Lakes of Oregon

VOLUME 6

Douglas County

Sitting around the fire that evening we discussed the adventures of the last few days in this new and strange land. We talked of the vast fields of tule around the lake, of the natural bridge, of the fact that the lake was an independent body of water and of our desire to see more of this wild country.

Lindsay Applegate

OPEN-FILE REPORT. 1979

Lakes of Oregon

VOLUME 6

Douglas County

By

Joseph F. Rinella

Prepared by
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

In cooperation with
DOUGLAS COUNTY WATER RESOURCES SURVEY and
OREGON WATER RESOURCES DEPARTMENT

UNITED STATES DEPARTMENT OF THE INTERIOR
CECIL D. ANDRUS, *Secretary*

Geological Survey
H. William Menard, *Director*

Water Resources Division
Philip Cohen, *Chief Hydrologist*
John D. Bredehoeft, *Regional Hydrologist, Western Region*

Oregon District
Stanley F. Kapustka, *District Chief*

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Ice fishing on Diamond Lake

Introduction

An inventory of lakes and reservoirs in Oregon is useful in evaluating the surface-water supply of the State and in providing answers to questions about Oregon's lakes. Much of the information on lakes and reservoirs previously collected by Federal and State agencies has never been published. Those data were compiled and used as a basis for collecting additional information. This report provides information for use by city, county, and State planning groups in planning interpretative studies. The information also will be useful to sportsmen, tourists, and others interested in preserving the recreational value of Oregon's lakes.

Because of the large number of lakes and reservoirs in Oregon, a single report covering the State would be bulky. Therefore, lake information is being issued in several volumes on a county or multicounty basis. Volume 1, released in 1973 covered Clatsop, Columbia, and Tillamook Counties; volume 2 (1974) included Benton, Lincoln, and Polk Counties; volume 3 (1975) included Hood River, Multnomah, Washington, and Yamhill Counties; volume 4 (1976) included Clackamas County; and volume 5 (1977) included Marion County. Douglas County was selected for volume 6. (See figure 1.)

In addition to office compilation of existing data, each lake was visited. Most visits were made in summer or early fall when lakes were most

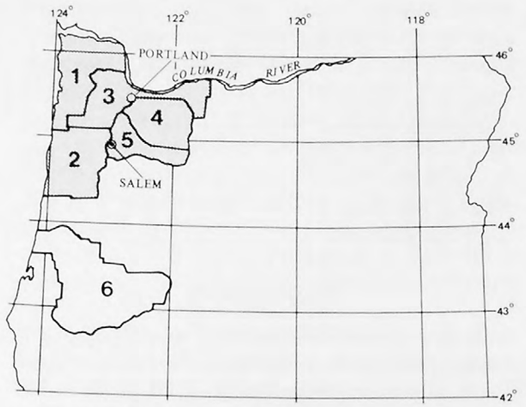

Figure 1.–Index map of Oregon showing location of Douglas County (6) and areas covered in volumes 1,2,3,4, and 5.

accessible and when water temperature and biological activity were near maximum.

CRITERIA USED FOR DESIGNATING LAKES

There are no commonly accepted criteria for distinguishing among lakes, ponds, pools, sloughs, and other water bodies. In general, any lake or impoundment with a surface area greater than 5 acres (20,000 m^2) is included in this inventory, but a few smaller lakes are also included at the author's discretion. A good example is Teal Lake (p.00), which is less than 5 acres (<20,000 m^2), but is located near Diamond Lake, a popular recreational area. Natural ephemeral lakes are not included nor are privately owned lakes or impoundments if permission to sample was denied. Therefore, the inclusion of lakes in this report is based primarily on size, availability for sampling, and on the author's judgment of their actual or potential use.

Natural lakes, as well as manmade ponds and reservoirs, all form and disappear with surprising frequency. Maps may not show all the lakes in a given area nor do they indicate recent changes and, therefore, some lakes that meet the criteria for inclusion, may have been unintentionally omitted. Some large lakes shrink into several small ones during the dry season, and the process is reversed when the rains come. Named lakes in Douglas County that did not meet the criteria for inclusion in this report are listed on page 10.

In Douglas County, six ponds that met the criteria for inclusion into this report were not sampled due to problems in access. The names and locations of these ponds are listed below.

Pond	Section	Township	Range
Dillard log pond	33	28 S.	6 W.
Dixonville log pond	18, 19	27 S.	4 W.
Hanna Nickel Mining ponds (2)	28, 29, 32	30 S.	6 W.
Harbor log pond	23	30 S.	6 W.
Umpqua log pond	2	28 S.	6 W.

RESERVOIRS

A steadily increasing number of reservoirs are being constructed in Oregon. Because many of these are not shown on the latest maps, their existence had to be determined from other sources, and some that qualify for inclusion in this report may have been missed.

ACKNOWLEDGMENTS

This report was prepared by the Geological Survey, Water Resources Division, in cooperation with the Douglas County Water Resources Survey and the Oregon Water Resources Department. Several other agencies contributed much time and effort searching their files and reports for data that could be included in this report. The Oregon State Department of Environmental Quality and the Oregon State Fish and Wildlife Commission furnished information on lake use and other valuable data.

Special thanks are due Stanley F. Kapustka, John Friday, and Alexander Gonsalves for their help in taking aerial photographs of the individual lakes.

Invaluable assistance in all phases of the project was given by Berl Oar of the Douglas County Water Resources Survey.

Reviewing flight plan for taking aerial photographs

Explanation of Terms

Information for each lake included in this report has been grouped under several general terms. Most of the numerical information is given in inch-pound units; water-quality data are reported in metric units. Factors for converting between inch-pound and metric (SI) units are given in table 1.

Table 1.–*Conversion factors for inch-pound system and International System Units (SI)*

[For use of those readers who may prefer to use metric units rather than inch-pound units, the conversion factors for the terms used in this report are listed below:]

Multiply inch-pound unit	By	To obtain metric unit
	Length	
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
acre	4047	square meter (m^2)
	.4047	square hectometer (hm^2) 1/
	.004047	square kilometer (km^2)
square mile (mi^2)	2.590	square kilometer (km^2)
acre-foot (acre-ft)	1233	cubic meter (m^3)
	1.233×10^{-3}	cubic hectometer (hm^3)
	1.233×10^{-6}	cubic kilometer (km^3)
	Specific combinations	
cubic foot per second (ft^3/s)	.02832	cubic meter per second (m^3/s)

1/ One hectometer is equal to 100 meters.

An explanation of terms used on the individual lake sheets, with comments on their significance and on accuracy of the data, follows:

Identification number.–The identification number in parentheses preceding the lake name, is used only for identifying the lake on the county map. (See figure 4.) Within the county, lakes are listed in alphabetical order and numbered serially.

Survey date.–The survey date, in the upper right-hand corner of the page, gives the date the lake was visited by the Geological Survey field party. Most of the field data, including water-quality data, depth soundings, and observations of inflow and outflow, were obtained during this visit. Separate dates are shown where specific data were collected at a time other than the survey date.

Location.–Latitude, longitude, township, range, and section were determined from U.S. Geological Survey quadrangle maps (topographic series; see p.12), with the largest scale map available for the lake area given by name and size; for example, Roseburg 15-minute quadrangle map. In areas where the township, range, and section grid is not drawn on the Geological Survey quadrangle maps, the grid information was obtained from the most recent U.S. Forest Service map and checked against U.S. Bureau of Land Management protractions. The latitude and longitude identifies the point of surface-water outflow, or if there is no outflow, the southernmost tip of the lake. Direction and distance, rounded to the nearest one-half mile from prominent landmarks, such as towns, roads, or rivers, are included to aid in rapid, easy location. In some instances, a lake is not shown or named on the topographic map and is so indicated.

Drainage basin.–The smallest well-known river basin in which the lake is located is shown first; the major drainage system is listed in parentheses following the basin. For example, the North Umpqua River is the smallest well-known basin in which Diamond Lake (p.36) is located, and it is part of the major drainage system known as the Umpqua River basin; therefore, the drainage basin is reported as North Umpqua River (Umpqua River). For a few lakes and reservoirs, the major drainage system is the smallest well-known basin. An example of this is Gardiner Reservoir (p.49), which drains directly into the Umpqua River. A lake that contributes no outflow to the basin cited is reported as "noncontributing." If a lake does not drain into a well-known basin, such as Tahkenitch Lake (p.102), the basin name is determined by the lesser known outflow stream.

Drainage area.–The surface-drainage area, in square miles (mi^2), is the area that contributes water to the lake. These areas were delineated on U.S. Geological Survey topographic maps and measured by planimeter. Drainage areas for some lakes were

classified as indeterminate because either the surface-drainage area cannot be accurately delineated or the inflow consists primarily of precipitation, ground water, or a piped in water supply.

Surface area.–The surface areas of lakes, in acres, were obtained from several sources. Published reports were an important source of information; however, most surface areas were measured by planimeter on enlarged lake outlines taken from aerial photographs. Because the area of many lakes varies widely, depending on the surface elevation and time of year, areas shown in this report are intended only to describe the general size of the lake. Reservoir areas are generally taken from construction drawings and represent normal pool.

Surface elevation.–A single elevation, in feet (ft) above mean sea level, estimated from the best available topographic maps or other source, is shown for each lake. In addition, other information, such as the actual water-surface elevation on the survey date, may be included if available.

Volume.–Lake volume, in acre-feet (acre-ft), was obtained by computing and then summing the volume of each stratum of water between successive contours on the bathymetric map. Each volume was computed using a standard equation incorporating the areas within both the upper and lower contours of the stratum being computed and the vertical distance between them. Reservoir capacity was generally determined from construction drawings and represents normal pool. Because volume can vary widely between seasons and from year to year, volume figures reported are intended to illustrate only the relative sizes of the lakes. Where data were not adequate to compute volume, it is reported as "not determined."

Inflow.–Information pertaining to the surface inflow, including the name of a stream or streams and direction of flow, is given. Although many lakes receive inflow from several streams, inflow generally could not be measured because the lakes were visited during the low-flow season. Where a rate is reported for inflow, it generally was estimated by computing cross-sectional area of the channel and by timing drift. The rate of inflow, where it was measured or estimated, is reported in cubic feet per second (ft^3/s). Inflow from direct precipitation on the lake or from ground-water seepage was neither measured nor estimated.

Outflow.–Generally, surface outflow is confined to one channel. All available information pertaining to it, including the name of the stream and general direction of outflow, is given. Some lakes have no visible outflow, and the water loss other than that from evaporation and transpiration is by ground-water outflow. Where possible, surface outflows were estimated, but no attempt was made to identify nor to determine ground-water outflow.

Use.–Information on recreational use of the lakes and their surrounding areas, whether private or public, was obtained from other publications, by observation, and from local residents.

Remarks.–Useful information that is not easily classified under the above headings is listed under REMARKS. Topics that might be included in this section are:

1. Descriptive information.
2. Directions or access.
3. Water rights.
4. Qualifying statements.
5. References that provide additional information pertaining to the lake are indicated by numbers from the list of references (p.11).
6. Agencies furnishing bathymetric data.

Bathymetric map.–Depth contours on the map were made from soundings taken on the SURVEY DATE or from data furnished by some other agency. Soundings were made by the U.S. Geological Survey field party, using either a sounding line or a recording-chart fathometer, and should be considered approximate. Depths are reported in feet and can be converted readily to meters using a conversion factor (see table 1) or a feet-meter scale on the dissolved oxygen-temperature grid. Agencies that supplied depth data are cited. When bathymetric information was not available, only the outline of the lake was shown.

The sampling site (symbol ▼) at each lake is shown on the map, as are marshes and other features. Aerial photographs, taken in 1974, were used to estimate the horizontal scale, which is meant to represent relative size only. Inflow and outflow streams are shown graphically by direction and location.

Water-Quality Data

Most of the chemical determinations were from samples collected at the designated sampling sites at a depth of two and one-half times the Secchi disc (transparency) reading. This sampling depth generally approximates the 1 percent light-transmittance level in the lake. If the sampling depth was calculated to be deeper than the actual lake depth, the samples were collected near mid-depth in the water column. Samples for bacterial analysis were collected 0.5 feet (0.15m) below the water surface at designated sampling sites which may include: surface inflow and outflow channels, near accessible shorelines or near the location of the chemical sampling site. Dissolved oxygen, temperature, pH, and conductivity were measured at various depths near the location of the chemical sampling site.

The percentage of cloud cover is given as an indicator of the amount of direct sunlight reaching the lake at the time of sampling. Increasing light intensity in the presence of chlorophyll-bearing aquatic plants increases photosynthetic activity which, in turn, produces more dissolved oxygen and increases the pH of the water in the lighted (trophogenic) zone.

Sampling sites are generally near the deepest part of each lake or reservoir and are considered to be reasonably representative of the physical and chemical characteristics of the entire lake. Some of the larger lakes or those occupying irregular basins were sampled at several sites, because parts of the lakes may have distinctive physical and chemical characteristics.

Data on alkalinity, hardness, dissolved solids, and dissolved oxygen are reported in milligrams per liter (mg/l). One milligram per liter is a weight of 1 milligram of the particular constituent in 1 liter of water. At the low concentrations given in this report, 1 mg/l is equivalent to 1 ppm (part per million) used in some water-quality reports.

Chemical analyses were made of waters from several lakes to determine concentrations of major ions in solution, plus nitrogen, phosphorous, total organic carbon, and silica (table 2). The report "Quality Criteria for Water," prepared by the Environmental Protection Agency (1976), gives criterion levels for each constituent recommended for public water supplies and other uses. All the plant nutrients, with the exception of nitrogen and phosphorous, are usually sufficiently abundant so as not to limit plant growth. Dissolved nitrite plus nitrate and dissolved orthophosphate concentrations generally vary inversely with phytoplankton concentrations during bloom periods. Silica (SiO_2) forms the basis of the skeletal structure of an important group of algae, the diatoms, and can be depleted rapidly by a large diatom population. During periods of thermal stratification, the chemical characteristics of water in the hypolimnion can differ significantly from the warmer water in the oxygen-rich epilimnion. (See fig. 2.)

Water samples were analyzed at the U.S. Geological Survey central laboratory in Arvada, Colo., using the methods described by Skougstad and others (1978).

To help those unfamiliar with the technical terms and the measurements made in this study, the methods used and the significance of the variables measured are reviewed briefly for selected water-quality parameters.

pH.–The pH of a solution is a measure of the effective hydrogen-ion activity. The pH of a sample is an important parameter in controlling the solubility of dissolved constituents and thus affects chemical concentrations. The range of pH values is from 0 to 14; solutions in the range of 0 to 7 are considered to be acidic, and those in the range of 7 to 14 are considered to be alkaline. At a pH of 7, water is neither acidic nor alkaline, but is a neutral solution. The pH scale is logarithmic, so that a change of one pH unit represents a ten-fold change in hydrogen-ion activity.

The pH of lake water may be altered through photosynthesis and respiration by waterborne plants, as well as by other activities. The uptake of carbon dioxide during photosynthesis increases the pH of the water, whereas the release of carbon dioxide during respiration decreases the pH value.

On most lakes, profiles of pH were taken with a portable pH meter, utilizing a submersible probe. On the remaining lakes, pH determinations were made on water samples collected at various depths in a Van Doren bottle. The pH of these samples was determined as soon as possible after collection.

Table 2.- Chemical analyses of water from selected lakes

Lake	Date of Collection	Time (2400 hours)	Depth of Collection (feet)	Dissolved constituents (Milligrams per liter)													Total constituents (Milligrams per liter)					Specific Conductance (micromhos/cm at 25°C)	pH
				Silica (SiO_2)	Calcium (Ca)	Magnesium (Mg)	Hardness (as $CaCO_3$)	Sodium (Na)	Potassium (K)	Alkalinity as $CaCO_3$	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrite & Nitrate (as N)	Orthophosphate (as P)	Dissolved solids residue at 180°C	Kjeldahl Nitrogen (as N)	Nitrite & Nitrate (as N)	Phosphorus (as P)	Organic Carbon	Mercury (Hg)		
Buckeye Lake	9-19-78	1430	22	23	20	14	110	4.2	2.8	120	4.4	0.7	0.1	0.01	0.00	122	0.37	0.01	0.04	–	–	224	7.1
Clear Lake																							
Site 1	10-27-77	1630	23	6.8	2.9	1.8	15	12	1.0	15	2.1	17	.0	.00	.00	60	.24	.01	.00	2.2	–	83	7.4
Site 1	9- 7-78	1325	98	8.8	3.8	2.0	18	15	1.0	–	6.0	15	.0	.27	.00	60	.22	.27	.01	1.7	0.0000	81	6.7
Site 1	9- 7-78	1400	16	–	–	–	–	–	–	–	–	–	–	.03	.00	–	.17	.03	.01	2.9	–	82	7.2
Site 1	11-28-78	1128	66	–	–	–	–	–	–	–	–	–	–	.13	.01	–	.49	.13	.01	2.1	–	87	6.8
Site 1	11-28-78	1135	98	–	–	–	–	–	–	–	–	–	–	.11	.00	–	.26	.11	.00	2.0	–	88	6.8
Near site 3	9- 7-78	1000	9	7.2	5.7	1.9	22	14	1.0	12	4.4	17	.0	–	–	44	–	–	–	–	.0000	82	7.0
Near site 3	11-28-78	1145	10	7.7	2.5	2.0	14	12	1.1	–	4.3	16	.3	.10	.01	54	.29	.10	.01	2.3	–	87	6.5
Denley Reservoir	7-29-77	1015	9	–	89	6.3	250	–	–	27	–	–	–	–	–	884	–	–	–	–	.0001	1540	7.2
Diamond Lake	9-18-78	1830	30	6.1	2.6	1.0	11	3.6	1.0	18	1.2	.5	.0	.03	.00	24	.52	.03	.04	3.7	–	36	7.2
Do	9-18-78	1845	48	6.4	2.6	1.1	11	3.8	1.1	18	1.7	.7	.0	.01	.00	30	1.1	.02	.10	–	–	35	7.1
Douglas County Lumber Log Pond	7-26-77	1130	1	–	6.3	1.9	24	–	–	37	–	–	–	–	–	202	–	–	–	–	–	97	5.8
Eel Lake	10-19-77	1430	23	1.0	3.3	1.9	16	9.9	.9	18	2.1	14	.0	.00	.00	60	.38	.01	.00	2.5	–	81	7.5
Fish Lake	9-19-78	1915	100	13	8.6	1.3	27	2.5	.4	26	3.5	.7	.0	.05	.00	60	.26	.05	.02	1.4	–	62	6.6
Guido Pond (West)	5- 1-78	1300	6	–	29	19	150	–	–	150	–	–	–	–	–	208	–	–	–	–	–	296	8.6
Lemolo Lake	9-20-78	1630	16	27	3.6	1.6	16	4.6	1.4	25	1.8	3.3	.0	.02	.04	61	.15	.02	.05	1.5	–	52	7.4
Loon Lake	11- 1-77	1240	33	10	4.0	1.5	16	4.2	.8	17	2.7	4.0	.0	.23	.00	51	.31	.23	.00	1.6	–	56	6.8
Mt. Baldy Log Pond	11- 2-77	1600	1	18	13	4.3	50	13	24	74	36	25	.2	.16	.72	243	4.3	.16	1.7	43	–	224	6.4
Nordic Log Pond	5- 2-78	0930	2	–	14	4.6	54	–	–	89	–	–	–	–	–	284	–	–	–	–	–	261	5.5
North Tenmile Lake	10-19-77	1230	12	5.1	6.3	2.5	26	8.0	1.0	32	1.2	8.9	.1	.02	.00	60	.54	.02	.03	4.7	–	89	7.0
Siltcoos Lake	10-12-77	1030	8	3.9	4.7	8.5	47	79	3.0	11	13	130	.0	.01	.00	272	.31	.01	.01	2.6	–	486	7.5
Skookum Pond	8-23-78	1200	3	6.9	15	2.4	47	5.1	.9	51	3.6	1.0	.1	.03	.01	96	.83	.03	.09	–	–	93	6.8
Sun Studs Log Pond	5- 4-78	1000	1	–	13	5.5	60	–	–	34	–	–	–	–	–	190	–	–	–	–	–	162	5.4
Sutherlin Log Pond	5- 8-78	1545	9	4.0	3.7	2.5	20	5.0	3.2	25	3.3	4.2	.0	.01	.01	59	.71	.01	.06	6.9	–	64	7.4
Tahkenitch Lake	10-12-77	1315	8	3.3	3.5	1.7	16	8.9	.5	16	.9	13	.0	.00	.00	63	.32	.00	.02	2.6	–	71	7.1
Timpanogas Lake	8- 1-78	1400	49	9.2	1.1	.2	4	1.0	.4	9	2.8	.4	.0	.03	.00	20	.22	.06	.01	.8	–	10	6.4
Toketee Reservoir	8-21-78	1830	15	28	–	1.9	18	5.4	1.5	28	1.9	2.1	.1	.00	.03	56	.10	.01	.05	.7	–	57	6.5
Whipple Memorial Reservoir	11- 2-77	1345	16	14	14	4.4	53	6.8	1.0	51	.8	15	.1	.28	.00	93	.29	.28	.01	2.5	–	131	7.4

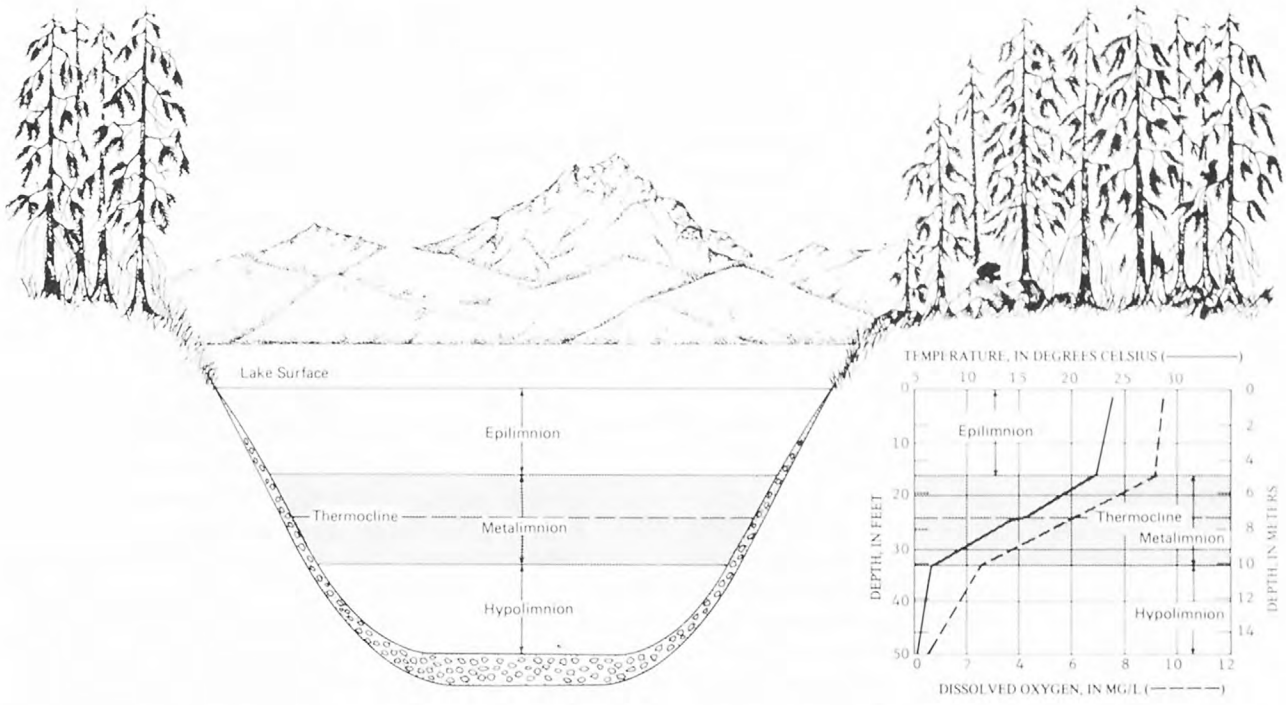

Figure 2.—Idealized thermal stratification during summer in a lake in the North Temperate zone.

Conductivity.–Specific conductance, or conductivity, is a measure of the ability of water to conduct an electrical current and is expressed as micromhos per centimeter at 25°C (Celsius). The specific conductance is low for pure water, but increases as water becomes more mineralized. Hence, specific conductance is related to the concentration of ionized minerals in the water. In this report, specific conductance was measured for samples taken at various depths.

Alkalinity.–Alkalinity is the capacity of water to neutralize an acid by means of chemical buffering. In natural waters, alkalinity is caused primarily by the presence of bicarbonate, carbonate, or hydroxide ions. Waters with low alkalinity may tend to show large daily and seasonal fluctuations in pH. For this study, alkalinity is reported in milligrams per liter as $CaCO_3$ (calcium carbonate) and was determined by titrating the samples with 0.01639 N sulfuric acid to a pH of 4.5.

