

## BATHYMETRY OF CRATER LAKE, OREGON

By

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Crater Lake, Oregon, is unquestionably the deepest lake in the United States (1,932 feet), and in North America is exceeded in depth only by Great Slave Lake in northern Canada (2,014 feet). Depth measurements were first made in Crater Lake in 1886, again in 1938-40, and most recently during the summer of 1959. The recent study, carried out in great detail by the United States Coast and Geodetic Survey, made use of echosounding methods and was made under the supervision of R. E. Williams. This survey (U.S.C. & G.S. Hydro Survey No. 8498) provided the basis for the accompanying bathymetric chart, which is controlled by soundings at more than 4,000 individual locations.

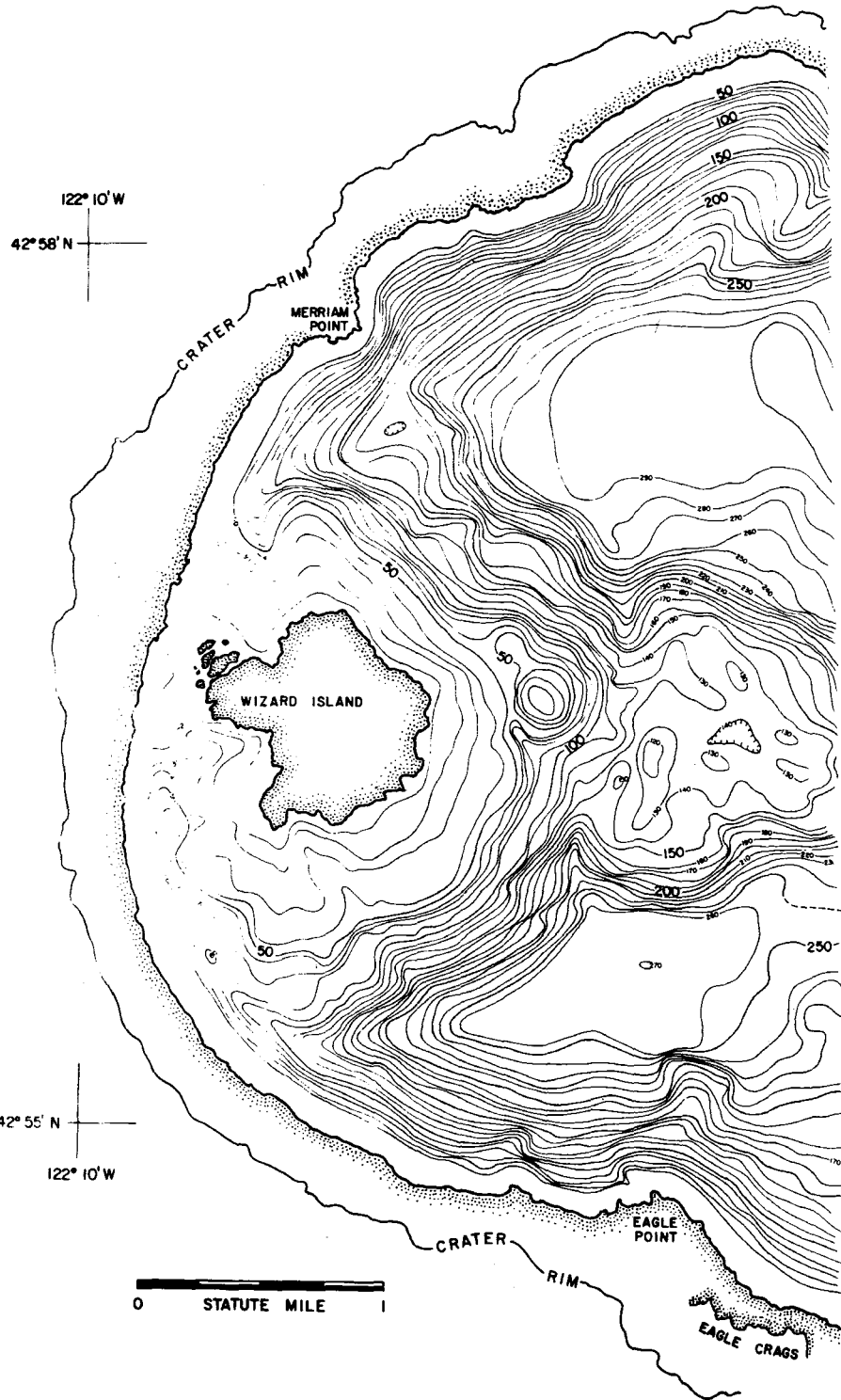
The use of a 10-fathom (60-foot) contour interval makes several features of geologic interest apparent. As the runoff and amount of sediment supplied to the lake are limited, little modification of the original surface can have taken place by erosion or deposition, and the bathymetric chart, therefore, essentially represents the configuration of the original volcanic surface. Attention is directed to the lobe extending eastward from Wizard Island, undoubtedly a lava flow; to the conical mound at the inner edge of the lava flow, probably a volcanic cone which has been buried to some extent by the lava flow; and to the almost perfect cone rising to 81 fathoms in the north-central part of the lake. This cone has been named Merriam Cone by Howel Williams (1961) in a short article which includes a less-detailed chart of the lake based on the same survey. Southeast of Merriam Cone, the lake is deepest, 322 fathoms (1,932 feet), and has a flat bottom which Williams considers to be a lava plain smoothed somewhat by later ashfalls.

