Yaquina Formation (sandstone)
Tech	Basalt of Cascade Head
Ten	Nestucca Formation
Tib	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

25 — 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

(Qmt) — 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

[Toys] — 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.

0.0 to -0.6 ft/yr (-0.3) — 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

25 — 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

Mapping of geology and mass movement hazards by George R. Priest, Oregon Department of Geology and Mineral Industries

Reviewed by P.D. Komar and J.W. Good, Oregon State University; J.J. Marra, Shoreland Solutions; E. Toby, Oregon Department of Land Conservation and Development

Field work conducted 1991 through 1993

Cartography by Mark Neuhaus

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.

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