Total hardness.–Historically, water has been classified as "hard" or "soft" depending on how readily the water produces a lather when mixed with soap. For this study, hardness values are reported in milligrams per liter as $CaCO_3$. Any water with hardness of less than 60 mg/l as $CaCO_3$ is considered to be soft on an arbitrary scale used by the Geological Survey. Generally, hard-water lakes tend to be more biologically productive than soft-water lakes, but there are many exceptions (Iwatsubo, Britton, and Averett, 1972, p. 11). Hardness was determined using the complexometric method (Skougstad and others, 1978, p. 947).

Dissolved solids.–Dissolved solids were determined by evaporating a known quantity of filtered water at 180°C and weighing the residue. The U.S. Public Health Service (1962) has established a recommended limit of 500 mg/l of dissolved solids for drinking water supplies, although this limit may be exceeded if no better water is available. Commonly, the numerical value for dissolved solids (milligrams per liter) is about two-thirds the specific conductance value (micromhos per centimeter at 25°C). However, in the low range of conductivity values found in many parts of Oregon, either proportionately high silica concentrations or abundant organic material may contribute significantly to the dissolved-solids content, causing a higher value than might be expected by comparison with conductivity readings.

Dissolved-oxygen profile.–The concentration of dissolved oxygen in water is a function of the temperature and salinity of the water and of the partial pressure of atmospheric oxygen in contact with the water. Oxygen solubility is inversely related to the water temperature and salinity. The warmer the water the less oxygen it will contain. The oxygen concentration in water is continually being altered by life processes such as photosynthesis and respiration and by complex chemical reactions. For example, in enriched lakes, it is common in late summer to find maximum oxygen concentrations in the epilimnion resulting from photosynthesis. In contrast, oxygen depletion can occur in the hypolimnion of these lakes due to bacterial decomposition of organic matter (Britton, Averett, and Ferreira, 1975, p. 17). In lakes at low altitude, such as those near the coast where atmospheric pressure is high, dissolved-oxygen concentrations at saturation are higher than at equivalent temperatures in lakes at higher altitudes.

Although dissolved-oxygen values in this report represent only one group of observations, they will provide a guide for evaluating the suitability of a lake for fish life and other fresh-water organisms. A generalization based on thousands of field determinations on inland waters (Welch, 1952) states that "dissolved oxygen at levels of 3 ppm (mg/l) or lower should be regarded as hazardous to lethal (for fish) under average stream and lake conditions; and that 5 ppm (mg/l) or more of dissolved oxygen should be present in waters, if conditions are to be favorable for freshwater fishes." This statement, which applies mainly to warm-water fish, assumes that other vital requirements are held within their proper limits. The combined influence of dissolved oxygen and temperature on rainbow trout is illustrated in figure 3, which is patterned after figure 11 in a report by Smith and Bella (1973).

Temperature profile.–Temperature, which varies in lakes with depth and time of year, is the most important controlling factor in the aquatic environment. Life processes, chemical-reaction rates, and many physical events occur only within definite temperature ranges. Because the density of fresh water is primarily a function of temperature, layering of water of equal temperature (homothermal) often occurs in lakes. Fresh water reaches its maximum density at 3.98°C and is less dense either above or below this temperature. Generally during the summer, a warm, oxygen-rich, circulating layer of water, the epilimnion (upper layer), is separated

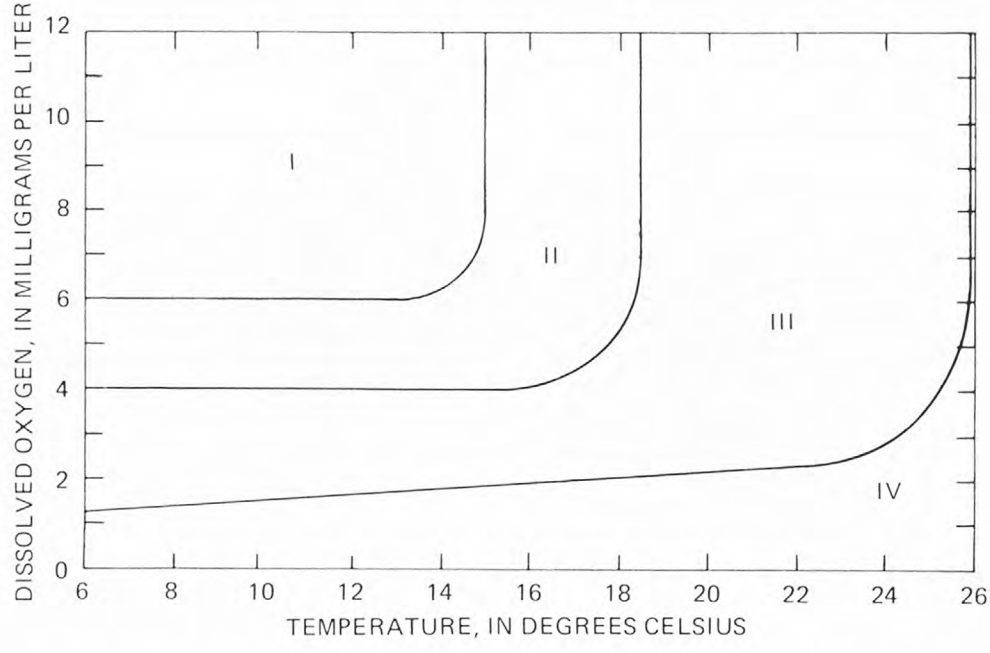

Figure 3. – Favorable to lethal combinations of dissolved oxygen and temperature for rainbow trout. Zone I represents most favorable combinations, whereas zone IV represents lethal combinations.

from the cooler, oxygen-poor hypolimnion (deep layer) water by a zone called the metalimnion, which is characterized by rapid changes in temperature and oxygen with increasing depth. The plane of maximum rate of decrease in temperature within the metalimnion (transition layer) is termed the "thermocline" (fig. 2). Temperature profiles for the lakes depict this stratification. In late fall, as the surface waters begin to cool, the stable stratified condition that has developed during the warm summer months begins to break down, the lake soon becomes homothermal from top to bottom. This is the fall turnover period. If the water continues to cool below 3.98°C, a reverse stratification will occur with colder water overlying water several degrees warmer. This is the winter stratification period. After another mixing period or turnover in the spring, the entire process begins again. These temperature variations in lakes influence the suitability of a lake for uses such as recreation, fish production (see fig. 3), and public water supplies.

For most lakes, the temperatures listed were probably close to the maximum for the year when sampled. However, temperatures at other times may vary considerably from these, depending on weather conditions, inflow, lake depth, etc. For most lakes, temperature was plotted against depth, and a solid line was drawn on the graph between the plotted points.

Temperatures are reported in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) using the following table:

°C	°F	°C	°F	°C	°F
0	32	10	50	20	68
1	34	11	52	21	70
2	36	12	54	22	72
3	37	13	55	23	73
4	39	14	57	24	75
5	41	15	59	25	77
6	43	16	61	26	79
7	45	17	63	27	81
8	46	18	64	28	82
9	48	19	66	29	84

Transparency.–Transparency, or penetration of light, refers to the depth to which light can penetrate through water. Light penetration is dependent on materials in the water that scatter or absorb light, such as suspended sediment and phytoplankton which limit light transmission. Because photosynthesis can occur only to depths where sufficient light is available, transparency is one of the more important parameters that govern the biological activity of a lake.

Transparency measurements were made by lowering a 20-centimeter Secchi disc on a graduated line, noting the depth beneath the water surface at which it disappeared, then lifting the plate and noting the depth at which it reappeared. The average of the two readings gives the reported transparency depth and has been calculated to be in the region of approximately 5 percent light transmittance (Reid, 1961). Depths are reported to the nearest 0.1 meter. These measurements provide comparative information on the transparency of water in the various lakes. Transparency at a given lake will be influenced by cloud cover and the angle of incidence of sunlight relative to the water surface.

Color.–Color value is determined by a comparison of the water with standardized colored-glass discs and is reported in platinum-cobalt (Pt-Co) units. Water color in lakes generally results from the decomposition of vegetation, which gives the water a brown, tea-like color.

Coliform bacteria.– For this report, the fecal coliform bacteria group is defined as all organisms that produce blue colonies when grown on M-FC medium at 44.5°C within 24 hours (Greeson and others, 1977). Water samples were filtered for this examination, using 0.70-micron membrane filters which were placed on M-FC media and then incubated. If no colonies developed after 24 hours of incubation, a value of less than one colony per 100 milliliters of sample was reported. If a filter yielded counts less than 20 colonies or greater than 60 colonies, the count was considered to be an estimate based on a nonideal colony count (Greeson and others, 1977). Nonideal colony counts are designated by the letter "K" preceding the colony count. Because fecal coliforms are that part of the total coliform group present in the gut or feces of warm-blooded animals, their presence may indicate recent and possibly dangerous contamination. The membrane-filter method gives 93 percent accuracy for differentiating between coliforms of warm-blooded animals and coliforms from other sources (American Public Health Association and others, 1976, p. 937). If any coliform bacteria are in-

dicated, the water should be considered to have a possible disease-producing potential.

Streptococcal bacteria.–For this report, the fecal streptococci group is defined as all organisms that produce red or pink colonies when grown on KF Agar at 35°C for 48 hours (Greeson and others, 1977). Water samples were filtered for this examination using 0.70-micron membrane filters which were placed onto KF Agar and then incubated. If no colonies developed after 48 hours of incubation, a value of less than one colony per 100 milliliters of sample was reported. If a filter yielded counts of less than 20 colonies or greater than 100 colonies, the count was considered to be an estimate based on a nonideal colony count (Greeson and others, 1977). Nonideal colony counts are designated by the letter "K" preceding the colony count. Fecal streptococci are used as indicators of fecal contamination, because they are normally found in the intestine of warm-blooded animals. In conjunction with fecal coliform data, fecal streptococci data verify the existence of fecal pollution and possibly its source and probable origin (Greeson and others, 1977).

Other Named Lakes

Some Douglas County lakes named on the U.S. Geological Survey topographic maps or listed by the Oregon Department of Fish and Wildlife were not studied because they did not meet the established criteria at the time of the survey. However, because at other times of the year these lakes might be of some importance and would therefore meet the criteria, they are listed alphabetically below.

Lake	Section	Township	Range
Beaver Lake	34	30 S.	1 W.
Beaver Swamp	31	28 S.	3 E.
	36	28 S.	2 E.
	31	28 S.	3 E.
Big Creek Pond[1]	24	21 S.	9 W.
Bradley Lake	17	25 S.	3 E.
Buck Creek Ridge Pond[1]	27	23 S.	9 W.
Burchard Lake[1]	10	22 S.	9 W.
Cavitt Lake	11	28 S.	2 W.

Drying dissolved solids

Lake	Section	Township	Range
Cedar Spring Pond[1]	10	27 S.	3 E.
Cliff Lake	7	59 S.	3 E.
Cultus Lake[1]	20	28 S.	2 W.
Drew Lake	16	32 S.	2 W.
Fawn Lake[1]	10	28 S.	3 E.
Fish Creek Reservoir[1]	34	26 S.	3 E.
Fuller Lake	18	25 S.	3 E.
Hawkins Lake	33	26 S.	7 W.
Huckleberry Lake[1]	5	31 S.	2 E.
Lake West	4	29 S.	5 E.
Landers Lake[1]	5	27 S.	7 W.
Linda Lake[1]	34	25 S.	5½ E.
Little Fish Lake	12	29 S.	2 E.
Lizard Lake	12	25 S.	4 E.
Loletta Lakes	15	25 S.	3 E.
Lost Lake	26	26 S.	8 W.
Mosquito Lake	24	28 S.	3 E.
Mud Lake	30	27 S.	3 E.
Old Blue Pond[1]	32	23 S.	8 W.
Pearl Lake[1]	22	20 S.	7 W.
Poole Lake[1]	20	29 S.	3 E.
Red Top Lake Deadman Pond[1]	4	29 S.	2 W.
Sawtooth Lake[1]	26	25 S.	5½ E.
Skipper Lakes	35	25 S.	3 E.
Steampot Pond[1]	18	21 S.	9 W.
Three Lakes	18	28 S.	5 E.
Toad Lake	20, 29	29 S.	3 E.
Wells Creek Pond[1]	32	21 S.	9 W.
Willow Creek Pond	2	27 S.	1 W.
Wolf Lake	10	28 S.	3 E.
Yellow Lake	29	20 S.	7 W.

[1]Name used by Oregon Department of Fish and Wildlife; not named on topographic map.

Selected References

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A State index showing topographic maps is available free on request to the Distribution Section, U.S. Geological Survey, Denver Federal Center, Lakewood, Colo. 80225. The index contains lists of special maps, addresses of local map reference libraries, local map dealers, and Federal map distribution centers. An order blank and detailed instructions for ordering maps are supplied with each index.

Lakes of Douglas County

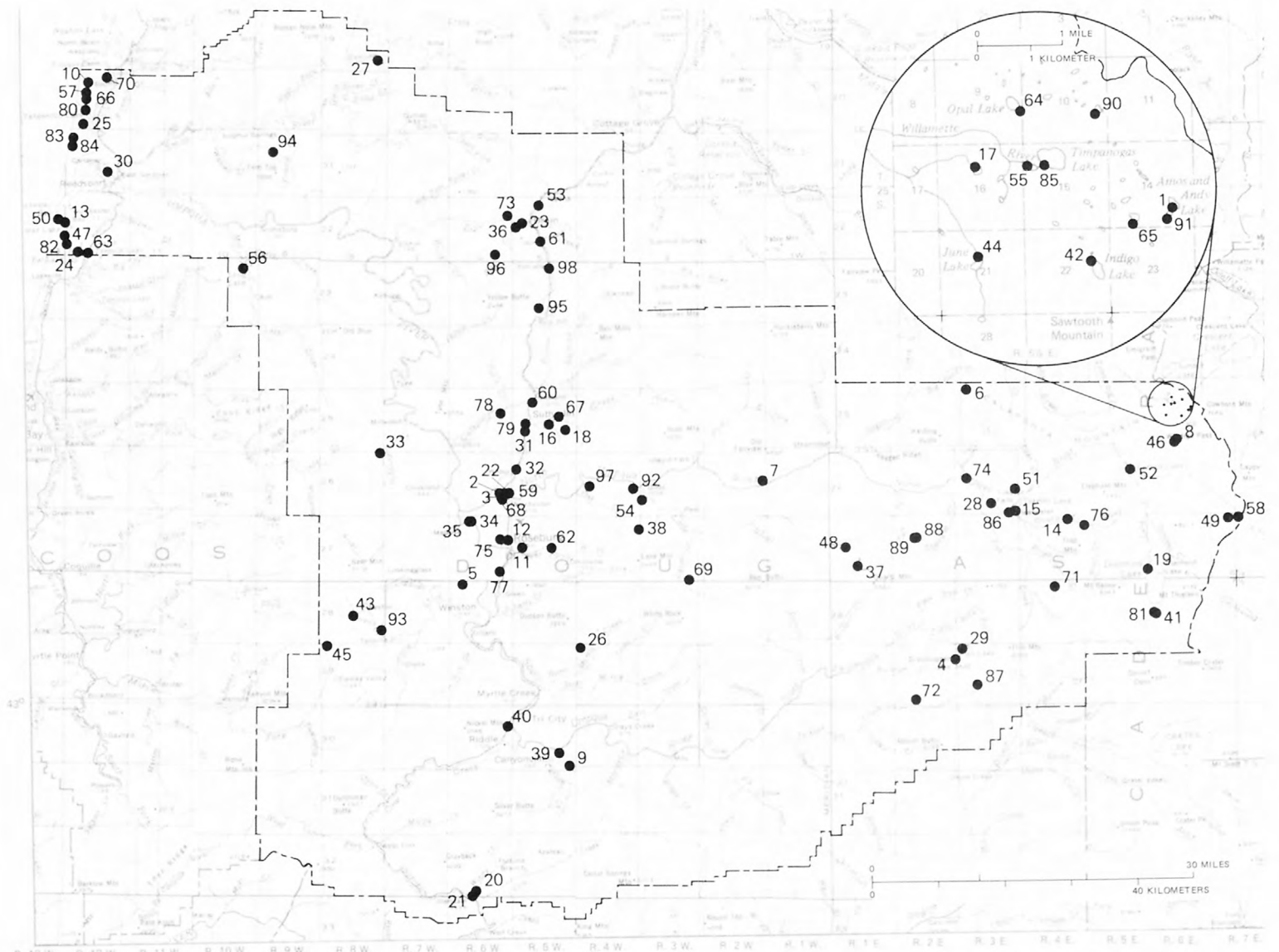


Figure 4.—Locations and identification numbers of lakes in Douglas County.

LOCATION: Sec. 14, T. 25 S., R. 5½ E., in the Willamette National Forest about 20 mi (32 km) northeast of Toketee Falls and 23 mi (37 km) north of Crater Lake National Park. Surface-water outlet at lat 43°24'16", long 122°05'10". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 1.50 mi^2 (3.88 km^2).

SURFACE AREA: 7 acres (28,000 m^2).

SURFACE ELEVATION: 6,060 ft (1,850 m) above mean sea level, from topographic map.

VOLUME: 35 acre-ft (43,000 m^3).

INFLOW: No measurable flow from unnamed intermittent streams on the south and east sides of the lake. Inflow streams are not indicated on topographic map.

OUTFLOW: No measurable flow observed through channel on north end of lake. Outflow channel not indicated on topographic map.

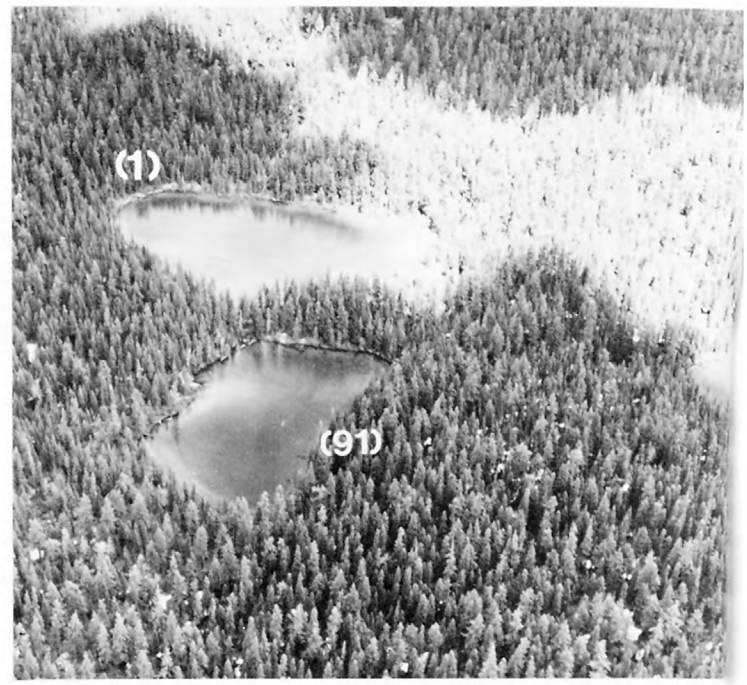
USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife.

REMARKS: No evidence of submerged aquatic growth; however, emergent grass was observed near the shoreline. Bottom material along the shoal area is composed primarily of sand and pumice.

There are no trails directly to the lake. The lake is about 0.3 mi (0.5 km) south of Forest Service Trail 3643 and 2.5 mi (4 km) from Forest Service Road 250 c.

The lake is also referred to as Amos Lake in the records of Oregon Department of Fish and Wildlife.

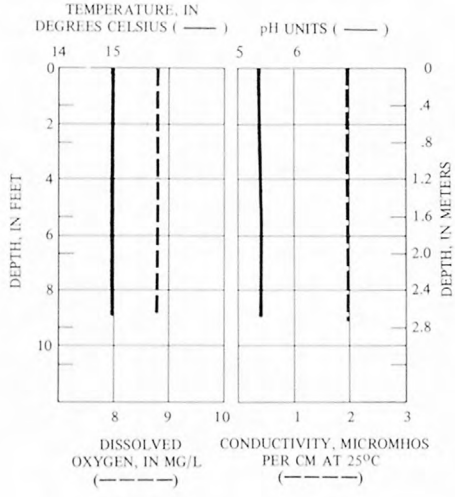
References: 5, 12.



Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1615 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	1
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	9
TRANSPARENCY (meters)	3.1 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Outflow	< 1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	K17



BATHYMETRIC MAP

LOCATION: Sec. 23, T. 26 S., R. 6 W., north of the Umpqua River about 6 mi (10 km) south of Sutherlin and 5 mi (8 km) north of Roseburg. Southernmost tip of lake at lat 43°17'21", 123°22'06". Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 20 acres (81,000 m^2).

SURFACE ELEVATION: 420 ft (130 m) above mean sea level, from topographic map.

VOLUME: 110 acre-ft (140,000 m^3).

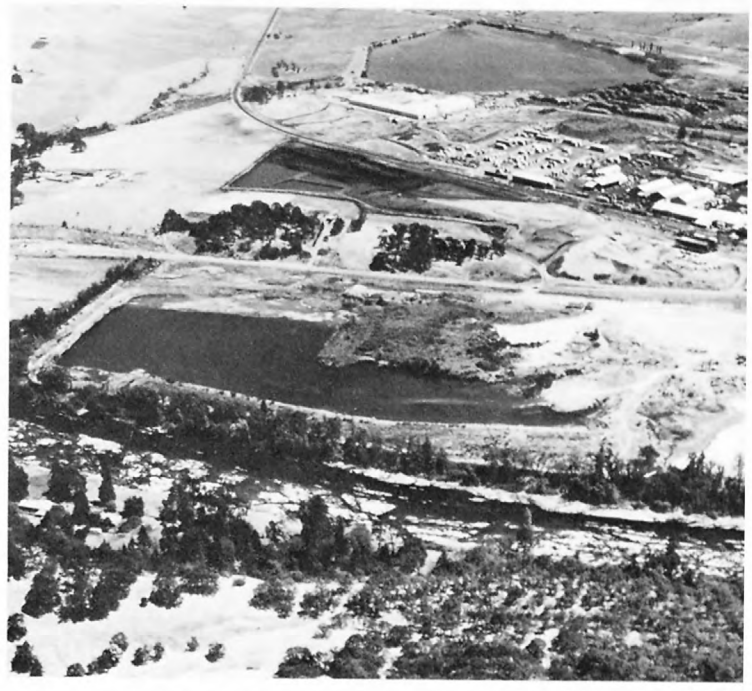
INFLOW: No inflow observed through pipe located on northwest corner of pond.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: Privately owned; no recreational use (old gravel pit).

REMARKS: Some submerged aquatic growth and snags were observed in the pond. Bottom material is primarily rock and gravel with some sand.

The scaled outline of the pond was furnished by the Douglas County Water Resources Survey.

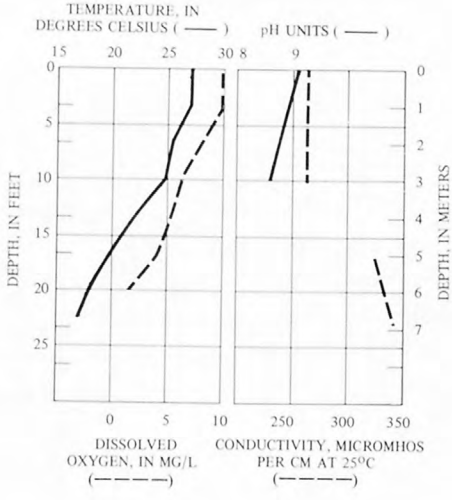


Photograph taken August 2, 1978.