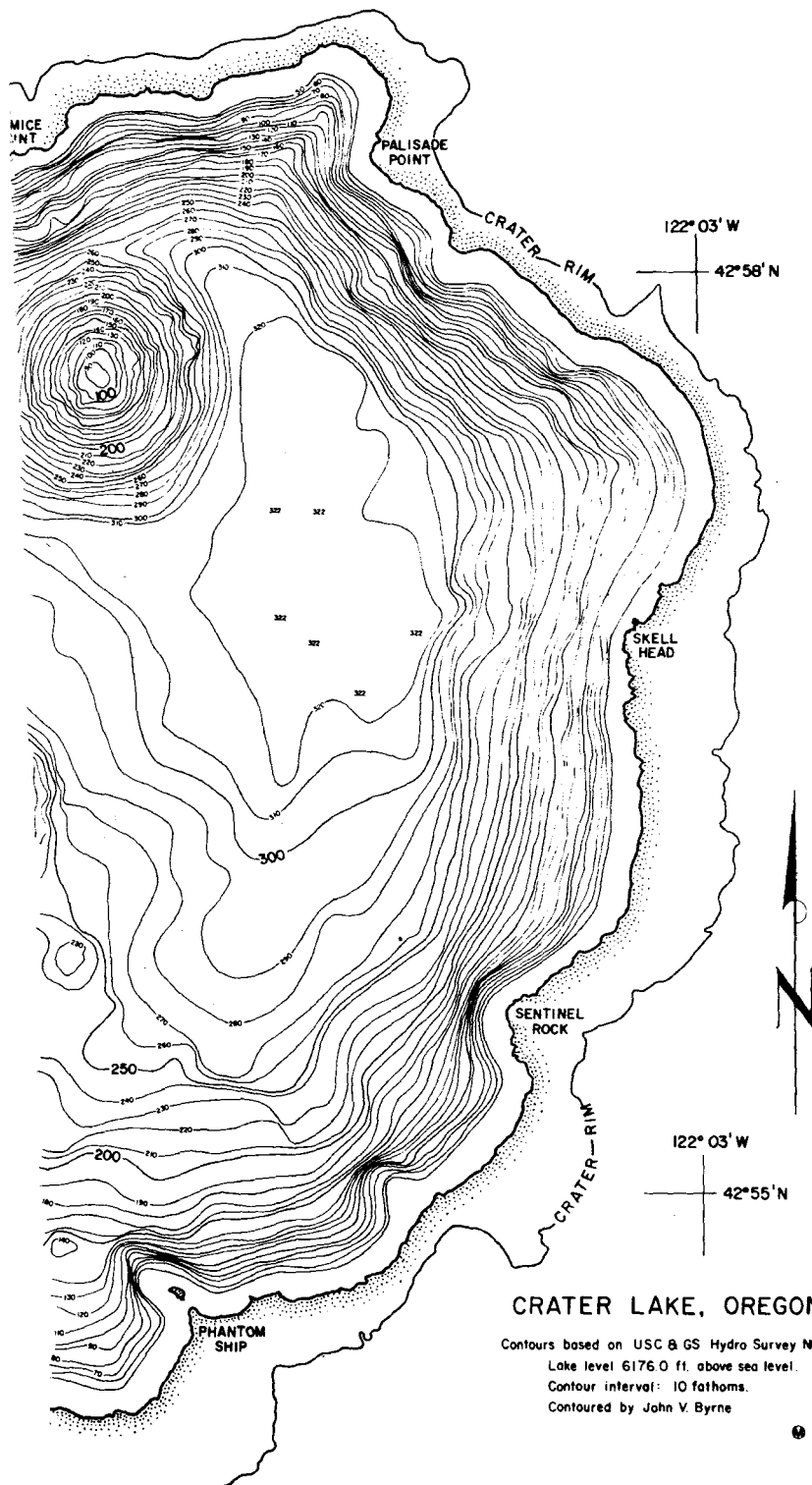
Rock samples dredged from the flank of Merriam Cone consist of hypersthene-augite andesite, whereas those dredged from the mound at the inner edge of the Wizard Island lava flow are vitrophyric hypersthene-hornblende dacite (Williams, 1961).

