Atlas of Oregon Lakes
PSU-1985

DEVILS LAKE

Lincoln County

Mid Coast Basin

LOCATION

Area 678 acres (274.4 hect) **Elevation** 20 feet (6.1 meters)
Type natural lake **Use** recreation
Location eastern city limits of Lincoln City; east of US Hwy 101
Access several boat ramps - city, county, and state
USGS Quad. Cape Foulweather (15 min.); Euchre Mtn (15 min.)
Coordinates 44 deg, 58 min, 02 sec N; 124 deg, 00 min, 51 sec W
USPLSS township 7, range 11, section 15

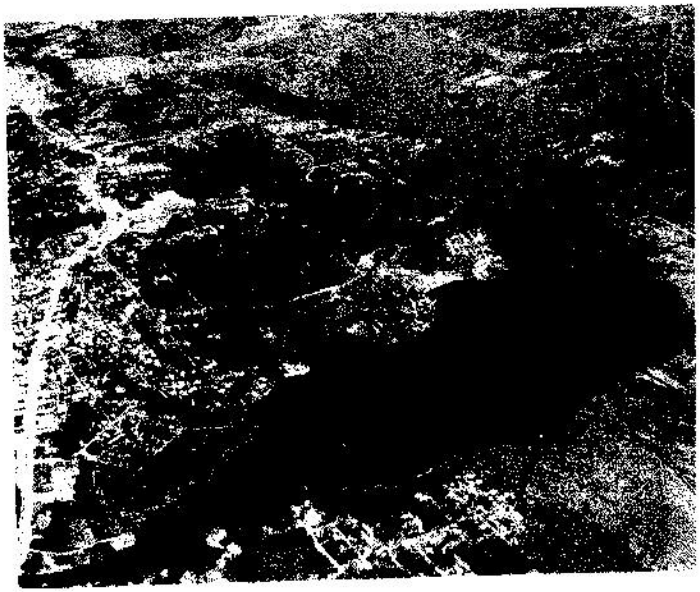
Devils Lake lies immediately east of Lincoln City on the Oregon Coast. It is entirely within the Lincoln City Urban Growth Boundary, and portions of the western shoreline are within the city limits. the lower reaches of the lake are less than 300 yards from the active beach zone of the Pacific Ocean. The lake is approximately three miles long, running north and south, and averages about 0.4 miles in width. It was named because of an Indian legend which tells that a giant fish or marine monster lived in the lake and occasionally came to the surface to attack some hapless native.

Devils Lake was formed when sand dunes and beach deposits of the late Pleistocene Epoch blocked the lower end of the valley drained by the D River. Since the lake surface elevation is substantially above sea level (elevation = 20 feet on USGS topographic map) a freshwater lake now exists, rather than a brackish water estuary. The single outflow from the lake, the D River, drops to the Pacific Ocean. It is listed by the Guinness Book of World Records as the "world's shortest river." The largest inflows from the forested drainage basin are two streams, Rock Creek and Thompson Creek. Rock Creek, the principal source of surface inflow, drains about 60 percent of the basin. It drains an area of predominately undeveloped, forested, steep sloped, mountainous terrain; however, the lower portion is used for cattle grazing and the upper area is managed for timber. Thompson Creek drains the moderately sloped northern portion of the drainage basin, and is an area in which land uses are principally developed residential and livestock grazing.

The recreational value of a freshwater lake adjacent to the local beach environment and adjacent to a growing population center is very high. Lincoln City maintains several municipal properties on Devils Lake and the state of Oregon operates parks near the south end. Devils Lake State Park has two public use areas. East Devils Lake Park is available for day use and boat launching. Devils Lake Campground is located on the southwest side of the lake, less than half a mile from the Oregon Coast Highway. Lincoln City owns and maintains three smaller parks on the lake.

Fishing in the lake has been successful off and on over the years. It has been treated several times because of a large number of carp. After treatment it will produce good catches of cutthroat and rainbow trout and largemouth bass, and a good population of catfish has developed. However, fishing pressure is fairly light during the summer due to the presence of speedboats and waterskiing in portions of the lake and due to massive macrophyte beds growing to the surface in the other portions.