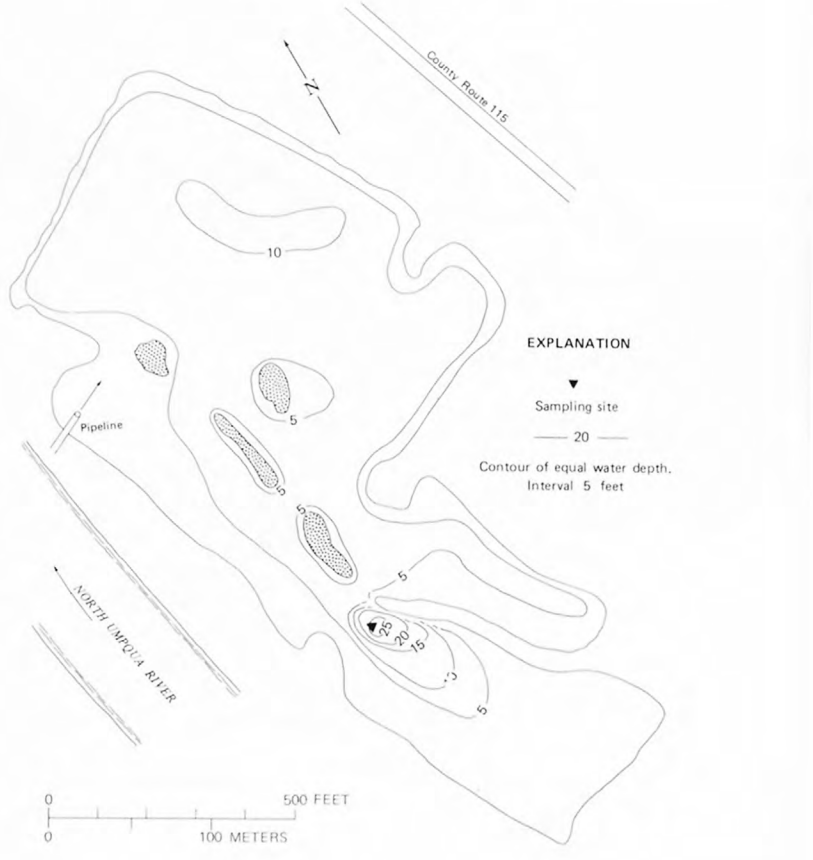
WATER-QUALITY DATA

SAMPLING TIME: 1430 hours
CLOUD COVER: <5 percent

ALKALINITY (mg/L as $CaCO_3$)	100
TOTAL HARDNESS (mg/L as $CaCO_3$)	100
DISSOLVED SOLIDS (mg/L)	158
TRANSPARENCY (meters)	2.4
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	K4



BATHYMETRIC MAP



LOCATION: Sec. 23, T. 26 S., R. 6 W., north of the Umpqua River about 6 mi (10 km) south of Sutherlin and 5 mi (8 km) north of Roseburg. Surface-water outlet at lat 43°17'14", long 123°22'01". Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 6 acres (24,000 m^2).

SURFACE ELEVATION: 420 ft (130 m) above mean sea level, from topographic map.

VOLUME: 25 acre-ft (31,000 m^3).

INFLOW: No flow observed from inflow pipe on south side of pond.

OUTFLOW: No flow observed through channel on southwest corner of pond to North Umpqua River.

USE: Privately owned; no recreational use. Formerly a settling pond for washing gravel.

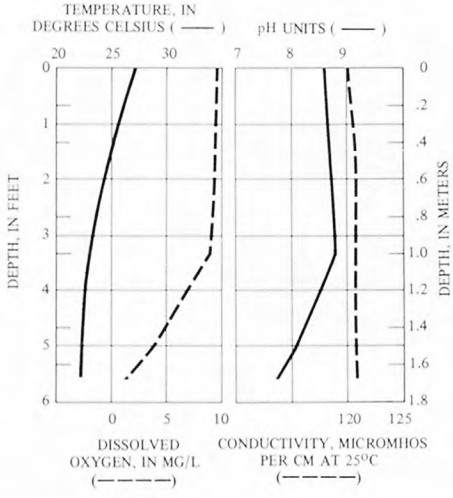
REMARKS: About 15 percent of the pond's surface was covered with emergent growth, and about 10 percent of the bottom was covered with submerged aquatic growth. Bottom material is primarily mud with some gravel. The water color was brown on the survey date.

The scaled outline of the pond was furnished by the Douglas County Water Resources Survey.

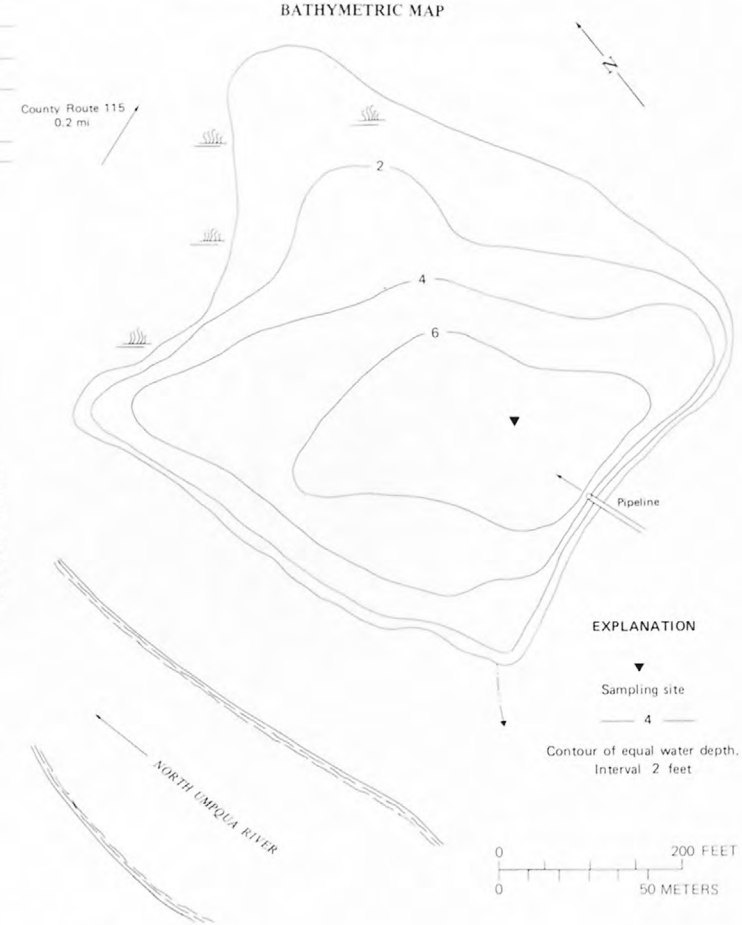
Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1200 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	53
TOTAL HARDNESS (mg/L as $CaCO_3$)	57
DISSOLVED SOLIDS (mg/L)	96
TRANSPARENCY (meters)	0.2
COLOR (Pt-Co units)	100
FECAL COLIFORM (colonies/100 ml)	
Sampling site	<1
Inflow	49



BATHYMETRIC MAP



LOCATION: Sec. 12, T. 29 S., R. 2 E., in the Umpqua National Forest about 22 mi (35 km) southeast of Steamboat and 13 mi (21 km) west of Crater Lake National Park. Surface-water outlet at lat 43°03'52", long 122°31'16". Quartz Mountain 15-minute quadrangle map.

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.21 mi^2 (0.54 km^2).

SURFACE AREA: 11 acres (44,000 m^2).

SURFACE ELEVATION: 4,200 ft (1,280 m) above mean sea level, from topographic map.

VOLUME: 210 acre-ft (260,000 m^3).

INFLOW: No flow observed in channel from adjacent pond. Inflow channel not indicated on topographic map.

OUTFLOW: Estimated total flow less than 0.5 ft^3/s (0.01 m^3/s through two channels on north end of lake.

USE: Public recreation. The lake was last stocked in 1978 with fingerling brook trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground at Cliff Lake about one-quarter of a mile southeast of Buckeye Lake.

REMARKS: Emergent vegetation covered about 10 percent of the surface of the lake, and submerged aquatic growth was observed in the shoal area. Duckweed was observed floating on one-third of the surface of the lake. Bottom material along the shoal area is primarily mud and organic detritus.

Algal mats were observed near the outlet.

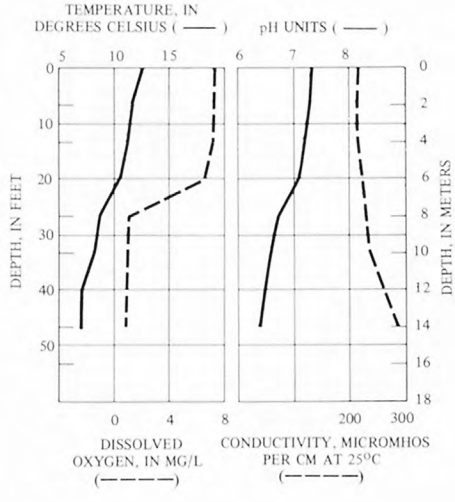
Access to lake 1.7 mi (2.7 km) by Forest Service Trails 1575 and 1578 from Forest Service Road 2830.

References: 2, 5, 12.

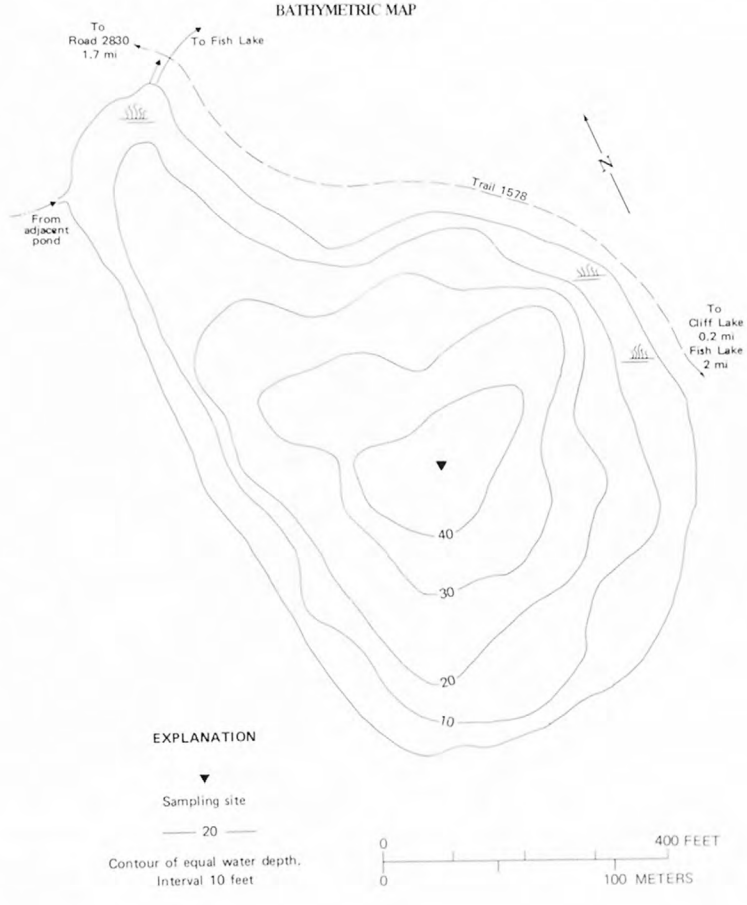
Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1430 hours
CLOUD COVER:	<5 percent
ALKALINITY (mg/L as $CaCO_3$)	120
TOTAL HARDNESS (mg/L as $CaCO_3$)	110
DISSOLVED SOLIDS (mg/L)	122
TRANSPARENCY (meters)	7.9
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Outflow	<1
FECAL STREPTOCOCCI (colonies/100 ml) Outflow	<1



BATHYMETRIC MAP



LOCATION: Sec. 5, T. 28 S., R. 6 W., about 3 mi (4.8 km) northwest of Winston and 4 mi (6 km) southwest of Roseburg. Southernmost tip of reservoir at lat 43°10'02", long 123°26'11". Roseburg 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.94 mi^2 (2.43 km^2).

SURFACE AREA: 6 acres (24,000 m^2) at full pool.

SURFACE ELEVATION: 560 ft (170 m) above mean sea level, from topographic map.

VOLUME: 30 acre-ft (37,000 m^3) at full pool.

INFLOW: No flow observed in channel on northwest corner of reservoir.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: No recreational use. Used for irrigation and as a water supply for livestock.

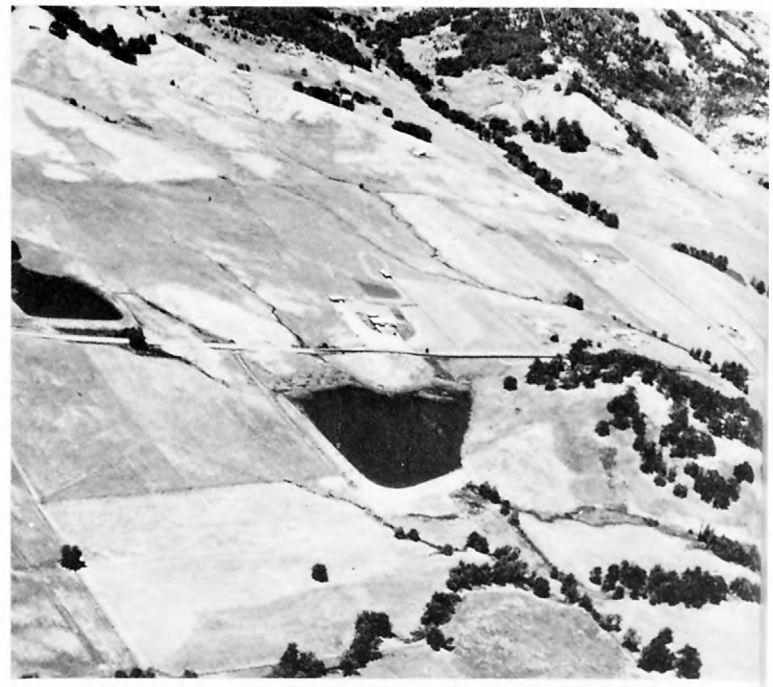
REMARKS: Emergent dead trees were observed in the northeast corner of the reservoir. The bottom material is primarily mud.

The water had a muddy brown color on the survey date.

Water-rights permits for storage of 26.0 acre-ft (32,000 m^3) and total diversion of 1.55 ft^3/s (0.044 m^3/s) for irrigation from this reservoir, three adjacent reservoirs and two unnamed streams.

Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

References: 11, 12.



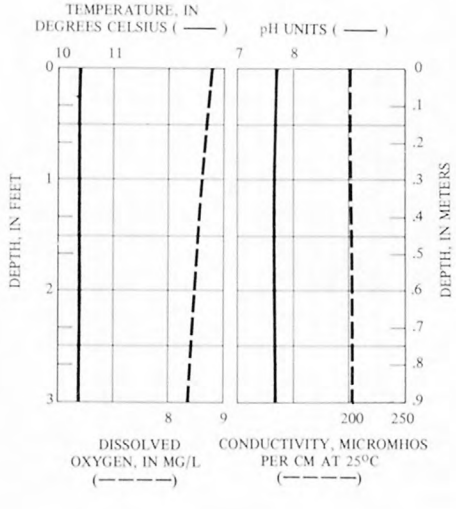
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1100 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	90
TOTAL HARDNESS (mg/L as $CaCO_3$)	94
DISSOLVED SOLIDS (mg/L)	141
TRANSPARENCY (meters)	0.1
COLOR (Pt-Co units)	320
FECAL COLIFORM (colonies/100 ml) Site 2	K2
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	1100

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 6, T. 25 S., R. 3 E., in the Umpqua National Forest about 11 mi (18 km) north of Toketee Falls and 13 mi (21 km) northeast of Steamboat. Surface-water outlet at lat 43°25'58", long 122°30'16". Illahee Rock 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.50 mi^2 (1.30 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 4,705 ft (1,434 m) above mean sea level, from topographic map.

VOLUME: 18 acre-ft (22,000 m^3).

INFLOW: No flow observed through channel on south side of lake.

OUTFLOW: No flow observed through channel on north end of lake to Big Bend Creek.

USE: Public recreation. The lake was last stocked in 1977 with fingerling brook trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the northwest end of the lake. Tables are provided at the campground on the southeast side of the lake.

REMARKS: No evidence of submerged aquatic growth; however, emergent grass was observed near the shoreline. Bottom material is primarily silt with some detritus observed near the shore.

Shown as Pup Lake on U.S. Forest Service map.

Access to lake 0.2 mi (0.3 km) by Forest Service trail from Forest Service Road 2555.

Reference: 12.

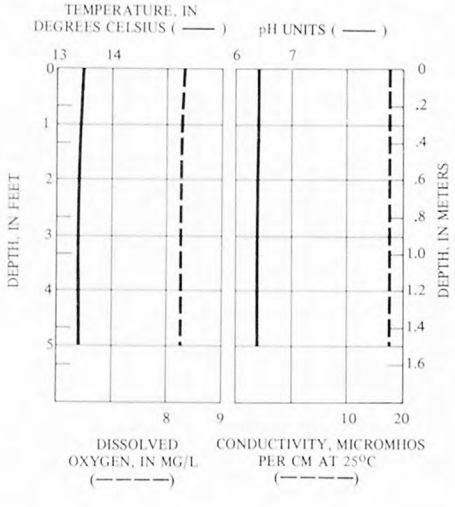
Photograph taken July 12, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1040 hours
CLOUD COVER:	95 percent
ALKALINITY (mg/L as $CaCO_3$)	10
TOTAL HARDNESS (mg/L as $CaCO_3$)	6
DISSOLVED SOLIDS (mg/L)	25
TRANSPARENCY (meters)	2.1 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Site 2	K3
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	K1

Site 1



BATHYMETRIC MAP

EXPLANATION

▼ Sampling site

—— 6 —— Contour of equal water depth. Interval 2 feet

0 200 FEET

0 50 METERS

LOCATION: Sec. 13, T. 26 S., R. 2 W., about 0.5 mi (0.8 km) north of the North Umpqua River and 11 mi (18 km) east of Glide. Surface-water outlet at lat 43°18'19", long 122°52'37". Mace Mountain 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.59 mi^2 (1.53 km^2).

SURFACE AREA: 7 acres (28,000 m^2) at full pool.

SURFACE ELEVATION: 1,380 ft (420 m) above mean sea level, from topographic map.

VOLUME: 47 acre-ft (58,000 m^3) at full pool.

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed in channel on northwest corner of reservoir to North Umpqua River. Channel not indicated on topographic map.

USE: Private recreation, formerly a millpond.

REMARKS: Emergent aquatic vegetation was observed along the entire perimeter of the reservoir and some submerged growth was observed in the shoal area. The bottom material is primarily mud.

Water-rights permits for storage of 46.9 acre-ft (57,800 m^3) and diversion of 0.54 ft^3/s (0.015 m^3/s) for irrigation.

Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

Reference: 11.

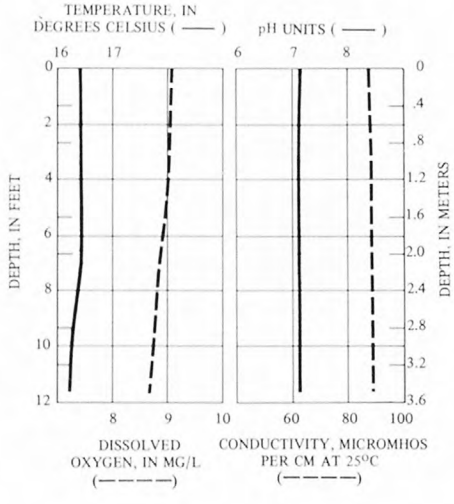
Photograph taken July 13, 1978.

WATER-QUALITY DATA

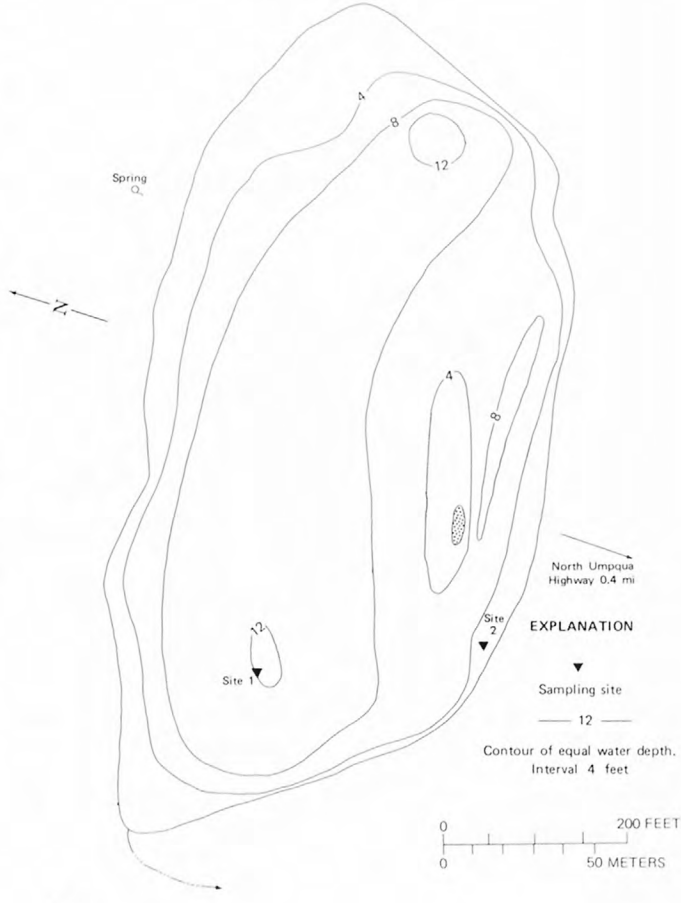
Site 1

SAMPLING TIME:	1500	hours
CLOUD COVER:	95	percent

ALKALINITY (mg/L as $CaCO_3$)	44
TOTAL HARDNESS (mg/L as $CaCO_3$)	36
DISSOLVED SOLIDS (mg/L)	72
TRANSPARENCY (meters)	4.0 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K3



BATHYMETRIC MAP



LOCATION: Sec. 34, T. 25 S., R 5½ E., in the Umpqua National Forest about 18 mi (29 km) northeast of Toketee Falls and 20 mi (32 km) north of Crater Lake National Park. Surface-water outlet at lat 43°21'50", long 122°06'24". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.44 mi^2 (1.14 km^2).

SURFACE AREA: 18 acres (73,000 m^2).

SURFACE ELEVATION: 5,870 ft (1,790 m) above mean sea level, from topographic map.

VOLUME: 190 acre-ft (230,000 m^3).

INFLOW: No flow observed through channel on north end of lake. Channel not indicated on topographic map.

OUTFLOW: No flow observed through channel on south end of lake to North Umpqua River. Channel not indicated on topographic map.

USE: Public recreation. The lake was stocked in 1977 and 1978 with fingerling brook trout by the Oregon Department of Fish and Wildlife.

REMARKS: Emergent vegetation covered less than 1 percent of the surface of the lake, and some submerged aquatic growth was observed in the shoal area. The bottom material is primarily rock covered with sand.

Access to lake 1.5 mi (2.4 km) by primitive logging road from Forest Service Road 2165.

References: 2, 5, 9, 12.

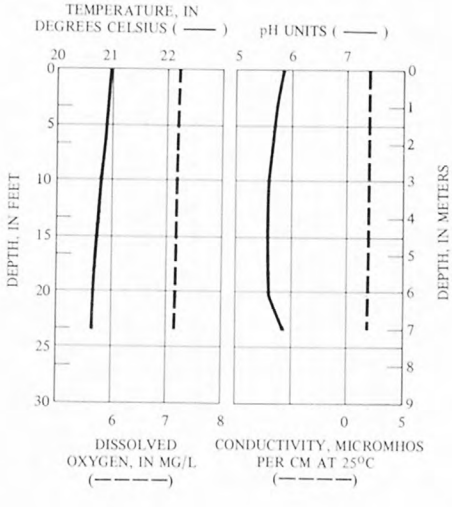
Photograph taken July 12, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	0915 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	5
TOTAL HARDNESS (mg/L as $CaCO_3$)	2
DISSOLVED SOLIDS (mg/L)	4
TRANSPARENCY (meters)	7.0 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	<1

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 36, T. 30 S., R. 5 W., about 2 mi (3.2 km) southeast of Canyonville. Surface-water outlet at lat 42°55'05", long 123°14'24". Days Creek 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 8.12 mi^2 (21.0 km^2).

SURFACE AREA: 2.5 acres (10,000 m^2) at full pool.

SURFACE ELEVATION: 1,000 ft (300 m) above mean sea level, from topographic map.

VOLUME: 25 acre-ft (31,000 m^3) at full pool.

INFLOW: Estimated 1.5 ft^3/s (0.04 m^3/s) from O'Shea Creek on south end of reservoir.

OUTFLOW: Estimated 1.5 ft^3/s (0.04 m^3/s) into O'Shea Creek on northwest corner of reservoir.

