



## North Fork Reservoir

Clackamas County

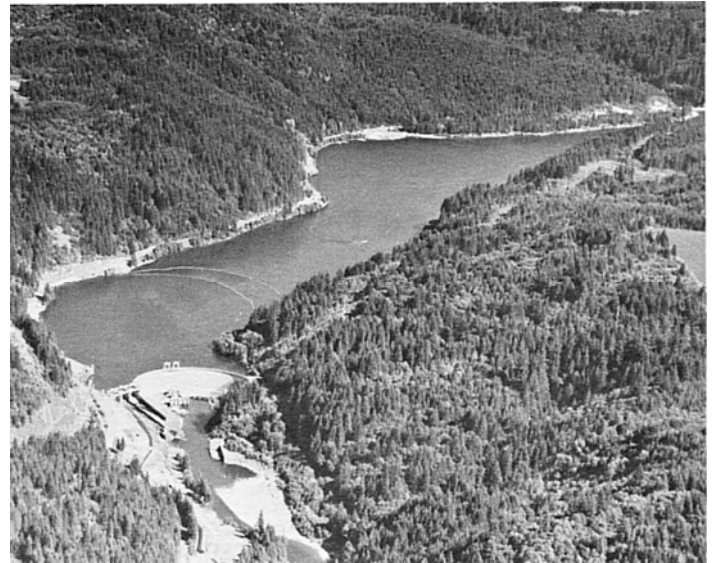
Willamette/Sandy Basin

Location	
Area	324 acres (131.1 hect)
Elevation	665 ft (202.7 m)
Type	reservoir
Use	power, recreation
Location	5 miles southeast of Estacada
Access	adjacent to Ore Hwy 224
USGS Quad	Elwood (24K), Oregon City (100K)
Coordinates	45° 14' 36" N, 122° 16' 47" W
USPLSS	township 4S, range 04E, section 11

North Fork Reservoir is the largest of several impoundments operated by the Portland General Electric Company on the Clackamas River. It was formed by construction of a 207-foot high, concrete arch dam in 1958 about a mile below the junction of the North Fork Clackamas River with the main stem, and 29 miles upstream from the confluence with the Willamette River. The project produces power on a peaking schedule, and water level in the reservoir fluctuates about four feet daily. Storage capacity is close to 19,000 acre-feet at full pool, large enough to insure continuous turbine operation not only at its own powerhouse, but for those at Faraday and River Mill powerhouses downstream. Nearly two million acre-feet of water flow through the Clackamas River in an average year, which means that the retention time in the reservoir is very small.

The narrow, deep reservoir stretches four miles into the western slope of the Cascades. It is an area of rugged topography, composed of older volcanic flows deeply cut by tributary streams. Coniferous forests cover the landscape in the 644 square mile drainage basin. This is mostly within the Mt. Hood National Forest, although the reservoir itself is outside of the national forest. Much of the shoreline is in private ownership, but is undeveloped. North Fork Reservoir is close to the Portland metropolitan area and receives heavy use for water-based recreation. It is very popular for boating, water-skiing, and fishing. It is not very productive for native fish but is frequently stocked with rainbow trout. Other species have entered from the river upstream and are caught at times. Boat launching areas are provided and a 16-acre park, Promontory Park, is operated by Portland General Electric. There is also a private concession with fishing and boating supplies at the upper end of the lake. Several forest service camps are located upstream. A 10-mile-per-hour speed limit is enforced on the upper two miles of the reservoir, and keeps speed boats from interfering with angling in the resort and park area.

Water chemistry in North Fork Reservoir (concentrations of major ions, alkalinity, and conductivity) is typical of streams draining the west slope of the Cascades. The concentrations of chlorophyll and phosphorus are moderate, as is water transparency (Secchi disk depth = 14.4 feet; 4.4 meters), and indicate mesotrophic conditions. Water temperatures remain quite cool through the summer and the water column is saturated with oxygen. Phytoplankton densities are fairly low; the greenish cast to the water results from very fine particulate matter in the runoff rather than from biological growth.



Source: US Geological Survey, 1975. View looking east.

Drainage Basin Characteristics								
Area	644.0 sq mi (1,668.0 sq km)		Relief	steep		Precip	58-120 in (147-305 cm)	
Land Use %	Forest	99.7	Range	Water	0.3	Agriculture		
	Irrig	-	Non Irrig	-	Urban	-	Other	
Notes -								
Lake Morphometry				Maximum		Average		
Area	324.0 acres (131.1 hect)		Depth	120 ft (36.6 m)		43ft (13.2 M)		
Ave/Max Depth Ratio	0.360		Volume	14,044 acre ft (17.35 cu hm)				
Shoal area	12%		Volume factor	1.08		Shape factor		
Length of Shoreline	8. mi (12.9 km)		Retention time		<1 mo			
Notes -								
Water Quality								
Trophic status	mesotrophic							
Sample date	09/19/82		Temp	59.4F (15.2C)		Diss. Oxygen (mg/l)		
Transparency	14.4 ft (4.4 m)		Phosp (mg/l)	0.018		Chlorophyll a (mg/l)		
Alkalinity	25		Conductivity (umhos/cm)	62				
Major Ions	Na	K	Ca	Mg	Cl	SO4	pH	
	4.0	0.7	5.9	2.0	2.0	0.2	-	
Notes -								