Water quality in Devils Lake is poor and it is classified as eutrophic. Because of its proximity to the ocean the water shows the influence of sea spray in the slightly elevated concentrations of sodium and chloride. McHugh (1979) included the lake in his study of highly eutrophic lakes in Oregon, and his observations are summarized as follows: Devils Lake has been a problem area for many years. Until 1970 it had the dubious distinction of being the worst polluted lake in the state, as the south end was frequently contaminated by a poorly



Source: U.S. Geological Survey, no date. View looking north.

DRAINAGE BASIN CHARACTERISTICS

Area 24 sq mi (60 sq km) **Relief** moderate **Precip.** 90-112in (229-284cm)

Land use by type (%)	**Forest**	**Range**	**Water**	**Irr. Ag.**	**Non Irr. Ag.**	**Urban**	**Other**
	88.9	3.4	4.3	.	.	3.4	.

Notes

LAKE MORPHOMETRY

	Maximum	**Average**
Area 678 acres (274.4 hect)	**Depth** 22 ft (6.7 m)	10 ft (3 m)

Ave/Max Depth Ratio 0.44 **Volume** 6600 acre ft (8.1 cu hm)
Shoal Area 49% **Volume Factor** 1.33 **Shape Factor** 2.9
Length of Shoreline 10.7 mi (17.2 km) **Retention Time** 2 mo

Notes

WATER QUALITY DATA

Sample near surface except as noted in Appendix A.

Sample Date 7/17/81 **Temp.** 75.2 F (24 C) **pH** 6.9
Transparency 6.9 ft (2.1 m) **Phosp. (mg/l)** 0.034 **Chlorophyl a (ug/l)** 2.5
Alkalinity (mg/l) 24 **Conductivity (umhos/cm)** 105 **Diss. Oxygen (mg/l)** 8.5

Major Ions (mg/l)	**Na**	**K**	**Ca**	**Mg**	**Cl**	**SO4**
	10.6	0.3	4.7	3.1	15.6	3.2

Trophic Status eutrophic - macrophytes and algal blooms

Notes

material sinks to the bottom to form peat. At times in the pa waterfront land owners have used an underwater weed cutter, but as th cut-off plant parts were not removed from the lake, they simply adde the peat deposits. The plant beds probably also contribute to fill by slowing water movement through the lake, so that mud entering thr tributary streams tends to settle out in the lake, rather than b through it to the outlet.

Local concern for rehabilitation of the lake led to an EPA fu study (Kramer, Chin, and Mayo 1983) to: 1) identify and quantify magnitude of the pollution sources and determine their impacts on come to the surface to

attack some hapless native.

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Another major problem with the lake has been rapid shoaling, caused by siltation and heavy macrophyte growth. Part of the silt has originated from areas in which the forest and shrub ground cover has been disturbed, as in road building and house construction. Some doubtless enters the lake through inflowing streams. Silting tends to be periodic, following heavy rains. During the 1964 floods, a shallow bay off the lake received approximatley three feet of silt in two days. Macrophyte growth has been heavy around the lake margins, where the water is shallow, and in similar areas at the north and south ends. The dense stands of plants die each winter, and the more resistant plant material sinks to the bottom to form peat. At tim waterfront land owners have used an underwater weed cutte cut-off plant parts were not removed from the lake, they the peat deposits. The plant beds probably also contrib by slowing water movement through the lake, so that mud tributary streams tends to settle out in the lake, rat through it to the outlet.

Local concern for rehabilitation of the lake led to study (Kramer, Chin, and Mayo 1983) to: 1) identify and magnitude of the pollution sources and determine their lake, 2) analyze and rank alternative control strategies pollution problems defined in the sampling and monitoring 3) develop a rehabilitation program that is viable, acceptable and for which funding can be secured for through some local, state, federal and/or private sou rehabilitation measures were considered: 1) in-lake rehabil as dredging, plant harvesting, herbicide application, and levels and 2) source control measures such as surroundi changes, implementing agricultural forest management, and disposal practices, rerouting Rock Creek, and sewering around the lake. Recommended actions included reducing nutr through use of better agricultural practices, dredging the the lake to remove nutrient enriched sediments and deepen applying herbicides to kill the weeds in selected areas, and a weed harvesting program. Since EPA's Phase II implementat has been reduced, Lincoln City, with strong local homeowner pursuing formation of a service district with taxing auth could implement an annual lake management program.

Source: U.S. Geological Survey, no date. View

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