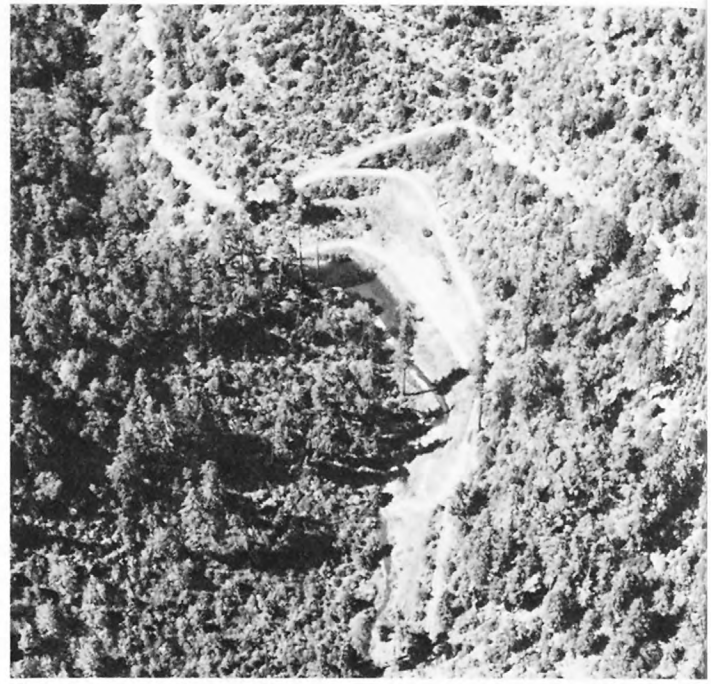
USE: No recreational use. The reservoir provides a municipal water supply for the city of Canyonville.

REMARKS: No evidence of either floating or submerged aquatic growth. Bottom material is primarily sand and rock.

Water-rights certificates for diversion of 1.0 ft^3/s (0.028 m^3/s) for municipal use.

Bathymetric map represents reservoir at 2 ft (0.6 m) below full pool.

Information on surface area, volume, and bathymetry furnished by the U.S. Department of Agriculture, Soil Conservation Service.

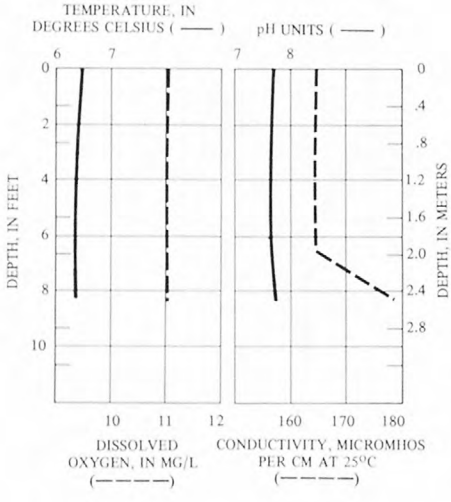


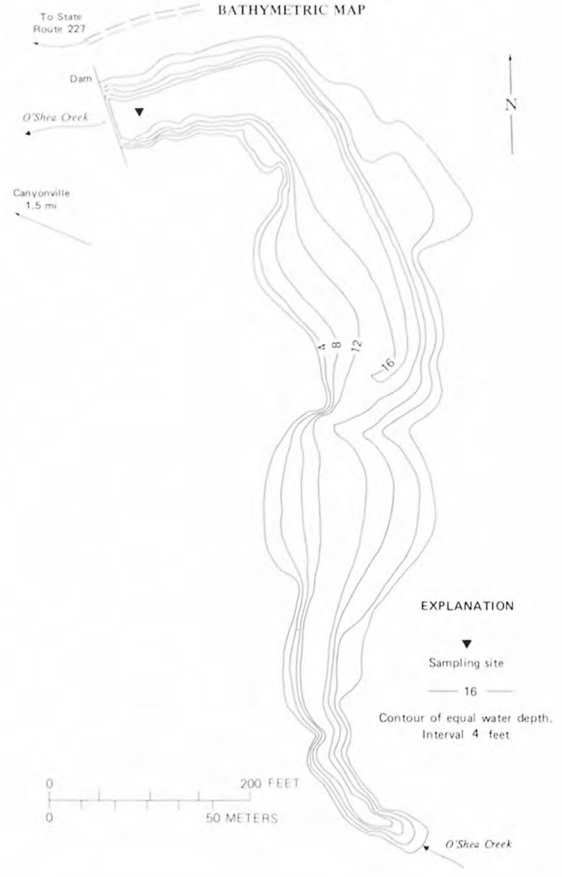
Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME: 1300 hours
CLOUD COVER: 100 percent

ALKALINITY (mg/L as $CaCO_3$)	64
TOTAL HARDNESS (mg/L as $CaCO_3$)	72
DISSOLVED SOLIDS (mg/L)	137
TRANSPARENCY (meters)	2.7 (bottom)
COLOR (Pt-Co units)	10
FECAL COLIFORM (colonies/100 ml)	
Inflow	K15
Outflow	K10
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	28





LOCATION: Secs. 4, 5 and 8, T. 20 S., R. 12 W., in the Siuslaw National Forest about 10 mi (16 km) north of Reedsport and 8 mi (13 km) south of Florence. Southernmost tip of lake at lat 43°50'44", long 124°08'50". Siltcoos Lake 15-minute quadrangle map.

DRAINAGE BASIN: Pacific Slope drainage.

DRAINAGE AREA: 1.26 mi^2 (3.26 km^2).

SURFACE AREA: 30 acres (120,000 m^2).

SURFACE ELEVATION: 40 ft (12 m) above mean sea level, from topographic map.

VOLUME: 580 acre-ft (720,000 m^3).

INFLOW: No flow observed through channels on the north and south ends of the lake.

OUTFLOW: No outflow channels observed and none indicated on topographic map.

USE: Public recreation. The lake has been annually stocked with yearling rainbow trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the northwest side of the lake for tents and trailers. Recreation includes: picnicking, boating, fishing, swimming, and hiking.

REMARKS: No evidence of either floating or submerged aquatic growth. Bottom material is primarily sand.

Information on surface area and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

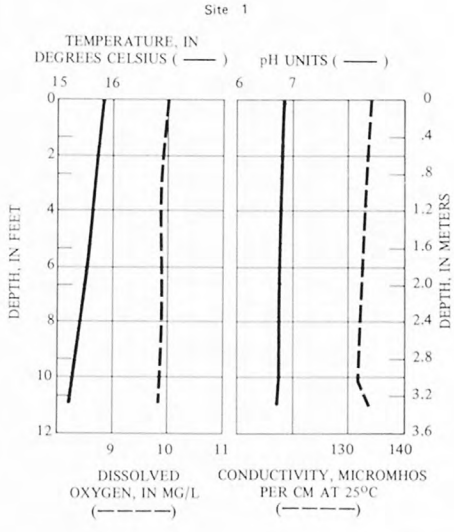
References: 5, 9, 12.

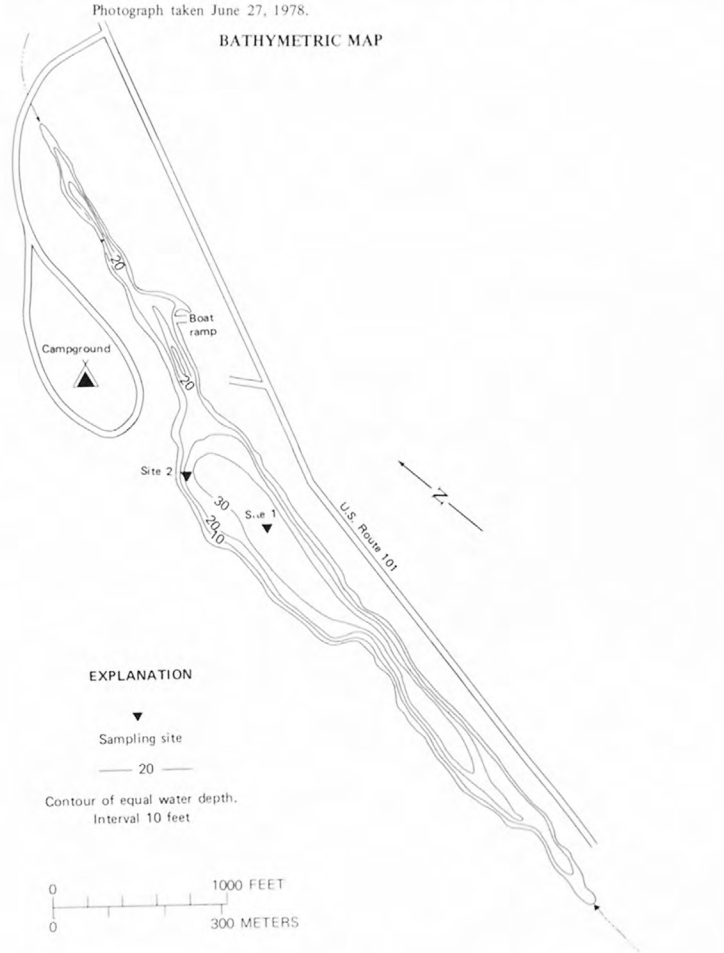
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1200 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	11
TOTAL HARDNESS (mg/L as $CaCO_3$)	10
DISSOLVED SOLIDS (mg/L)	79
TRANSPARENCY (meters)	3.7 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	110





LOCATION: Sec. 18, T. 27 S., R. 5 W., just north of Diamond Lake Road (State Route 138) about 0.1 mi (0.2 km) east of Roseburg. Regulated surface-water outlet at lat 43°12'57", long 123°19'38". Roseburg 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.06 mi^2 (0.16 km^2).

SURFACE AREA: 11 acres (44,000 m^2).

SURFACE ELEVATION: 480 ft (150 m) above mean sea level, from topographic map.

VOLUME: 50 acre-ft (62,000 m^3).

INFLOW: No flow observed through culvert on northeast corner of pond.

OUTFLOW: No flow observed through regulated channel on northwest corner of pond.

USE: No recreational use, active log pond.

REMARKS: No evidence of submerged aquatic growth; however, emergent reeds covered less than 5 percent of the surface of the pond. The bottom material is primarily mud covered with organic detritus.

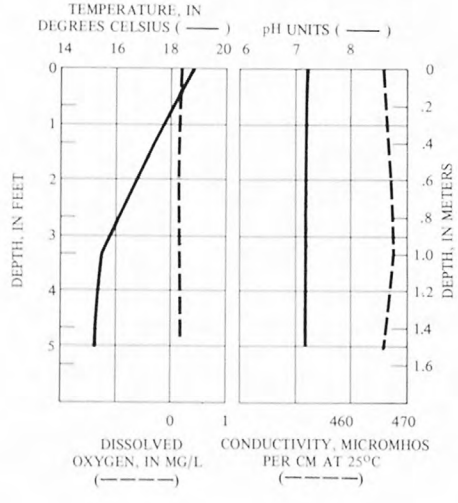
Water-rights permit for storage of 110 acre-ft (140,000 m^3) and diversion of 1.5 ft^3/s (0.042 m^3/s) for manufacturing use.

Reference: 11.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1300 hours
CLOUD COVER:	50 percent
ALKALINITY (mg/L as $CaCO_3$)	170
TOTAL HARDNESS (mg/L as $CaCO_3$)	12
DISSOLVED SOLIDS (mg/L)	411
TRANSPARENCY (meters)	0.05
COLOR (Pt-Co units)	>500
FECAL COLIFORM (colonies/100 ml)	>2400
FECAL STREPTOCOCCI (colonies/100 ml)	>4000



BATHYMETRIC MAP

LOCATION: Secs. 12 and 13, T. 27 S., R. 6 W., just north of Garden Valley Road about 0.5 mi (0.8 km) north of Roseburg. Surface-water outlet at lat 43°13'40", long 123° 21'06". Roseburg 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 480 ft (150 m) above mean sea level, from topographic map.

VOLUME: 19 acre-ft (23,000 m^3).

INFLOW: Pipe inflow observed on west side of lake.

OUTFLOW: Estimated 1 ft^3/s (0.03 m^3/s) into channel on west side of pond.

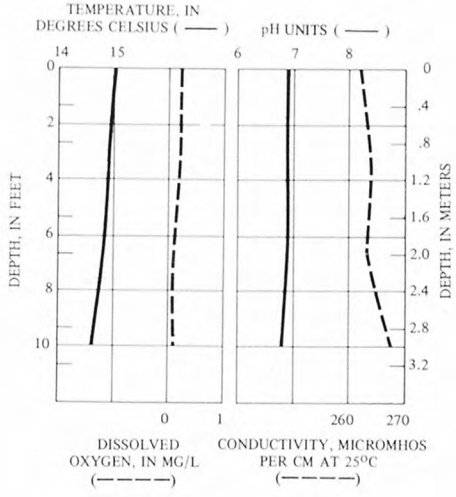
USE: No recreational use, active pond.

REMARKS: No evidence of submerged aquatic growth; however, emergent grass covered less than 5 percent of the surface of the pond. The bottom sediment is primarily clay and rock covered with organic detritus.

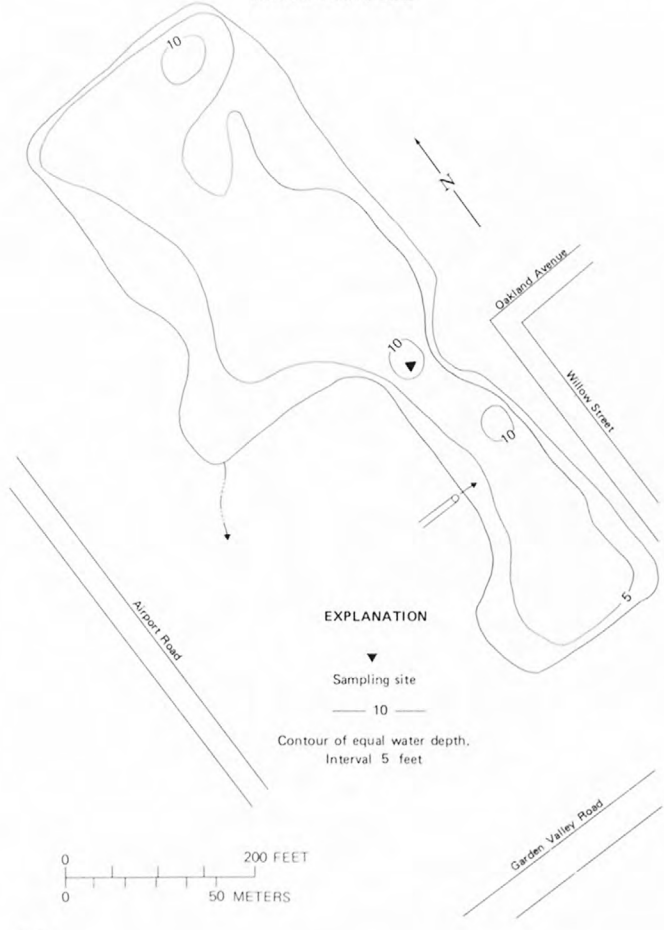
Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1130 hours
CLOUD COVER:	50 percent
ALKALINITY (mg/L as $CaCO_3$)	130
TOTAL HARDNESS (mg/L as $CaCO_3$)	120
DISSOLVED SOLIDS (mg/L)	200
TRANSPARENCY (meters)	0.3
COLOR (Pt-Co units)	350
FECAL COLIFORM (colonies/100 ml)	
Sampling site	>120
Outflow	>240
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	>500



BATHYMETRIC MAP



LOCATION: Secs. 19 and 30, T. 22 S., R. 12 W., secs. 13, 24, and 25, T. 22 S., R 13 W., about 4 mi (6.4 km) north of Lakeside and 4 mi (6.4 km) southwest of Reedsport. Surface-water outlet at lat 43°38'02", long 124°10'52". Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: Tenmile Creek (Pacific Slope drainage).

DRAINAGE AREA: 2.02 mi^2 (5.23 km^2).

SURFACE AREA: 310 acres (125 hm^2) at full pool.

SURFACE ELEVATION: 229 ft (70 m) above mean sea level, from topographic map.

VOLUME: 16,700 acre-ft (21 hm^3) at full pool.

INFLOW: Numerous intermittent streams feed into the north and east sides of the lake.

OUTFLOW: No flow observed through channel on south end of lake to Lake Edna.

USE: No recreational use. The lake provides a municipal water supply for the Reedsport area.

REMARKS: Emergent growth, observed near the points of inflow, covers less than 1 percent of the surface of the lake, and some submerged aquatic growth was observed in the shoal area. The bottom sediment is primarily sand in the southwestern parts of the lake and primarily mud and clay with some organic detritus observed along the remaining shoreline.

Water-rights permit for storage of 14,500 acre-ft (17.9 hm^3) and diversion of 25 ft^3/s (0.71 m^3/s) for municipal and industrial manufacturing use.

References: 5, 9, 11, 12.

Photograph taken March 22, 1979.

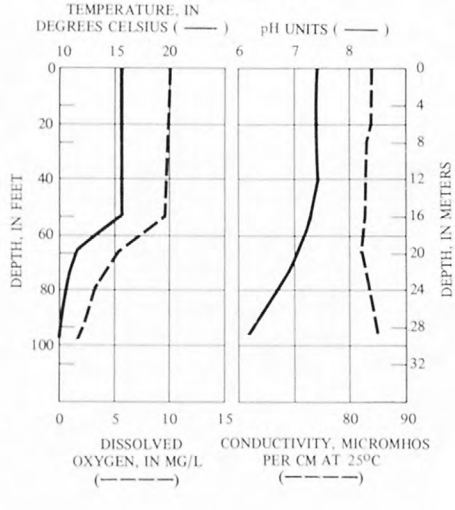
WATER-QUALITY DATA
Site 1

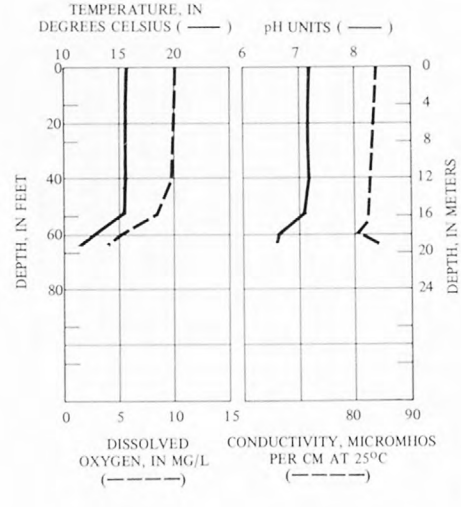
SAMPLING TIME:	1630 hours
CLOUD COVER:	15 percent
SAMPLING DEPTH (meters)	7
ALKALINITY (mg/L as $CaCO_3$)	15
TOTAL HARDNESS (mg/L as $CaCO_3$)	15
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	7.0
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 1	K2
Site 3	K2
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 3	K6

WATER-QUALITY DATA
Site 2

SAMPLING TIME:	1730 hours
CLOUD COVER:	20 percent

Site 1





BATHYMETRIC MAP

LOCATION: Sec. 35, T. 26 S., R. 4 E., and Sec. 2, T. 27 S., R. 4 E., in the Umpqua National Forest about 7 mi (11 km) east of Toketee Falls and 13 mi (21 km) north of Crater Lake National Park. Surface-water outlet at lat 43°15'24", long 122°19'12". Toketee Falls 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 17 acres (69,000 m^2) at full pool.

SURFACE ELEVATION: 3,859 ft (1,176 m) above mean sea level, from topographic map.

VOLUME: 170 acre-ft (210,000 m^3) at full pool.

INFLOW: Estimated 100 ft^3/s (2.8 m^3/s) from canal on east end of forebay.

OUTFLOW: Through penstock on west end of forebay to generator for power production.

USE: Power generation and public recreation.

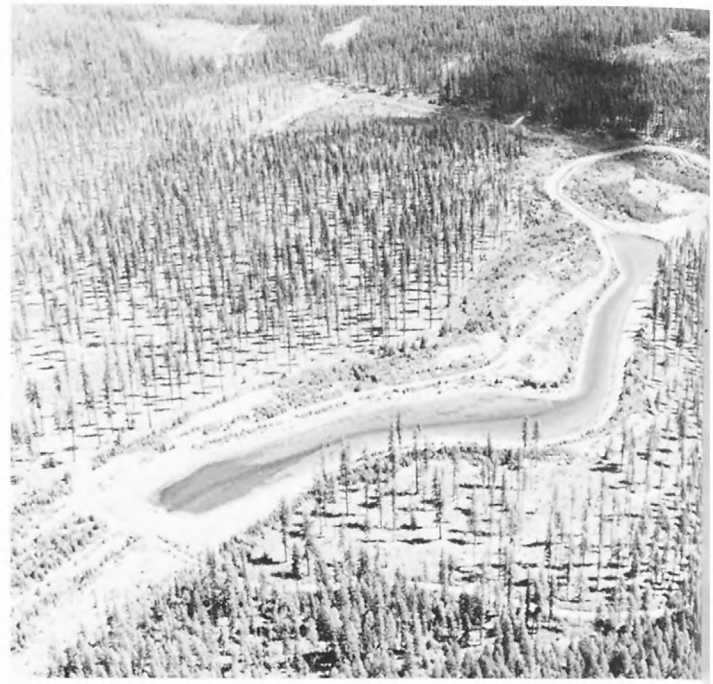
REMARKS: Submerged aquatic plants covered about 20 percent of the bottom of the forebay, and some emergent grass was observed near the shoreline. Bottom material is primarily silt.

Access to lake 2 mi (3.2 km) by Forest Service Road 2614 from North Umpqua Highway (State Route 138).

Storage and diversion rights are licensed under Hydroelectric Project No. 23.

The bathymetric map indicates depth contours on the survey date. Information on surface area and volume furnished by Pacific Power & Light Co.

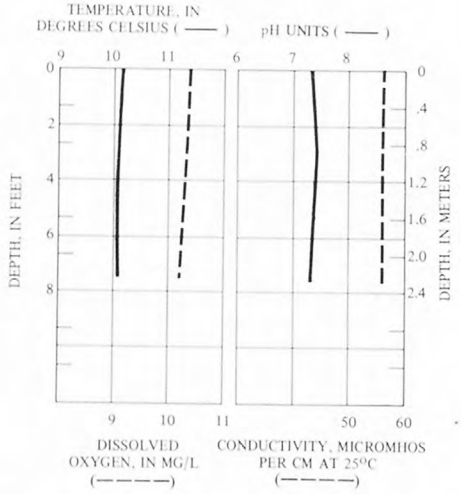
References: 2, 12.



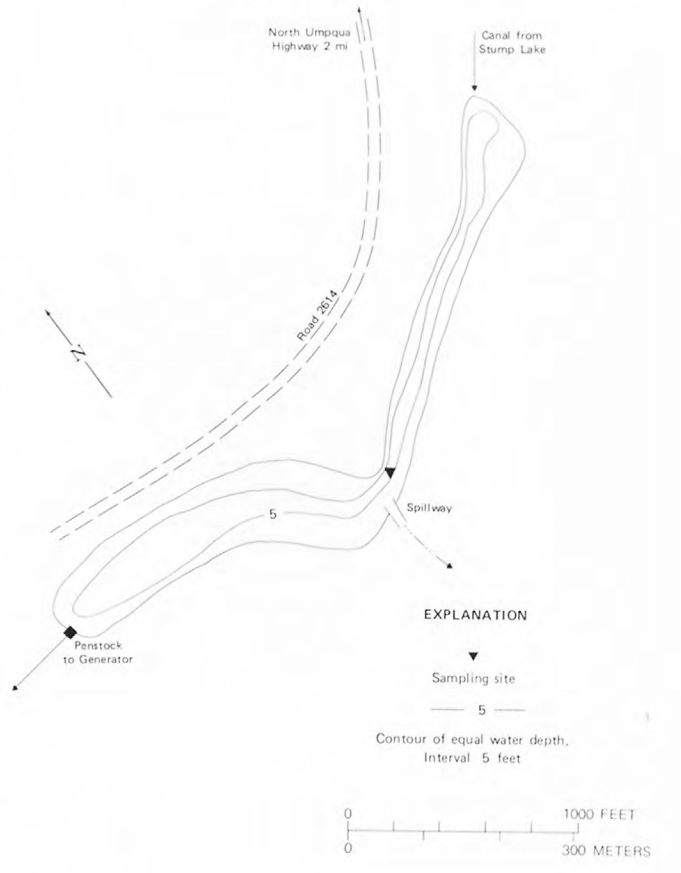
Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1930 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	30
TOTAL HARDNESS (mg/L as $CaCO_3$)	8
DISSOLVED SOLIDS (mg/L)	56
TRANSPARENCY (meters)	2.3 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Inflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Inflow	<1



BATHYMETRIC MAP



LOCATION: Sec. 36, T. 26 S., R. 3 E., in the Umpqua National Forest about 2 mi (3.2 km) east of Toketee Falls and 15 mi (24 km) northwest of Crater Lake National Park. Surface-water outlet at lat 43°15'52", long 122°24'29". Toketee Falls 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 9 acres (36,000 m^2) at normal pool.

SURFACE ELEVATION: 3,160 ft (960 m) above mean sea level, from topographic map.

VOLUME: 100 acre-ft (120,000 m^3) at normal pool.

INFLOW: Through canal on east end of forebay.

OUTFLOW: Through penstock on west end of forebay to generator for power production.

USE: Power generation and public recreation.

