



# Cottage Grove Lake

Lane County

Willamette/Sandy Basin

Location		
Area	1,139 acres (461.0 hect)	Elevation 790 ft (240.8 m)
Type	reservoir	Use multi-purpose
Location	6 miles south of Cottage Grove	
Access	4 miles from US Hwy 5 on county road	
USGS Quad	Cottage Grove Lake (24K), Cottage Grove (100K)	
Coordinates	43° 43' 00" N, 123° 02' 58" W	
USPLSS	tow nship 21S, range 3W, section 28	

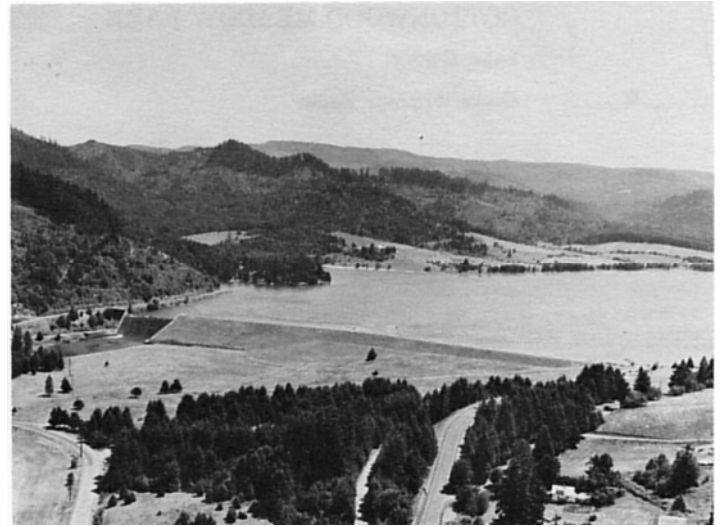
Cottage Grove Lake is a multi-purpose reservoir on the Coast Fork of the Willamette River. It is one of thirteen Corps of Engineers multi-purpose water projects in the Willamette Valley. The primary function of Cottage Grove Lake, in concert with nearby Dorena Lake, is to control flooding on the Coast Fork as well as to help reduce floodstages farther downstream on the mainstem of the Willamette. It was estimated in 1977 that the presence of Cottage Grove Lake had prevented over \$64,000,000 in flood damages since its completion in 1942. The reservoir is maintained near full pool until after mid-summer. By August a gradual draw-down begins and by November it is at a minimum level to provide storage for potential flood waters.

This reservoir does not exhibit the typical branching pattern of so many impounded water bodies. The relatively flat topography of its valley is reflected in the regular shoreline, a fact that is most apparent after the fall draw-down when the surface area of the water is reduced to about 25 percent of its maximum. At this time extensive mudflats are exposed and access to the lake restricted. Although the shoreline of the lake is managed by the Corps of Engineers, about half of the forested drainage basin is private land and the rest is federal land managed by the Bureau of Land Management.

Cottage Grove Lake is very popular for all water-based recreation activities, especially boating. Trout are stocked by the state each year and the lake is also managed for warm-water game fish, primarily largemouth bass and black crappie. The Corps of Engineers has provided four parks for camping, picnicking and boat launching.

The Black Butte mine, two miles south of the lake and in its drainage basin, was once one of the largest producers of mercury in Oregon, and there has been a problem with natural deposits in the area yielding mercury to the lake. Analyses of fish tissue by the Department of Environmental Quality have shown that mercury levels in the fish are near levels at which the U.S. Food and Drug Administration would require action. Arsenic has also been reported in the area, primarily in the groundwater immediately downstream from the dam and upstream at London Springs.

A pronounced thermal stratification develops in Cottage Grove Lake during summer. Because the control outlet on the dam is near its base, cool hypolimnetic water is selectively withdrawn and only warmer epilimnetic water remains in the reservoir after it has been drawn down. Trophic indices, based on chlorophyll, phosphorus and water transparency indicate that the Cottage Lake is more oligotrophic than other reservoirs in the region. However, it develops a pronounced oxygen depletion in the hypolimnion and is reported to support a considerable production of fish. These factors imply that the lake is more eutrophic than suggested by the indices and it is therefore classified as mesotrophic.



Source: US Army Corps of Engineers, 1975. View looking south.

Drainage Basin Characteristics							
Area	104.0 sq mi (269.4 sq km)		Relief	moderate		Precip	48-62 in (122-157 cm)
Agriculture							
Land Use %	Forest	Range	Water	Irrig	Non Irrig	Urban	Other
	96.5	1.0	2.0	-	-	-	0.5
Notes Other - Rock outcrops.							
Lake Morphometry				Maximum		Average	
Area	1,139.0 acres (461. hect)		Depth	73 ft (22.3 m)		29ft (9.0 M)	
Ave/Max Depth Ratio	0.400		Volume	33,500 acre ft (41.38 cu hm)			
Shoal area	17%	Volume factor	1.20	Shape factor	2.05		
Length of Shoreline	7.6 mi (12.2 km)		Retention time	2 mo			
Notes Area, volume, and depth from U.S. Army Corps of Engineers							
Water Quality							
Trophic status mesotrophic							
Sample date	08/12/81		Temp	77.4F (25.2C)		Diss. Oxygen (mg/l)	7.2
Transparency	19. ft (5.8 m)		Phosp (mg/l)	0.002		Chlorophyl a (mg/l)	0.8
Alkalinity	21		Conductivity (umhos/cm)	63		pH	7.7
Major Ions	Na	K	Ca	Mg	Cl	SO4	
	4.5	1.0	6.4	2.1	2.4	1.2	
Notes -							