Of the great number of scientific articles written concerning Crater Lake, the few listed following the accompanying chart provide a summary of our scientific knowledge of this interesting area.

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**CRATER LAKE, OREGON**

Contours based on USC & GS Hydro Survey No. 8498.  
 Lake level 6176.0 ft. above sea level.  
 Contour interval: 10 fathoms.  
 Contoured by John V. Byrne

### Selected Bibliography of Crater Lake

- Hasler, A. D., 1938, Fish Biology and Limnology of Crater Lake, Oregon: *Jour. Wildlife Management*, v. 2, p. 94-103.
- Pettit, E., 1936, On the Color of Crater Lake Water: *Nat. Acad. Sci. Proc.*, v. 22, P. 139-146.
- Williams, H., 1942, The Geology of Crater Lake National Park, Oregon: *Carnegie Inst. Washington Publ.* 540, 162 p.
- \_\_\_\_\_, 1961, The Floor of Crater Lake, Oregon: *Am. Jour. Sci.*, v. 259, p. 81-83.
- Utterback, C. L., Phifer, L. D., and Robinson, R. J., 1942, Some Chemical, Physical, and Optical Characteristics of Crater Lake: *Ecology*, v. 23, p. 97-103.

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### CORRECTION

In the article "Geology of the Cape Blanco Area" (The ORE BIN, August, 1962) belemnoids were incorrectly reported as having become extinct at the end of the Cretaceous period, according to R. H. Dott, Jr., the author. A few aberrant forms actually have been reported from Eocene rocks. This would extend the possible range of the "Upper Cretaceous Rocks" near Blacklock Point into the early Tertiary. However, the author still considers these strata to be Cretaceous (but younger than the Myrtle group) on the basis of the meager Foraminifera and petrology of the sandstones. Furthermore, the first belemnoid found in them was a large, massive form unlike those reported from the Eocene.

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### NEW DRILLING PERMIT ISSUED IN OCTOBER

The department issued Drilling Permit No. 50 to John T. Miller, Ross Mitchell & Associates on October 5, 1962. The new hole is located on the Bliven Ranch 240 feet north of John T. Miller "Ray Adams No. 1," which was drilled last month and abandoned September 24. The proposed depth of the "Bliven well" was 400 feet. The coordinates were given as approximately 670 feet north and 860 feet east of the southeast corner of sec. 11, T. 8 S., R. 5 W., Polk County. Elevation at ground level is about 285 feet.

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