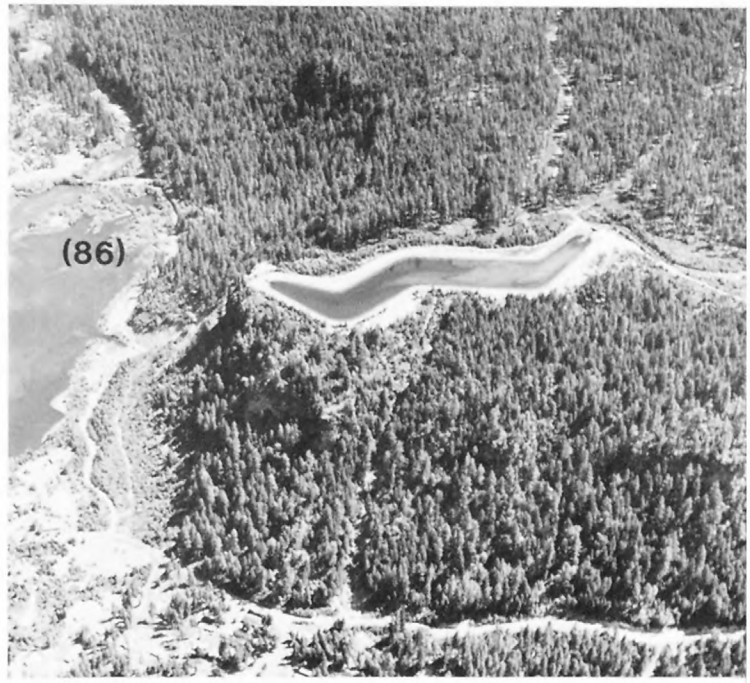
REMARKS: Floating aquatic vegetation covered about 1 percent of the surface of the forebay and submerged growth covered about 70 percent of the bottom. Bottom material is primarily clay and rock with some pumice.

Access to lake 1.5 mi (2.4 km) by Forest Service Road 2673 from North Umpqua Highway (State Route 138).

Storage and diversion rights are licensed under Hydroelectric Project No. 23.

The bathymetric map represents the depth contours on the survey date. Information on surface area, volume, and the scaled outline of the forebay were furnished by Pacific Power & Light Co.

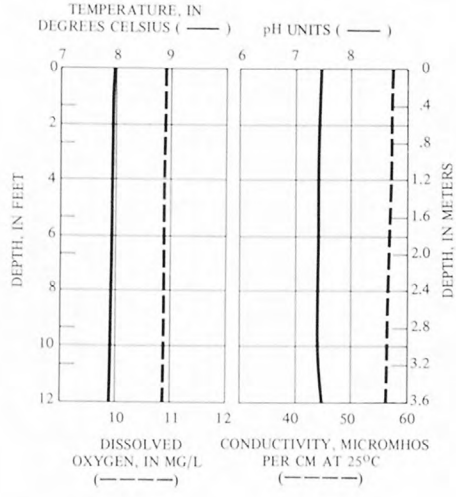
Reference: 12.



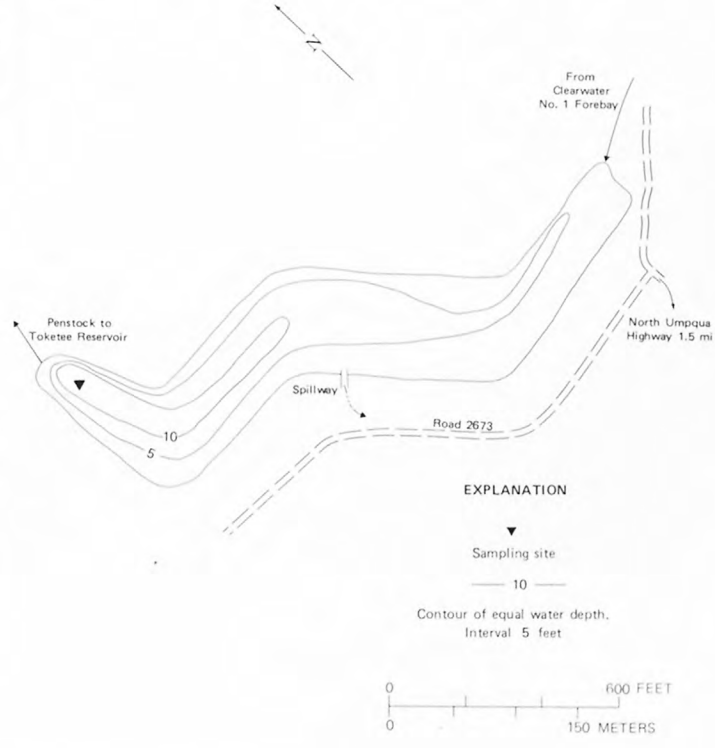
Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1930	hours
CLOUD COVER	100	percent
ALKALINITY (mg/L as $CaCO_3$)	30	
TOTAL HARDNESS (mg/L as $CaCO_3$)	17	
DISSOLVED SOLIDS (mg/L)	60	
TRANSPARENCY (meters)	4.0 (bottom)	
COLOR (Pt-Co units)	0	
FECAL COLIFORM (colonies/100 ml)		
Inflow	K2	
Outflow	K1	
FECAL STREPTOCOCCI (colonies/100 ml)		
Outflow	K3	



BATHYMETRIC MAP



LOCATION: Secs. 22, 23, and 26, T. 25 S., R. 5 W., about 0.7 mi (1.1 km) east of Sutherlin and 11 mi (18 km) north of Roseburg. Regulated surface-water outlet at lat 43°22'48", long 123°16'54". Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 4.55 mi^2 (11.8 km^2).

SURFACE AREA: 160 acres (650,000 m^2) at full pool.

SURFACE ELEVATION: 660 ft (200 m) above mean sea level, from topographic map.

VOLUME: 5,000 acre-ft (6.2 hm^3) at full pool.

INFLOW: Primary inflow through Cooper Creek on east end of reservoir.

OUTFLOW: Over spillway into Cooper Creek on west end of reservoir.

USE: Public recreation. The lake has been stocked annually with fingerling and yearling rainbow trout and stocked periodically with winter steelhead, largemouth bass, and cutthroat trout by the Oregon Department of Fish and Wildlife. Recreation includes swimming, boating, water skiing, fishing, and picnicking.

REMARKS: Some emergent, floating and submerged vegetation was observed near the inflow and in the shoal area of the reservoir. The bottom material is primarily clay and rock.

Water-rights permit for storage of 3,900 acre-ft (4.8 hm^3), and diversion of 5.0 ft^3/s (0.14 m^3/s) for municipal use and 3.0 ft^3/s (0.085 m^3/s) for recreation.

Information on surface area, volume and bathymetry furnished by the U.S. Department of Agriculture, Soil Conservation Service.

References: 5, 11, 12.

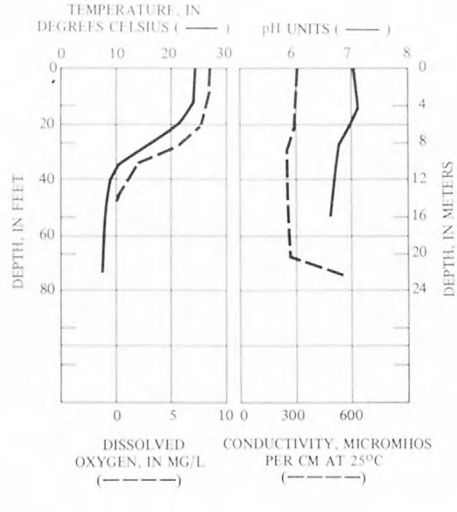
BATHYMETRIC MAP

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1445	hours
CLOUD COVER:	15	percent
ALKALINITY (mg/L as $CaCO_3$)	40	
TOTAL HARDNESS (mg/L as $CaCO_3$)	75	
DISSOLVED SOLIDS (mg/L)	164	
TRANSPARENCY (meters)	3.8	
COLOR (Pt-Co units)	10	
FECAL COLIFORM (colonies/100 ml)		
Site 3	K8	
Site 4	K14	

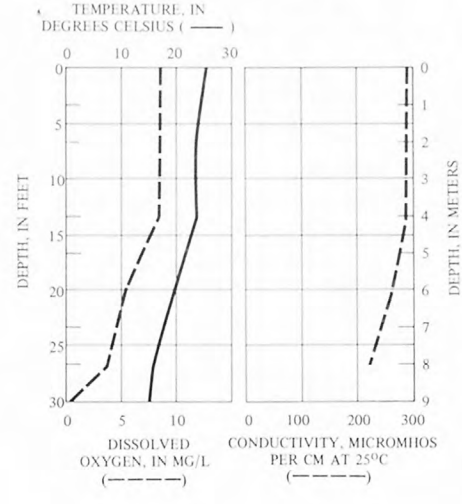
Site 1



WATER-QUALITY DATA

Site 2

SAMPLING TIME:	1435	hours
CLOUD COVER:	30	percent



Photograph taken August 2, 1978

LOCATION: Sec. 16, T. 25 S., R. 5½ E., in the Willamette National Forest about 18 mi (29 km) northeast of Toketee Falls and 23 mi (37 km) north of Crater Lake National Park. Surface-water outlet at lat 43°24'39", long 122°07'52". Summit Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 0.09 mi^2 (0.23 km^2).

SURFACE AREA: 5 acres (20,000 m^2).

SURFACE ELEVATION: 5,190 ft (1,580 m) above mean sea level, from topographic map.

VOLUME: 55 acre-ft (68,000 m^3).

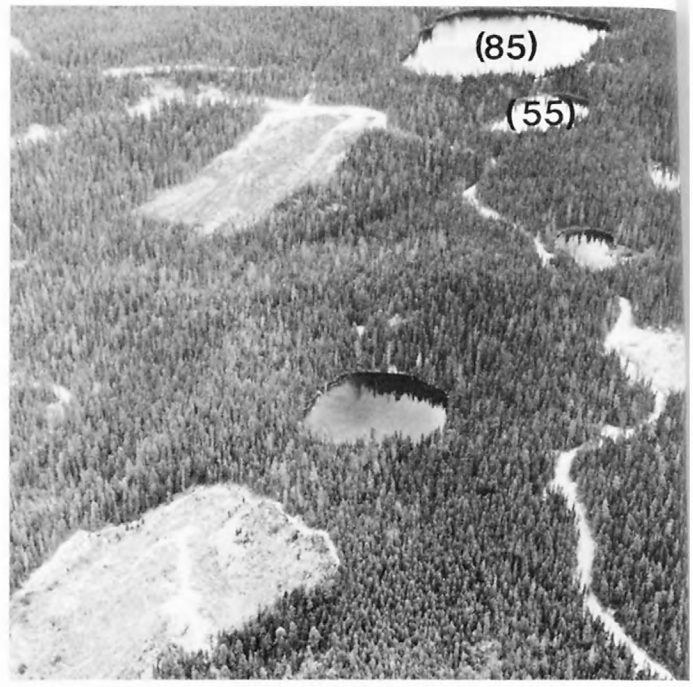
INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed through channel on northwest corner of lake to Middle Fork Willamette River.

USE: Public recreation. The lake was stocked in 1979 with fingerling brook trout by the Oregon Department of Fish and Wildlife.

REMARKS: Submerged aquatic growth covered most of the lake bottom, and some emergent grass was observed near the shoreline. The bottom material is primarily mud and organic detritus. An algal bloom was observed on the survey date.

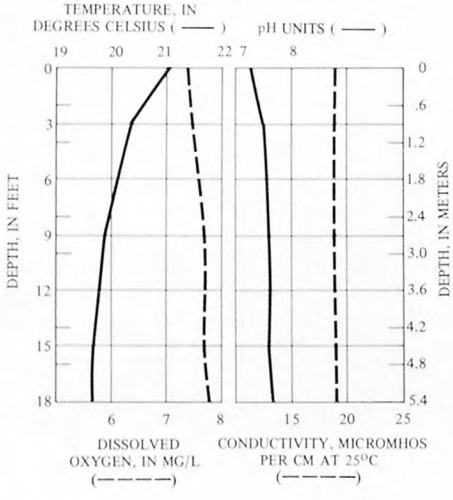
There are no maintained trails to the lake. Access to lake 0.2 mi (0.3 km) from Forest Service Road 244.



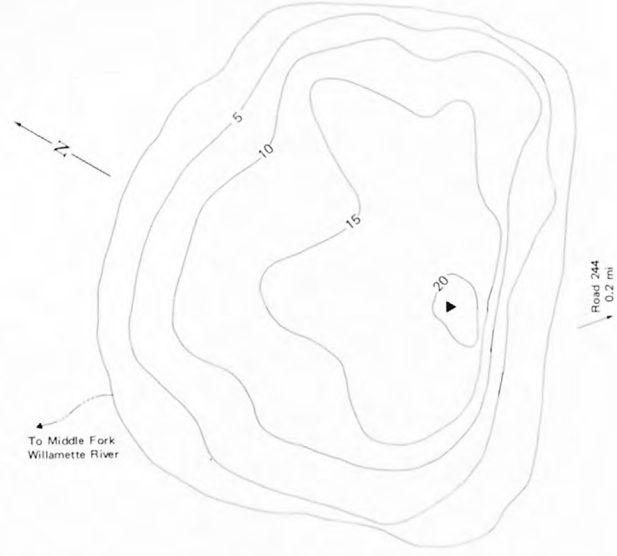
Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1715 hours
CLOUD COVER:	<5 percent
ALKALINITY (mg/L as $CaCO_3$)	11
TOTAL HARDNESS (mg/L as $CaCO_3$)	7
DISSOLVED SOLIDS (mg/L)	42
TRANSPARENCY (meters)	4.4
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Outflow	24 estimated
FECAL STREPTOCOCCI (colonies/100 ml) Outflow	<3



BATHYMETRIC MAP



EXPLANATION

▼ Sampling site

—— 20 —— Contour of equal water depth. Interval 5 feet

0 200 FEET
0 50 METERS

LOCATION: Secs. 23, 24, and 25, T. 25 S., R. 5 W., about 2 mi (3.2 km) east of Sutherlin and 12 mi (19 km) north of Roseburg. Surface-water outlet at lat 43°22'36", long 123°14'48". Glide 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.75 mi^2 (1.94 km^2).

SURFACE AREA: 16 acres (65,000 m^2) at normal pool.

SURFACE ELEVATION: 620 ft (190 m) above mean sea level, from topographic map.

VOLUME: 120 acre-ft (150,000 m^3) at normal pool.

INFLOW: No measurable flow observed through channel on south end of reservoir.

OUTFLOW: No flow observed through channel on north end of reservoir to Plat I reservoir.

USE: Private recreation, and irrigation.

REMARKS: Emergent aquatic growth covered about 5 percent of the surface of the reservoir, and submerged vegetation covered the entire bottom. The bottom material is primarily mud with some small rocks.

Water-rights permit for storage of 120 acre-ft (0.15 hm^3) for irrigation.

Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

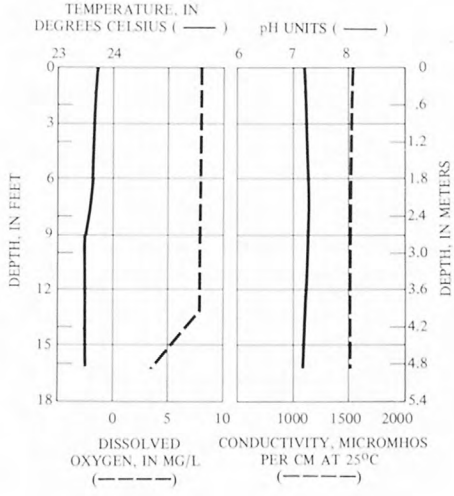
Reference: 11.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1015 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	27
TOTAL HARDNESS (mg/L as $CaCO_3$)	250
DISSOLVED SOLIDS (mg/L)	884
TRANSPARENCY (meters)	3.8
COLOR (Pt-Co units)	10
FECAL COLIFORM (colonies/100 ml)	K2

BATHYMETRIC MAP



LOCATION: Secs. 25 and 36, T. 27 S., R. 5 E., secs. 30, 31, and 32, T. 27 S., R. 6 E., secs. 1 and 12, T. 28 S., R. 5 E., secs. 4, 5, 6, 7, 8, 9, 16, 17, 18, 19, 20, and 21, T. 28 S., R. 5½ E., in the Umpqua National Forest about 15 mi (24 km) southeast of Toketee Falls and 5 mi (8 km) north of Crater Lake National Park. Surface-water outlet at lat 43°11'07", long 122°09'57". Diamond Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 54.9 mi^2 (142 km^2).

SURFACE AREA: 3,000 acres (1,200 hm^2).

SURFACE ELEVATION: 5,183 ft (1,580 m) above mean sea level, from topographic map.

VOLUME: 77,000 acre-ft (95 hm^3).

INFLOW: Primary inflows are shown on bathymetric map.

OUTFLOW: The daily mean discharge on September 18, 1978 from Diamond Lake through Lake Creek was 27 ft^3/s (0.76 m^3/s).

USE: Public recreation. The lake has been stocked annually with fingerling rainbow trout by the Oregon Department of Fish and Wildlife. Diamond Lake facilities include camping sites maintained by the U.S. Forest Service and a privately operated lodge. Recreation includes swimming, boating, and fishing.

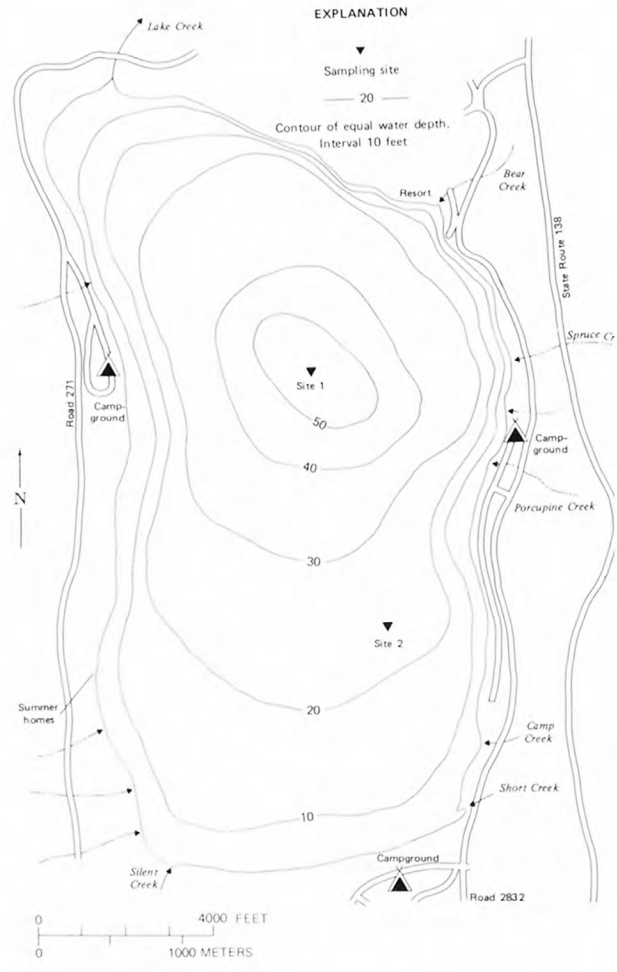
REMARKS: Extensive beds of submerged aquatic growth were observed near the shoreline. Bottom material is primarily a soft silt except for sand observed near the shore.

Water-rights permit for diversion of 32.0 ft^3/s (0.91 m^3/s), not to exceed 5,800 acre-ft (7.2 hm^3) per year for fish propogation, and 0.01 ft^3/s (0.0003 m^3/s) for domestic use.

Information on bathymetry furnished by the U.S. Environmental Pollution Agency.

References: 2, 5, 9, 10, 12, 18.

BATHYMETRIC MAP



WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1830 hours
CLOUD COVER:	98 percent
SAMPLING DEPTH (meters)	9
ALKALINITY (mg/L as $CaCO_3$)	18
TOTAL HARDNESS (mg/L as $CaCO_3$)	11
DISSOLVED SOLIDS (mg/L)	24
TRANSPARENCY (meters)	3.8
COLOR (Pt-Co units)	5

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1835 hours
CLOUD COVER:	95 percent
SAMPLING DEPTH (meters)	15
ALKALINITY (mg/L as $CaCO_3$)	18
TOTAL HARDNESS (mg/L as $CaCO_3$)	11
DISSOLVED SOLIDS (mg/L)	30
TRANSPARENCY (meters)	–
COLOR (Pt-Co units)	15

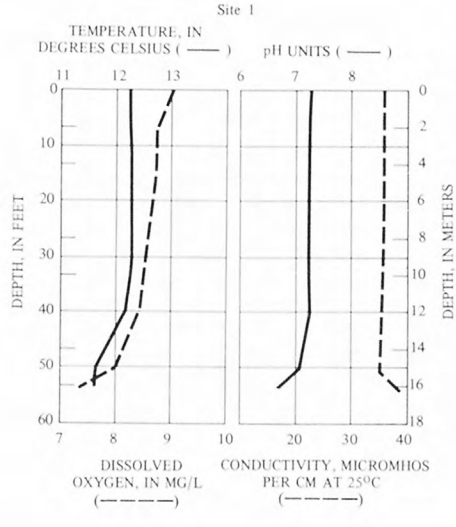
WATER-QUALITY DATA
Site 2

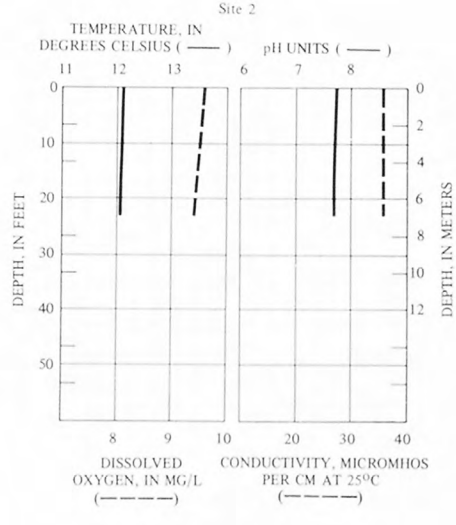
SAMPLING TIME:	1845 hours
CLOUD COVER:	95 percent
SAMPLING DEPTH (meters)	0.5
ALKALINITY (mg/L as $CaCO_3$)	18

WATER-QUALITY DATA
Selected bacteria data

FECAL COLIFORM (colonies/100 ml)	
Bear Creek	K150
Spruce Creek	36
Short Creek	<1
Silent Creek	<1
Outflow	K2
FECAL STREPTOCOCCI (colonies/100 ml)	
Bear Creek	>100
Spruce Creek	K10
Short Creek	<1
Silent Creek	<1
Outflow	K2

Photograph taken June 27, 1978





LOCATION: Sec. 33, T. 32 S., R. 6 W., in the Cow Creek Game Refuge about 0.8 mi (1.3 km) north of Glendale. Southernmost tip of pond at lat 42°44'57", long 123° 24'49". Glendale and Canyonville 15-minute quadrangle maps (not named on maps).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 16 acres (65,000 m^2).

SURFACE ELEVATION: 1,420 ft (433 m) above mean sea level, from topographic map.

VOLUME: 70 acre-ft (86,000 m^3).

INFLOW: Estimated less than 1 ft^3/s (0.03 m^3/s) through channel on northwest side of pond.

OUTFLOW: No surface channel observed and none indicated on topographic map.

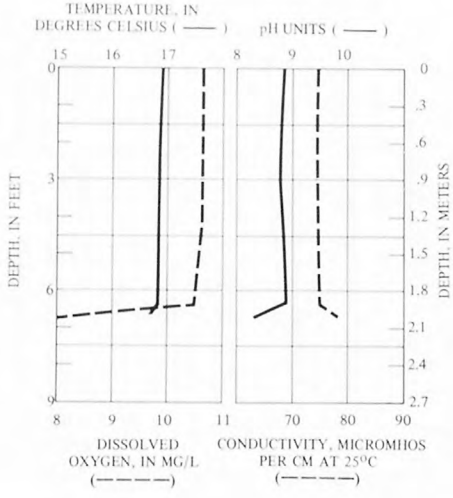
USE: Privately owned. Open for public recreation. Swimming and boating are not permitted.

REMARKS: Emergent grass covered less than 5 percent of the surface of the pond, and submerged aquatic growth covered 90 percent of the bottom of the pond. Bottom material along the shoal area is primarily organic detritus.
The water color was green on the survey date.
Reference: 12.

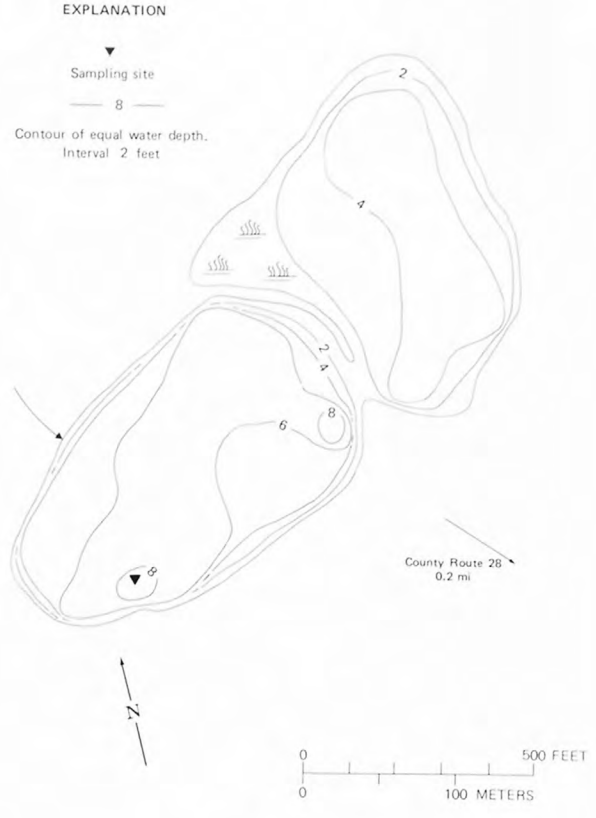
Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1230	hours
CLOUD COVER:	90	percent
ALKALINITY (mg/L as $CaCO_3$)	32	
TOTAL HARDNESS (mg/L as $CaCO_3$)	28	
DISSOLVED SOLIDS (mg/L)	66	
TRANSPARENCY (meters)	0.8	
COLOR (Pt-Co units)	40	
FECAL COLIFORM (colonies/100 ml)	K2	



BATHYMETRIC MAP



LOCATION: Sec. 33, T. 32 S., R. 6 W., in the Cow Creek Game Refuge about 0.3 mi (0.5 km) north of Glendale. Southernmost tip of pond at lat 42°44'28", long 123° 25'08". Glendale 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 26 acres (100,000 m^2).

SURFACE ELEVATION: 1,410 ft (430 m) above mean sea level, from topographic map.

VOLUME: 170 acre-ft (210,000 m^3).

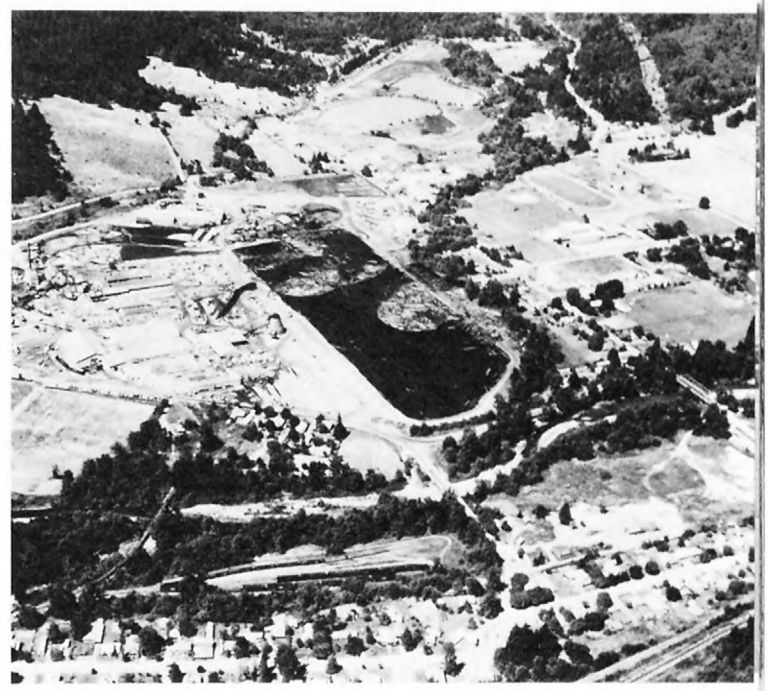
INFLOW: No flow observed through regulated inflows on north side of pond.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: No recreational use, active log pond.

REMARKS: Some emergent growth was observed along the perimeter of the pond, and no submerged aquatic growth was observed. Bottom material is primarily organic detritus. Water-rights certificate for storage of 150 acre-ft (0.18 hm^3) for industrial use. Information on the bathymetry furnished by the Oregon Water Resources Department.

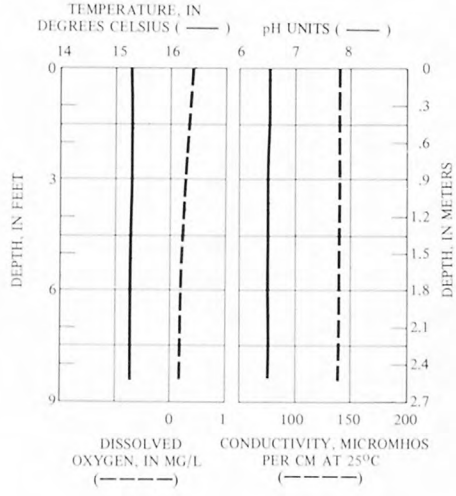
References: 11, 12.



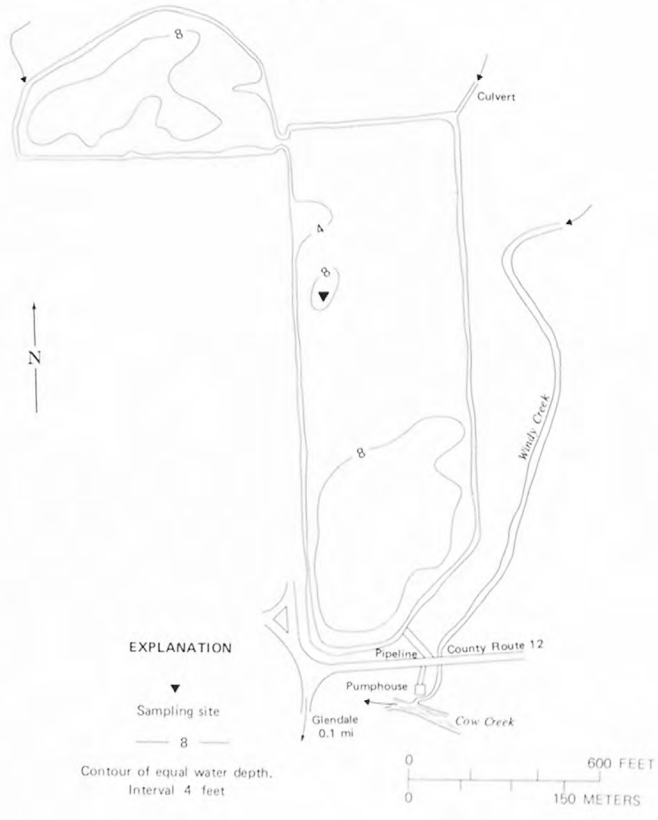
Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1115	hours
CLOUD COVER:	100	percent
ALKALINITY (mg/L as $CaCO_3$)	53	
TOTAL HARDNESS (mg/L as $CaCO_3$)	31	
DISSOLVED SOLIDS (mg/L)	146	
TRANSPARENCY (meters)	0.06	
COLOR (Pt-Co units)	>500	
FECAL COLIFORM (colonies/100 ml)	<3	



BATHYMETRIC MAP



LOCATION: Sec. 24, T. 26 S., R. 6 W., just north of the North Umpqua River about 0.5 mi (0.8 km) north of Winchester and 6 mi (10 km) south of Sutherlin. Surface-water outlet at lat 43°17'16", long 123°21'38". Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 11 acres (45,000 m^2).

SURFACE ELEVATION: 490 ft (150 m) above mean sea level, from topographic map.

VOLUME: 65 acre-ft (80,000 m^3).

INFLOW: Estimated 1 ft^3/s (0.03 m^3/s) observed through pipe on the southwest corner of the pond.

OUTFLOW: No measurable flow observed through regulated outlet on the southeast corner of the pond to the North Umpqua River.

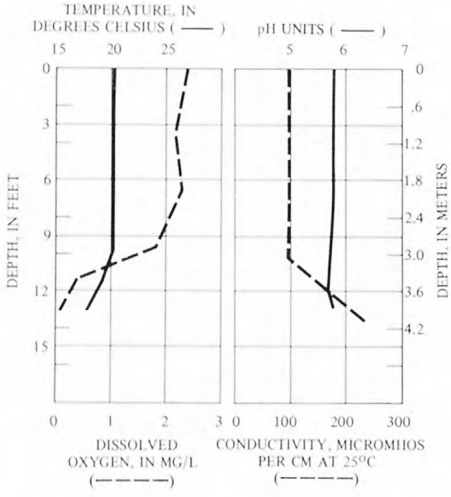
USE: No recreational use, active log pond.

REMARKS: No evidence of submerged aquatic growth; however, cattails and emergent grass were observed along the shoreline. Bottom material is primarily organic detritus.
Oil was observed on the water surface on the survey date.
Water-rights permit for storage of 448 acre-ft (0.552 hm^3) for industrial use.
Reference: 11.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1130 hours
CLOUD COVER:	<5 percent
ALKALINITY (mg/L as $CaCO_3$)	37
TOTAL HARDNESS (mg/L as $CaCO_3$)	24
DISSOLVED SOLIDS (mg/L)	202
TRANSPARENCY (meters)	0.08
COLOR (Pt-Co units)	>500
FECAL COLIFORM (colonies/100 ml)	
Sampling site	<1
Inflow	59



BATHYMETRIC MAP

EXPLANATION

▼ Sampling site

—— 10 —— Contour of equal water depth. Interval 5 feet

0 400 FEET
0 100 METERS

LOCATION: Secs. 17 and 18, T. 22 S., R. 5 W., about 0.1 mi (0.2 km) west of Drain. Surface-water outlet at lat 43°39'25", long 123°19'47". Drain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 19 acres (77,000 m^2).

SURFACE ELEVATION: 310 ft (94 m) above mean sea level, from topographic map.

VOLUME: 200 acre-ft (250,000 m^3).

INFLOW: No measurable flow observed through pipe on south side of pond.

OUTFLOW: No flow observed through regulated outlet on the southwest corner of the pond.

USE: No recreational use, active log pond.

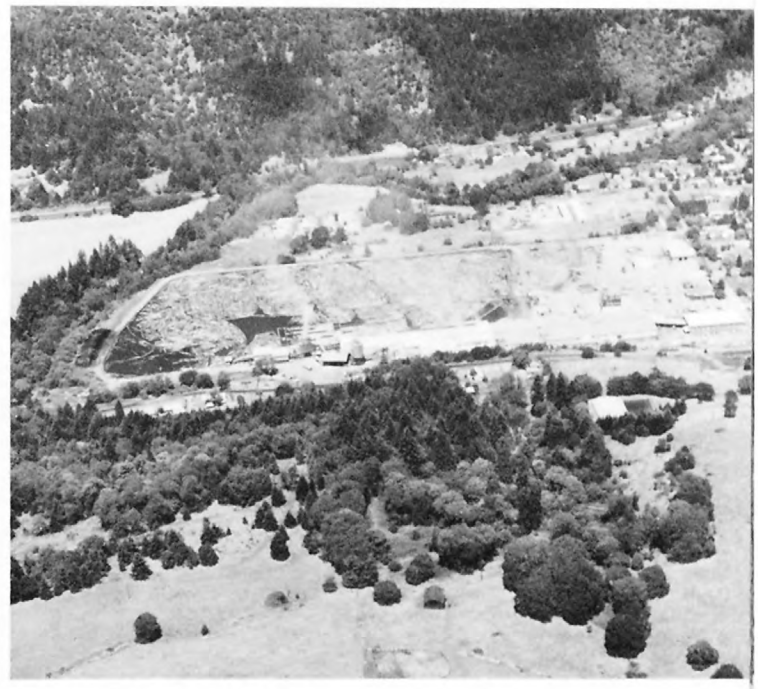
REMARKS: No evidence of submerged aquatic growth, and emergent aquatic growth covered less than 1 percent of the surface of the pond. Bottom material is primarily organic detritus.

Oil was observed on the water surface on the survey date.

Water-rights permit for storage of 176 acre-ft (0.217 hm^3) for industrial use.

The bathymetric data were furnished by the Oregon Water Resources Department.

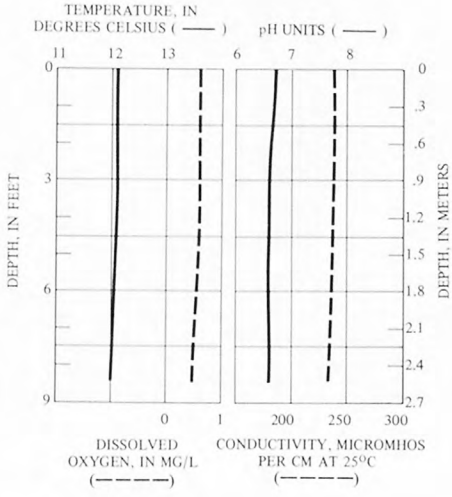
Reference: 11.



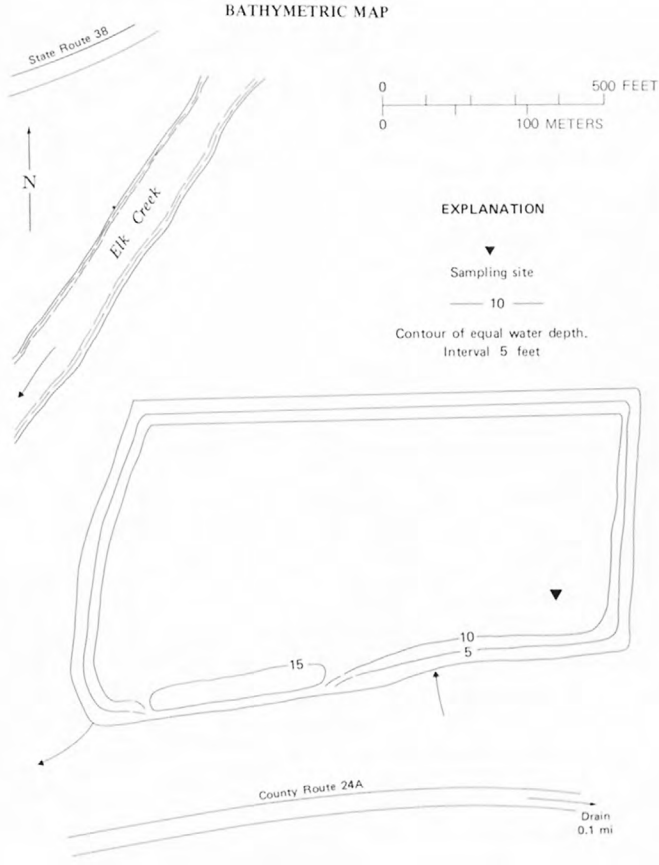
Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	0900 hours
CLOUD COVER:	>90 percent
ALKALINITY (mg/L as $CaCO_3$)	70
TOTAL HARDNESS (mg/L as $CaCO_3$)	45
DISSOLVED SOLIDS (mg/L)	174
TRANSPARENCY (meters)	0.2
COLOR (Pt-Co units)	200
FECAL COLIFORM (colonies/100 ml)	K12,000
FECAL STREPTOCOCCI (colonies/100 ml)	K4000



BATHYMETRIC MAP



LOCATION: Secs. 29, 30, 31, and 32, T. 22 S., R. 12 W., secs. 5 and 6, T. 23 S., R. 12 W., about 1.5 mi (2.4 km) north of Lakeside and 5 mi (8 km) south of Reedsport. Surface-water outlet at lat 43°36'10", long 124°10'28": Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: Tenmile Creek (Pacific Slope drainage).

DRAINAGE AREA: 10.0 mi^2 (25.9 km^2).

SURFACE AREA: 350 acres (140 hm^2).

SURFACE ELEVATION: 61 ft (18 m) above mean sea level, from topographic map.

VOLUME: 12,500 acre-ft (15 hm^3).

INFLOW: Primary inflows include Clear Creek and two unnamed streams on the two northern arms of the lake.

OUTFLOW: Eel Creek on the southwest corner of the lake.

USE: Public recreation and municipal use. The lake has been stocked annually with fingerling cutthroat and rainbow trout by the Oregon Department of Fish and Wildlife. Boat launching, picnicking, and restroom facilities are located at Wm. M. Tugman State Park on the southwest corner of the lake.

REMARKS: No evidence of either floating or submerged aquatic growth. Bottom material is primarily sand covered with organic detritus.

Water-rights permit for diversion of 1.60 ft^3/s (0.045 m^3/s) for municipal use and 0.055 ft^3/s (0.0016 m^3/s) for domestic use.

Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

References: 5, 9, 12, 18.

WATER-QUALITY DATA

Site 1

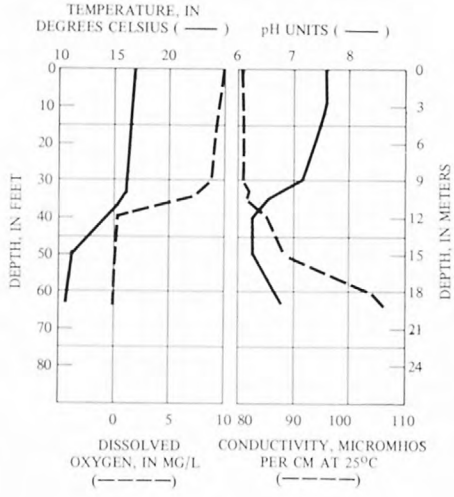
SAMPLING TIME:	1430 hours
CLOUD COVER:	30 percent
ALKALINITY (mg/L as $CaCO_3$)	18
TOTAL HARDNESS (mg/L as $CaCO_3$)	16
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	2.7
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Outflow	K7
FECAL STREPTOCOCCI (colonies/100 ml) Outflow	K10

WATER-QUALITY DATA

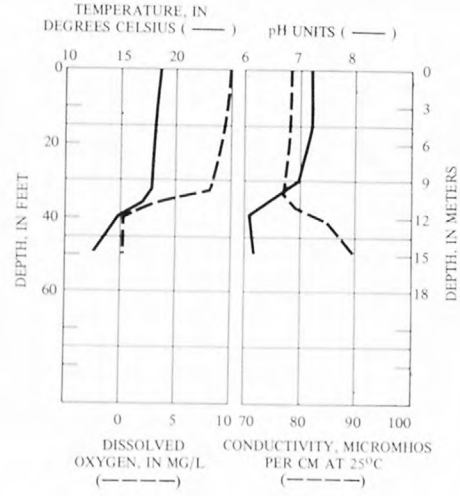
Site 2

SAMPLING TIME:	1515 hours
CLOUD COVER:	70 percent
ALKALINITY (mg/L as $CaCO_3$)	—
TOTAL HARDNESS (mg/L as $CaCO_3$)	—
DISSOLVED SOLIDS (mg/L)	—
TRANSPARENCY (meters)	2.4
COLOR (Pt-Co units)	—
FECAL COLIFORM (colonies/100 ml)	—

Site 1



Site 2



BATHYMETRIC MAP

Photograph taken June 27, 1978

LOCATION: Sec. 32, T. 20 S., R. 12 W., about 6 mi (10 km) north of Reedsport and 13 mi (21 km) south of Florence. Surface-water outlet at lat 43°47'17", long 124°08'57". Siltcoos Lake 15-minute quadrangle map.

DRAINAGE BASIN: Tahkenitch Creek (Pacific Slope drainage).

DRAINAGE AREA: 0.83 mi^2 (2.15 km^2).

SURFACE AREA: 12 acres (49,000 m^2).

SURFACE ELEVATION: 40 ft (12 m) above mean sea level, from topographic map.

VOLUME: 190 acre-ft (230,000 m^3).

INFLOW: No flow observed in channel on the east side of the lake.

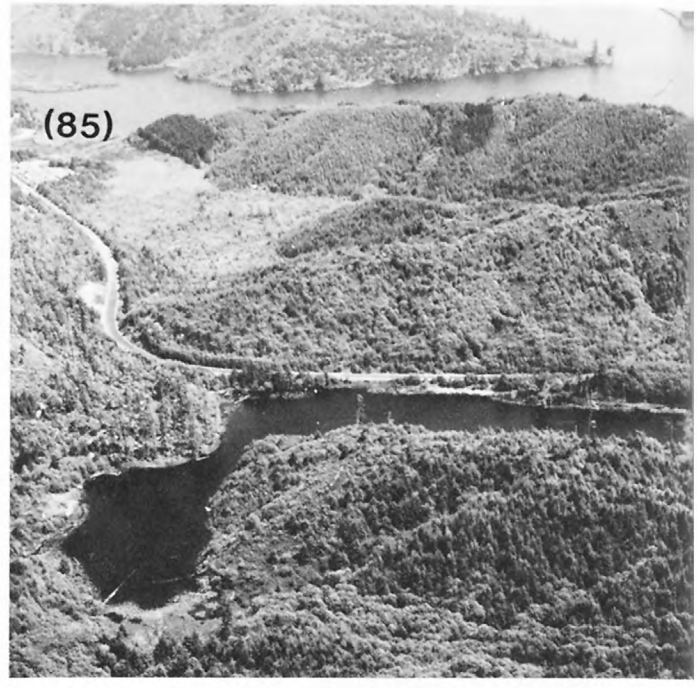
OUTFLOW: No flow observed in channel on the north side of lake to Tahkenitch Lake.

USE: Public recreation. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife. Crown Zellerbach maintains a campground on the northwest corner of the lake. Recreation includes: boating, swimming and fishing.

REMARKS: Cattails and pond lillies covered less than 5 percent of the surface of the lake, and some submerged aquatic growth was observed along the shoal area. Bottom sediment is primarily mud.

Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

References: 5, 9, 12.



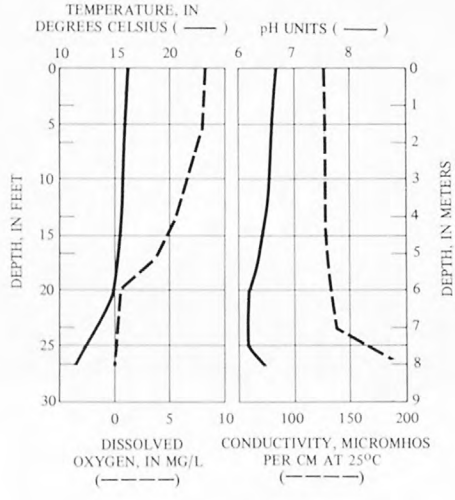
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1130 hours
CLOUD COVER:	25 percent
ALKALINITY (mg/L as $CaCO_3$)	33
TOTAL HARDNESS (mg/L as $CaCO_3$)	24
DISSOLVED SOLIDS (mg/L)	86
TRANSPARENCY (meters)	4.4
COLOR (Pt-Co units)	30
FECAL COLIFORM (colonies/100 ml) Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	K 2

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 6, T. 29 S., R. 4 W., about 4.5 mi (7.2 km) northeast of Myrtle Creek and 11 mi (18 km) southeast of Roseburg. Surface-water outlet at lat 43°04'48", long 123°13'05". Dixonville 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.32 mi^2 (0.83 km^2).

SURFACE AREA: 5 acres (20,000 m^2) at full pool.

SURFACE ELEVATION: 1,160 ft (350 m) above mean sea level, from topographic map.

VOLUME: 40 acre-ft (49,000 m^3) at full pool.

INFLOW: No measurable flow observed in channel on the north end of the reservoir.

OUTFLOW: No flow observed in Big Lick Creek.

USE: No recreational use. Provides a water supply for livestock.

REMARKS: Emergent growth covered less than 1 percent of the surface of the reservoir, and dense submerged aquatic growth covered the bottom of the reservoir along the shoal area. Bottom material is primarily mud. Algal mats were observed along the shoreline, and ducks and geese were observed in the reservoir on the survey date.

Water-rights permit for storage of 18.0 acre-ft (22,000 m^3), and diversion of 0.18 ft^3/s (0.005 m^3/s) for irrigation.

The bathymetric map represents the reservoir at 1 foot above full pool. Information on surface area and volume furnished by the Oregon Water Resources Department.

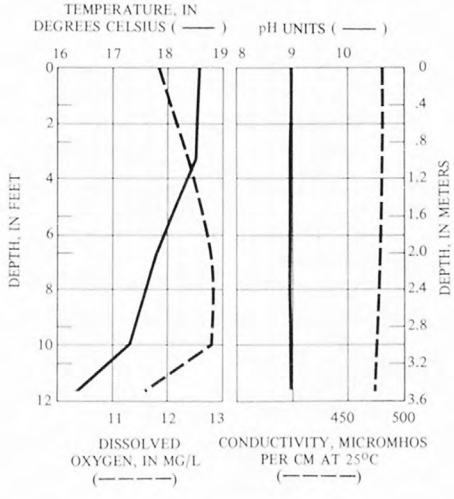
Reference: 11.

Photograph taken August 2, 1978.

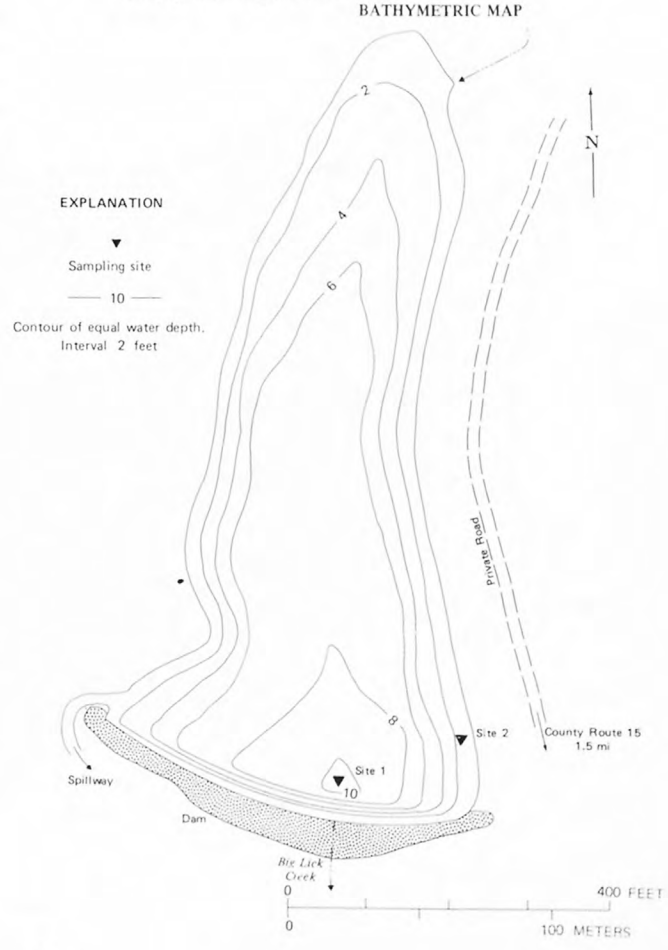
WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1130 hours
CLOUD COVER:	70 percent
ALKALINITY (mg/L as $CaCO_3$)	54
TOTAL HARDNESS (mg/L as $CaCO_3$)	110
DISSOLVED SOLIDS (mg/L)	312
TRANSPARENCY (meters)	4 (bottom)
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml) Site 2	140
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	K19

Site 1



BATHYMETRIC MAP



LOCATION: Secs. 35 and 36, T. 19 S., R. 8 W., about 1.5 mi (2.4 km) south of the Siuslaw River and 26 mi (42 km) southeast of Florence. Surface-water outlet at lat 43°52'32", long 123°35'54". Roman Nose Mountain 15-minute quadrangle map.

DRAINAGE BASIN: Esmond Creek (Siuslaw River).

DRAINAGE AREA: 2.55 mi^2 (6.60 km^2).

SURFACE AREA: 17 acres (69,000 m^2).

SURFACE ELEVATION: 685 ft (209 m) above mean sea level, from topographic map.

VOLUME: 360 acre-ft (440,000 m^3).

INFLOW: Five streams on the west, south, and east sides of the lake. Total flow was estimated to be less than 0.5 ft^3/s (0.01 m^3/s) through channels 1 and 2.

OUTFLOW: Estimated 10 ft^3/s (0.28 m^3/s) into Esmond Creek on the north end of the lake.

USE: Public recreation including camping and fishing.

REMARKS: Emergent snags covered about 30 percent of the surface of the lake. Some emergent grass and submerged aquatic growth were observed in the shoal area. Bottom material is primarily mud.

Access to lake 0.1 mi (0.2 km) by trail from Western Lane Forest Development Road 19-8-21 (off State Highway 126).

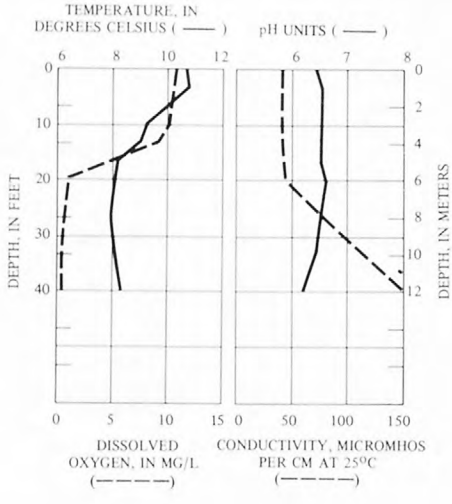
References: 9, 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME	1100 hours
CLOUD COVER	60 percent
ALKALINITY (mg/L as $CaCO_3$)	30
TOTAL HARDNESS (mg/L as $CaCO_3$)	16
DISSOLVED SOLIDS (mg/L)	70
TRANSPARENCY (meters)	2.8
COLOR (Pt-Co units)	300
FECAL COLIFORM (colonies/100 ml)	
Site 2	<1
Outflow	K13

Site 1



BATHYMETRIC MAP

LOCATION: Secs. 27 and 34, T. 26 S., R. 3 E., in the Umpqua National Forest about 0.5 mi (0.8 km) south of Toketee Falls, and 15 mi (24 km) southeast of Steamboat. Surface-water outlet at lat 43°16'15", long 122°27'15". Toketee Falls 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 9 acres (36,000 m^2) at normal pool.

SURFACE ELEVATION: 3,020 ft (920 m) above mean sea level, from topographic map.

VOLUME: 70 acre-ft (86,000 m^3) at normal pool.

INFLOW: Two canals feed into the south end of the forebay.

OUTFLOW: Through penstock on north end of forebay to generator for power production.

USE: Power generation and public recreation.

REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered about 40 percent of the bottom of the forebay. Bottom material is primarily clay and rock with some sand near the inflow.

Access to forebay 2 mi (3.2 km) by Forest Service Road 260 from North Umpqua Highway (State Highway 138).

Storage and diversion rights are licensed under Hydroelectric Project No. 23.

The bathymetric map represents depth contours on the survey date.

Information on surface area, volume, and the scaled outline of the forebay furnished by Pacific Power & Light Co.

References: 2, 12.

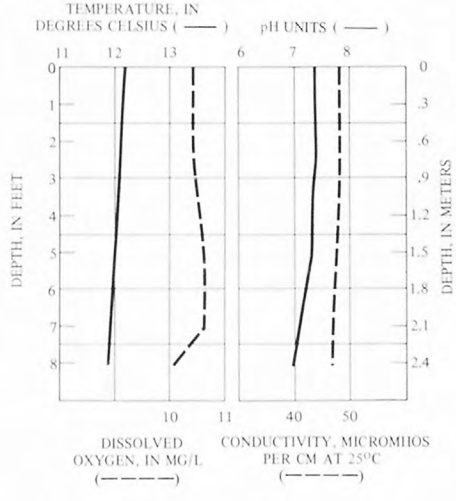
Photograph taken July 12, 1978.

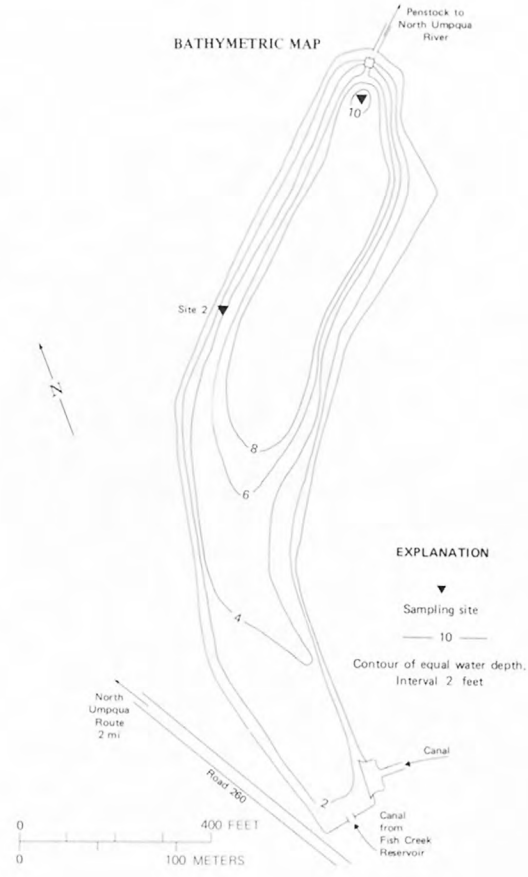
WATER-QUALITY DATA

Site 1

SAMPLING TIME:	2045 hours
CLOUD COVER:	95 percent
ALKALINITY (mg/L as $CaCO_3$)	27
TOTAL HARDNESS (mg/L as $CaCO_3$)	20
DISSOLVED SOLIDS (mg/L)	46
TRANSPARENCY (meters)	3.1 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 2	K23
Inflow	K21
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K11

Site 1





LOCATION: Secs. 5 and 6, T. 29 S., R. 3 E., in the Umpqua National Forest about 22 mi (35 km) southeast of Steamboat and 12 mi (19 km) west of Crater Lake National Park. Surface-water outlet at lat 43°04'46", long 122°30'23". Quartz Mountain and Garwood Butte 15-minute quadrangle maps.

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 7.42 mi^2 (19.2 km^2).

SURFACE AREA: 96 acres (390,000 m^2).

SURFACE ELEVATION: 3,405 ft (1,038 m) above mean sea level, from topographic map.

VOLUME: 6,100 acre-ft (7.5 hm^3).

INFLOW: Principal inflow streams are shown on the bathymetric map.

OUTFLOW: Fish Lake Creek on the northwest corner of the lake.

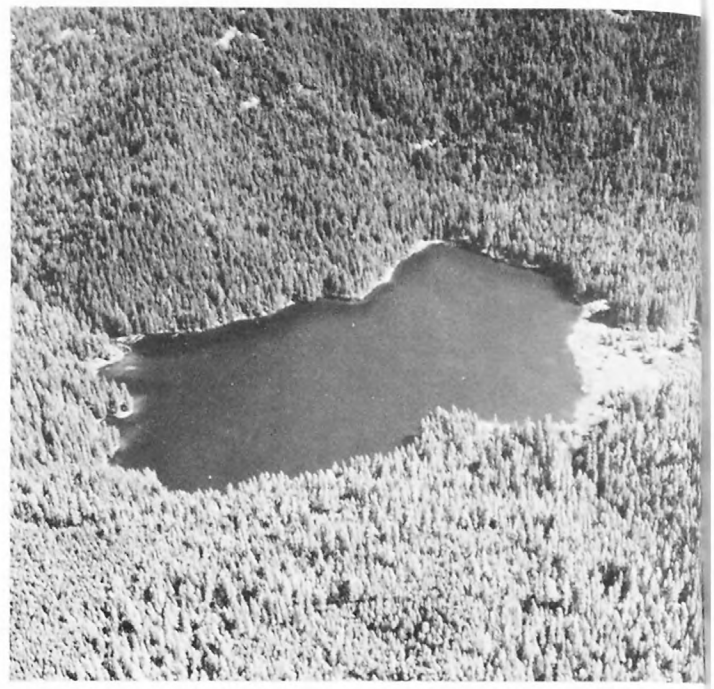
USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the northeast side of the lake.

REMARKS: Some emergent grass was observed near the shoreline, and submerged aquatic growth covered about 20 percent of the shoal area. Bottom material is primarily mud, rock, and organic detritus along the shoal area.

Heavy growths of attached algae covered about 10 percent of the lake bottom along the shoal area.

Access to lake 1.5 mi (2.4 km) by unnamed trail and Forest Service Trail 1570 from Forest Service Road 2840.

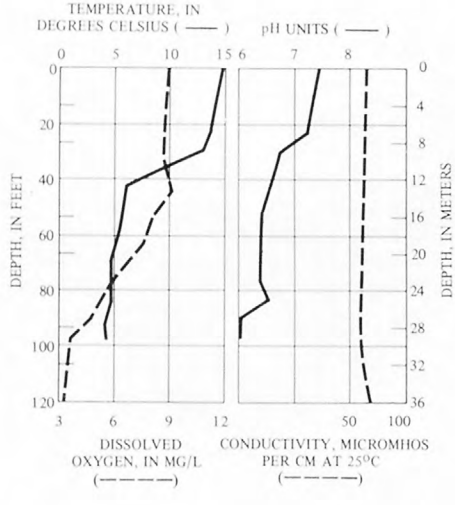
References: 2, 5, 9, 12.



Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1915 hours
CLOUD COVER:	1 percent
ALKALINITY (mg/L as $CaCO_3$)	26
TOTAL HARDNESS (mg/L as $CaCO_3$)	27
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	12.1
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Inflow 1	K2
Inflow 2	32
High Rock Creek	K3
Outflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Inflow 1	K3
Inflow 2	K1
High Rock Creek	30
Outflow	K15



LOCATION: Secs. 23, 26, and 27, T. 21 S., R. 12 W., about 0.5 mi (0.8 km) southeast of Gardiner and 1 mi (1.6 km) north of Reedsport. Regulated surface-water outlet at lat 43°43'24", long 124°06'09". Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: (Umpqua River).

DRAINAGE AREA: 0.56 mi^2 (1.45 km^2).

SURFACE AREA: 8 acres (32,000 m^2).

SURFACE ELEVATION: 60 ft (18 m) above mean sea level, from topographic map.

VOLUME: 90 acre-ft (110,000 m^3).

INFLOW: Principal inflow streams are shown on the bathymetric map.

OUTFLOW: Estimated less than 1 ft^3/s (0.03 m^3/s) through regulated outlet on south end of reservoir.

USE: Privately owned, formerly provided a municipal water supply for the city of Gardiner.

REMARKS: Some emergent growth was observed near the shoreline, and submerged growth covered less than 1 percent of the bottom of the reservoir. Bottom material is primarily mud and organic detritus.

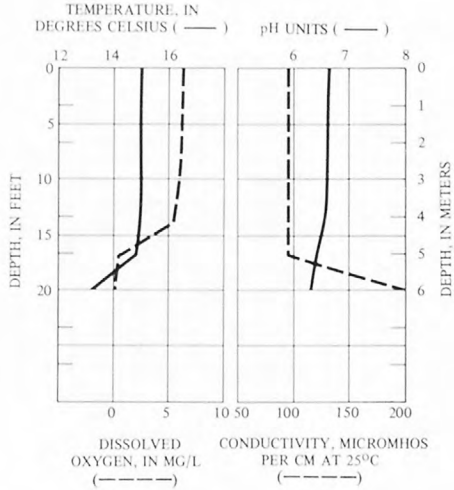
An algal bloom was observed on the survey date.

Reference: 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	0930 hours
CLOUD COVER:	60 percent
ALKALINITY (mg/L as $CaCO_3$)	28
TOTAL HARDNESS (mg/L as $CaCO_3$)	22
DISSOLVED SOLIDS (mg/L)	89
TRANSPARENCY (meters)	3.4
COLOR (Pt-Co units)	50
FECAL COLIFORM (colonies/100 ml)	
Sampling site	1
Outflow	1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	<1



BATHYMETRIC MAP

LOCATION: Secs. 19 and 20, T. 25 S., R. 5 W., at Sutherlin just west of U.S. Route 99. Regulated outlet at lat 43°22'40", long 123°19'18". Sutherlin 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Sutherlin Creek (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 45 acres (180,000 m^2).

SURFACE ELEVATION: 520 ft (160 m) above mean sea level, from topographic map.

VOLUME: 310 acre-ft (380,000 m^3)

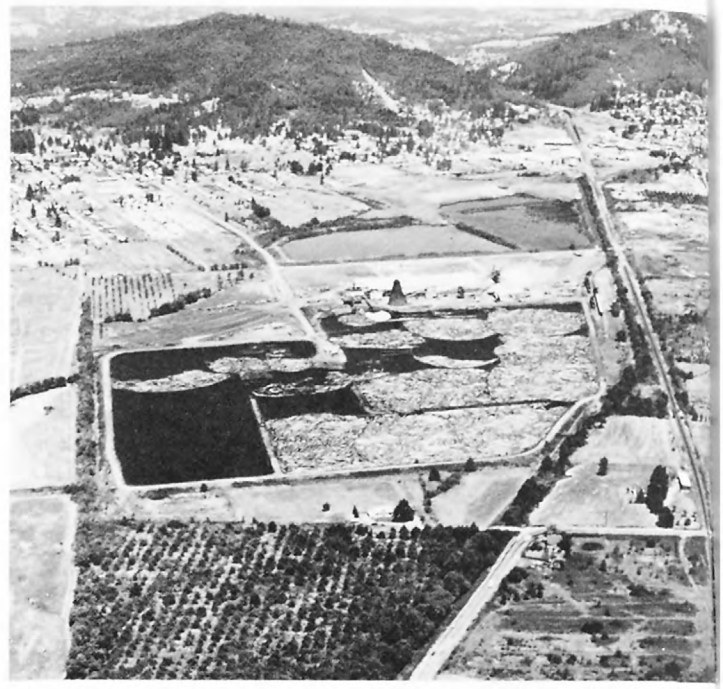
INFLOW: No flow observed being pumped into pond from Sutherlin Creek.

OUTFLOW: No flow observed through regulated outlet on east side of pond.

USE: No recreational use, active log pond.

REMARKS: No evidence of submerged aquatic growth; however, emergent growth was observed along the perimeter of the pond. Bottom material is primarily organic detritus.

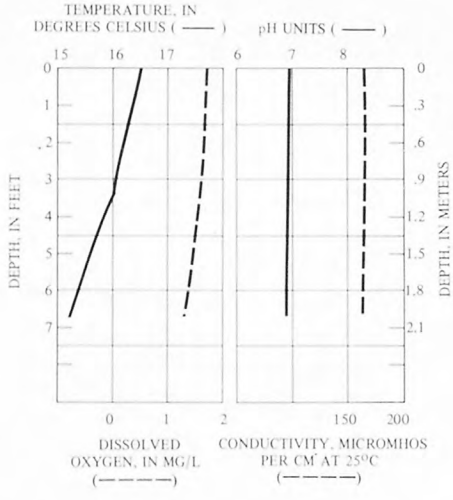
Water-rights permit for storage of 148.08 acre-ft (0.183 hm^3) for industrial use Reference: 11.



Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1230 hours
CLOUD COVER:	50 percent
ALKALINITY (mg/L as $CaCO_3$)	40
TOTAL HARDNESS (mg/L as $CaCO_3$)	21
DISSOLVED SOLIDS (mg/L)	214
TRANSPARENCY (meters)	0.2
COLOR (Pt-Co units)	400
FECAL COLIFORM (colonies/100 ml)	K5
FECAL STREPTOCOCCI (colonies/100 ml)	K5



BATHYMETRIC MAP

LOCATION: Sec. 7, T. 26 S., R. 5 W., at Wilbur about 3.5 mi (5.6 km) south of Sutherlin. Southernmost tip of pond located at lat 43°19'19", long 123°20'15". Sutherlin 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Sutherlin Creek (Umpqua River).

DRAINAGE AREA: 1.38 mi^2 (3.57 km^2).

SURFACE AREA: 8 acres (32,000 m^2).

SURFACE ELEVATION: 470 ft (140 m) above mean sea level, from topographic map.

VOLUME: 20 acre-ft (25,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: No recreational use, formerly a log pond.

REMARKS: Emergent growth covered more than 90 percent of the surface of the pond, and submerged aquatic growth covered the bottom. Bottom material is primarily organic detritus.

The water color was brown on the survey date, and floating algal mats covered more than 90 percent of the surface of the pond.

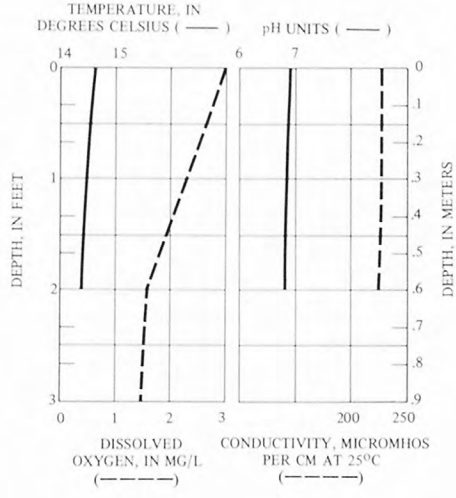
Photograph taken August 2, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME	1045 hours
CLOUD COVER	100 percent
ALKALINITY (mg/L as $CaCO_3$)	120
TOTAL HARDNESS (mg/L as $CaCO_3$)	98
DISSOLVED SOLIDS (mg/L)	140
TRANSPARENCY (meters)	1.2 (bottom)
COLOR (Pt-Co units)	70
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	>500

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 1, T. 26 S., R. 8 W., about 4 mi (6.4 km) southwest of the Umpqua River and 14 mi (22 km) southwest of Sutherlin. Surface-water outlet at lat 43°20' 38", long 123°35'22". Tyee 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Hubbard Creek (Umpqua River).

DRAINAGE AREA: 0.08 mi^2 (0.21 km^2).

SURFACE AREA: 5 acres (20,000 m^2).

SURFACE ELEVATION: 590 ft (180 m) above mean sea level, from topographic map.

VOLUME: 45 acre-ft (55,000 m^3).

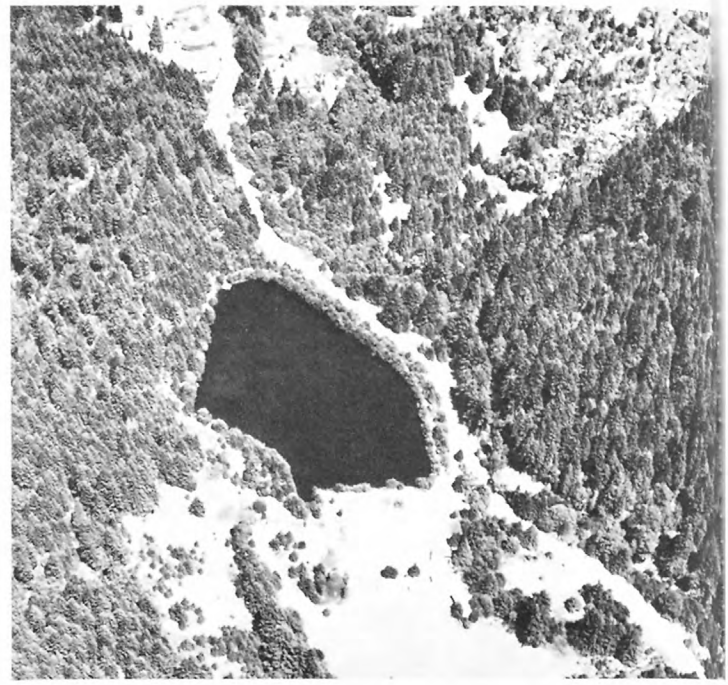
INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed in channel to Hubbard Creek.

USE: Private recreation.

REMARKS: Emergent growth was observed along 50 percent of the shoreline, and submerged aquatic growth covered the bottom of the reservoir. Bottom material is primarily mud.

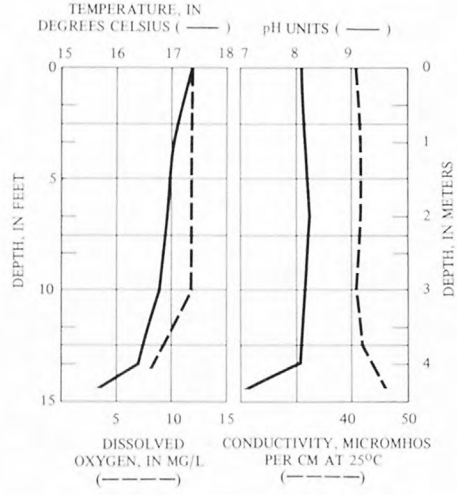
Reference: 12.



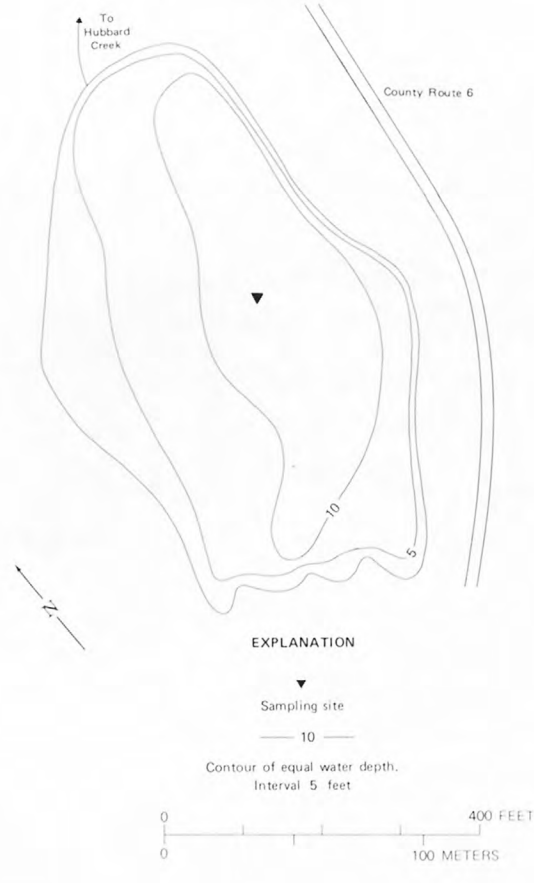
Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1500 hours
CLOUD COVER	100 percent
ALKALINITY (mg/L as $CaCO_3$)	20
TOTAL HARDNESS (mg/L as $CaCO_3$)	13
DISSOLVED SOLIDS (mg/L)	34
TRANSPARENCY (meters)	2.5
COLOR (Pt-Co units)	10
FECAL COLIFORM (colonies/100 ml)	<1



BATHYMETRIC MAP



LOCATION: Sec. 4, T. 27 S., R. 6 W., about 1.5 mi (2.4 km) southeast of the confluence of the North Umpqua and South Umpqua Rivers, and 2.5 mi (4 km) northwest of Roseburg. Southernmost tip of pond at lat 43°15'24", long 123°25'12". Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 8 acres (32,000 m^2).

SURFACE ELEVATION: 400 ft (120 m) above mean sea level, from topographic map.

VOLUME: 40 acre-ft (49,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

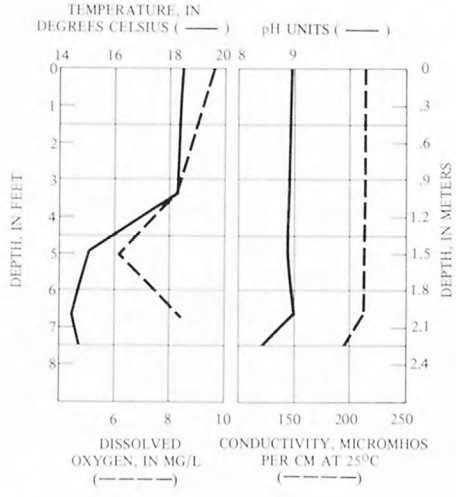
USE: No recreational use. Pond dredged for gravel.

REMARKS: No evidence of submerged aquatic growth; however, emergent grass covered less than 5 percent of the surface of the pond. Bottom material is primarily clay and gravel along the shoal area.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1530 hours
CLOUD COVER:	75 percent
ALKALINITY (mg/L as $CaCO_3$)	85
TOTAL HARDNESS (mg/L as $CaCO_3$)	93
DISSOLVED SOLIDS (mg/L)	134
TRANSPARENCY (meters)	0.20
COLOR (Pt-Co units)	360
FECAL COLIFORM (colonies/100 ml)	K4
FECAL STREPTOCOCCI (colonies/100 ml)	K9



BATHYMETRIC MAP

LOCATION: Sec. 4, T. 27 S., R. 6 W., about 1.5 mi (2.4 km) southeast of the confluence of the North Umpqua and South Umpqua Rivers, and 2.5 mi (4 km) northwest of Roseburg. Southernmost tip of pond at lat 43°15'21", long 123°25'20". Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 15 acres (61,000 m^2).

SURFACE ELEVATION: 400 ft (120 m) above mean sea level, from topographic map.

VOLUME: 90 acre-ft (110,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

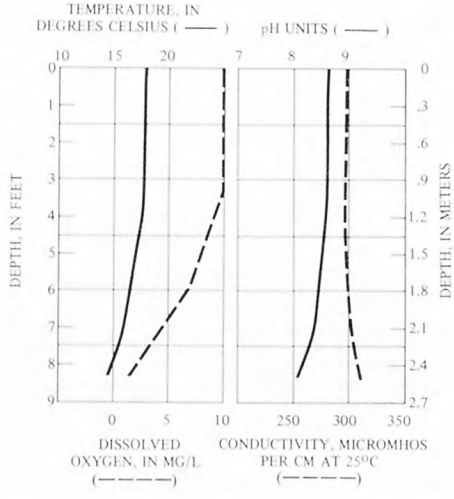
USE: No recreational use. Pond dredged for gravel.

REMARKS: No evidence of submerged aquatic growth; however, emergent reeds, willows, and snags were observed throughout the pond. Bottom material is primarily clay, sand and gravel.

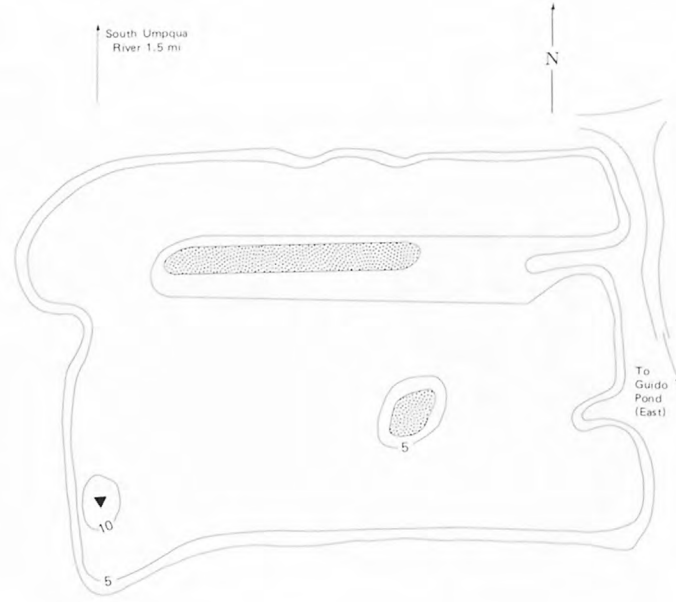
Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1300 hours
CLOUD COVER	75 percent
ALKALINITY (mg/L as $CaCO_3$)	150
TOTAL HARDNESS (mg/L as $CaCO_3$)	150
DISSOLVED SOLIDS (mg/L)	208
TRANSPARENCY (meters)	0.8
COLOR (Pt-Co units)	30
FECAL COLIFORM (colonies/100 ml)	K1
FECAL STREPTOCOCCI (colonies/100ml)	<1



BATHYMETRIC MAP



EXPLANATION

▼ Sampling site

—— 10 —— Contour of equal water depth. Interval 5 feet

0 400 FEET
0 100 METERS

LOCATION: Sec. 18, T. 22 S., R. 5 W., about 1 mi (1.6 km) west of Drain and 4 mi (6 km) northwest of Yoncalla. Southernmost tip of reservoir at lat 43°39'00", long 123°20'30". Drain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 6 acres (24,000 m^2).

SURFACE ELEVATION: 380 ft (120 m) above mean sea level, from topographic map.

VOLUME: 70 acre-ft (86,000 m^3).

INFLOW: Piped into reservoir from Whipple Memorial Reservoir (not shown on bathymetric map).

OUTFLOW: Piped into Drain's municipal water system (not shown on bathymetric map).

USE: No recreational use. The reservoir provides a municipal water supply for the city of Drain.

REMARKS: Emergent grass and brush were observed along the shoreline, and submerged aquatic growth was observed in the shoal area. Bottom material is primarily mud. The water color was green on the survey date.

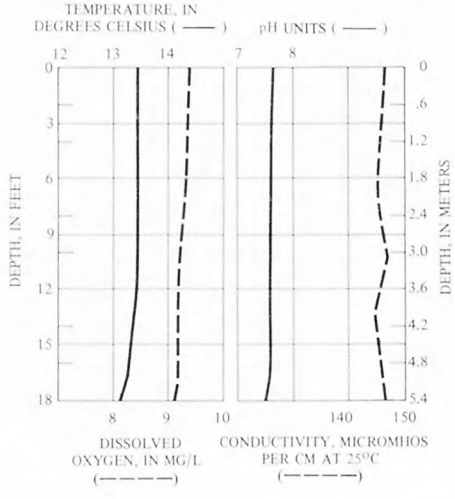
Photograph taken July 13, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1130 hours
CLOUD COVER:	25 percent
ALKALINITY (mg/L as $CaCO_3$)	61
TOTAL HARDNESS (mg/L as $CaCO_3$)	56
DISSOLVED SOLIDS (mg/L)	95
TRANSPARENCY (meters)	3.0
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	
Site 2	K5
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K16

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 28, T. 27 S., R. 1 E., in the Umpqua National Forest about 11 mi (18 km) south of Steamboat and 23 mi (37 km) northwest of Crater Lake National Park. Regulated outlet at lat 43°11'24", long 122°42'09". Quartz Mountain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 1.47 mi^2 (3.81 km^2).

SURFACE AREA: 28 acres (110,000 m^2) at normal pool.

SURFACE ELEVATION: 4,400 ft (1,340 m) above mean sea level, from topographic map.

VOLUME: 440 acre-ft (540,000 m^3) at normal pool.

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) observed from Hemlock Creek on south end of lake. Some flow was observed from inflow 1 through swamp on east end of lake.

OUTFLOW: Regulated outlet to Hemlock Creek.

USE: Public recreation. The lake was stocked in 1977 and 1978 with fingerling rainbow trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the east end of the lake.

REMARKS: Emergent grass was observed near inflow 1, and emergent tree stumps were observed along the north side of the lake. Bottom material along the shoal area is primarily mud with small rocks.

The water color was a greenish-brown, and an algal bloom was observed on the survey date.

Access to lake off Forest Service Road 272.

Water-rights certificate for storage of 1,150 acre-ft (1.42 hm^3), and diversion of 5 ft^3/s (0.14 m^3/s) for fish culture.

The bathymetric map represents the lake at full pool.

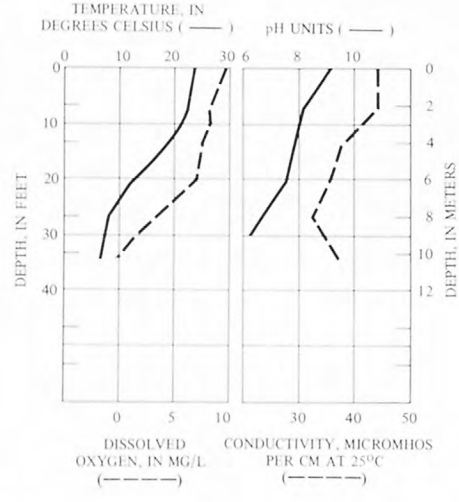
Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

References: 9, 11, 12.

Photograph taken July 13, 1978

WATER-QUALITY DATA

SAMPLING TIME:	1215 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	20
TOTAL HARDNESS (mg/L as $CaCO_3$)	24
DISSOLVED SOLIDS (mg/L)	46
TRANSPARENCY (meters)	1.2
COLOR (Pt-Co units)	25
FECAL COLIFORM (colonies/100 ml)	
Sampling site	K1
Inflow 1	K2
Hemlock Creek	K8



BATHYMETRIC MAP

LOCATION: Sec. 12, T. 27 S., R. 4 W., about 4.5 mi (7.2 km) south of Glide and 11 mi (18 km) east of Roseburg. Regulated outlet at lat 43°14'21", long 123°06'41". Dixonville 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.24 mi^2 (0.62 km^2).

SURFACE AREA: 6 acres (24,000 m^2) at normal pool.

SURFACE ELEVATION: 1,040 ft (317 m) above mean sea level, from topographic map.

VOLUME: 120 acre-ft (150,000 m^3) at normal pool.

INFLOW: No flow observed through channels on south side of reservoir.

OUTFLOW: No flow observed through regulated outlet into Buckhorn Creek.

USE: Privately owned.

REMARKS: No evidence of either floating or submerged aquatic growth. Bottom material is primarily mud and small rock.

The water color was green on the survey date.

Water-rights certificate for storage of 120 acre-ft (150,000 m^3), and diversion of 0.92 ft^3/s (0.026 m^3/s) for irrigation.

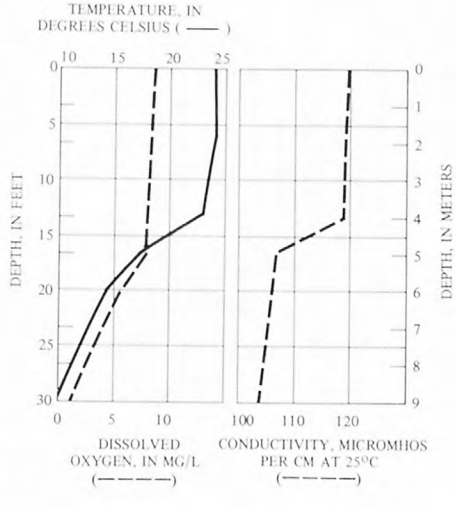
Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

Reference: 11.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME	0930 hours
CLOUD COVER	0 percent
ALKALINITY (mg/L as $CaCO_3$)	47
TOTAL HARDNESS (mg/L as $CaCO_3$)	50
DISSOLVED SOLIDS (mg/L)	78
TRANSPARENCY (meters)	2.5
COLOR (Pt-Co units)	35
FECAL COLIFORM (colonies/100 ml)	K4



BATHYMETRIC MAP

LOCATION: Sec. 26, T. 30 S., R. 5 W., about 6 mi (10 km) south of Myrtle Creek and 1 mi (1.6 km) northeast of Canyonville. Surface-water outlet at lat 42°56'17", long 123°15'25". Canyonville 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.09 mi^2 (0.23 km^2).

SURFACE AREA: 8 acres (32,000 m^2).

SURFACE ELEVATION: 760 ft (230 m) above mean sea level, from topographic map.

VOLUME: 40 acre-ft (50,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed through channel on northwest corner of pond to South Umpqua River.

USE: Public recreation. The pond, formerly a log pond, has been stocked with warm-water fish.

REMARKS: Some emergent reeds and logs were observed, and submerged aquatic growth covered about 80 percent of the bottom of the pond. Bottom material is primarily mud.

Ducks were observed at the pond on the survey date.
Water-rights certificate for storage of 56.08 acre-ft (0.069 hm^3) for fish culture.
References: 5, 11, 12.

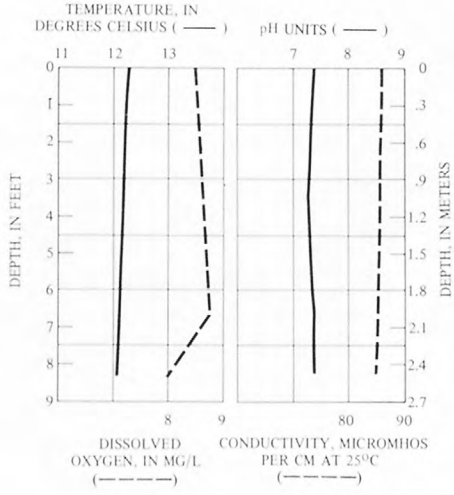
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1230 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	44
TOTAL HARDNESS (mg/L as $CaCO_3$)	59
DISSOLVED SOLIDS (mg/L)	78
TRANSPARENCY (meters)	2.7 (bottom)
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	
Site 2	K6
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	86

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 12, T. 30 S., R. 6 W., about 1 mi (1.6 km) west of Tri City and 1 mi (1.6 km) north of Riddle. Regulated outflow at lat 42°58'17", long 123°21'12". Canyonville 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.08 mi^2 (0.21 km^2).

SURFACE AREA: 6 acres (24,000 m^2).

SURFACE ELEVATION: 700 ft (210 m) above mean sea level, from topographic map.

VOLUME: 35 acre-ft (43,000 m^3).

INFLOW: No measurable flow through culvert on northwest side of pond.

OUTFLOW: No flow observed through regulated outlet on east side of pond.

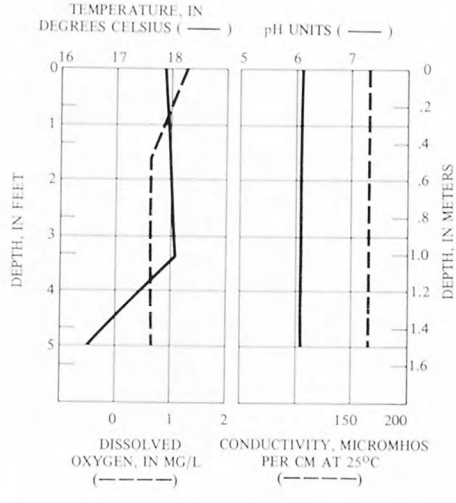
USE: No recreational use, active log pond.

REMARKS: Some emergent reeds and submerged aquatic growth were observed near the shoreline. Bottom material is primarily organic detritus.
The water color was a brownish-black on the survey date.
Water-rights certificate for storage of 56 acre-ft (0.069 hm^3) for industrial use.
Reference: 11.

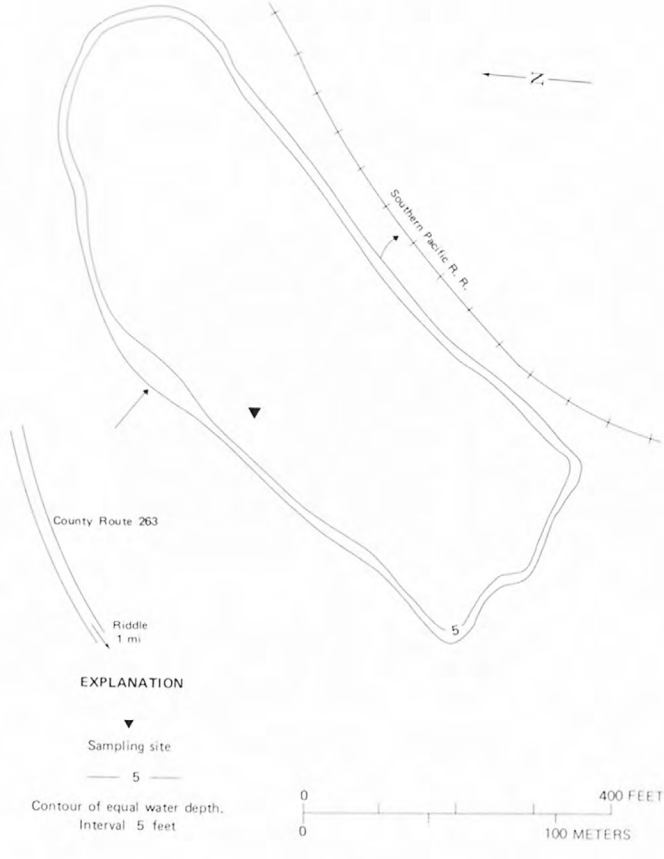
Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1400 hours
CLOUD COVER:	80 percent
ALKALINITY (mg/L as $CaCO_3$)	51
TOTAL HARDNESS (mg/L as $CaCO_3$)	40
DISSOLVED SOLIDS (mg/L)	168
TRANSPARENCY (meters)	0.1
COLOR (Pt-Co units)	500
FECAL COLIFORM (colonies/100 ml)	< 1
FECAL STREPTOCOCCI (colonies/100 ml)	K40



BATHYMETRIC MAP



LOCATION: Sec. 20, T. 28 S., R 5½ E., in the Umpqua National Forest about 4 mi (6 km) north of Crater Lake National Park and 0.5 mi (0.8 km) south of Diamond Lake. Southernmost tip of lake at lat 43°07'32", long 122°09'06". Diamond Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.02 mi^2 (0.05 km^2).

SURFACE AREA: 2 acres (8,000 m^2) on survey date.

SURFACE ELEVATION: 5,150 ft (1,570 m) above mean sea level, from topographic map.

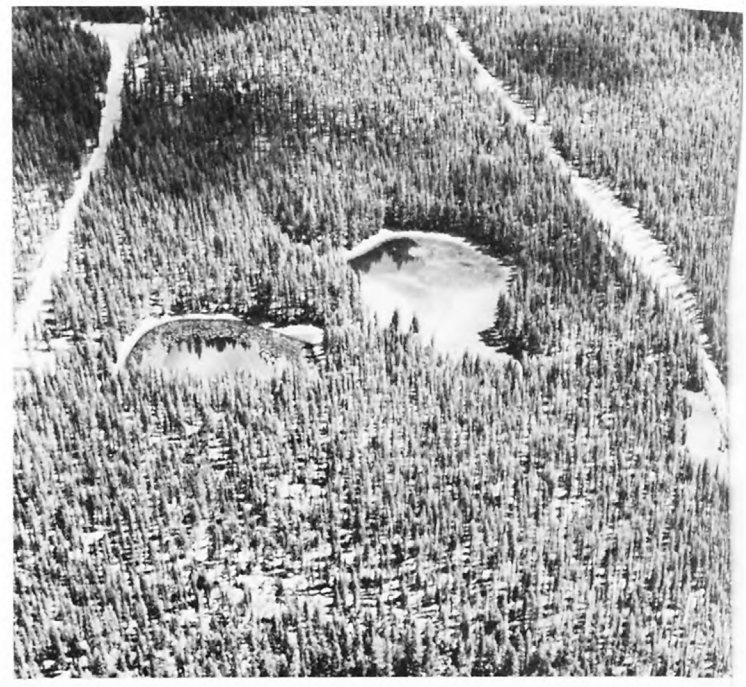
VOLUME: 11 acre-ft (14,000 m^3) on survey date.

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: Public recreation. The lake was stocked in 1977 and 1978 with fingerling rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Floating pond lilies covered about 30 percent of the surface of the lake, and some submerged aquatic growth was observed along the shoal area. Bottom material is primarily silt and organic detritus.
Access to lake from Forest Service Road 271.
References: 9, 12.

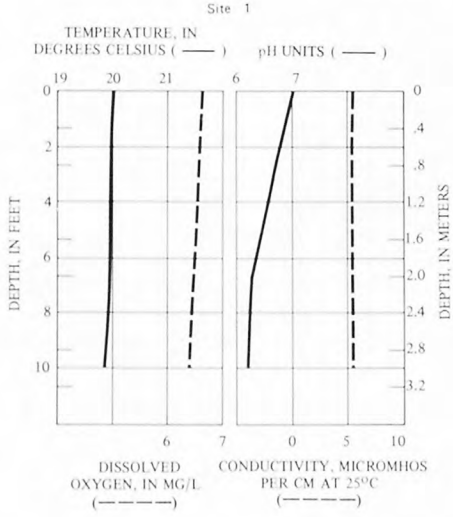


Photograph taken July 12, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	0730
CLOUD COVER:	0
ALKALINITY (mg/L as $CaCO_3$)	4
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	12
TRANSPARENCY (meters)	3.1 (bottom)
COLOR (Pt-Co units)	10
FECAL COLIFORM (colonies/100 ml)	
Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K1

BATHYMETRIC MAP



LOCATION: Sec. 22, T. 25 S., R. 5½ E., in the Willamette National Forest, about 19 mi (31 km) northeast of Toketee Falls and 22 mi (35 km) north of Crater Lake National Park. Surface-water outlet at lat 43°23'41", long 122°06'15". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 0.44 mi^2 (1.14 km^2).

SURFACE AREA: 20 acres (81,000 m^2).

SURFACE ELEVATION: 5,930 ft (1,810 m) above mean sea level, from topographic map.

VOLUME: 260 acre-ft (320,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on north end of lake. Outflow not indicated on topographic map.

USE: Public recreation. The lake has been stocked annually with fingerling rainbow trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the north end of the lake.

REMARKS: Emergent grass was observed near the shoreline and submerged aquatic growth covered about 10 percent of the bottom of the lake. Bottom material is primarily sand and rock.

Access to lake 1.5 mi (2.4 km) by Forest Service Trail 3649 from Little Timpanogas Lake.

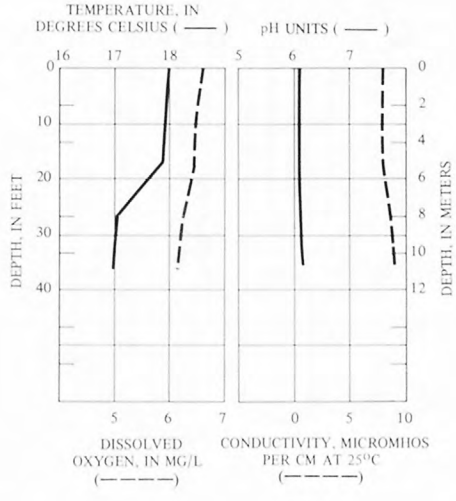
References: 5, 9, 12.

Photograph taken July 12, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME	1030	hours
CLOUD COVER	100	percent
ALKALINITY (mg/L as $CaCO_3$)	8	
TOTAL HARDNESS (mg/L as $CaCO_3$)	1	
DISSOLVED SOLIDS (mg/L)	4	
TRANSPARENCY (meters)	10.2	
COLOR (Pt-Co units)	0	
FECAL COLIFORM (colonies/100 ml) Site 2	<1	
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	<1	

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 22, T. 28 S., R. 8 W., about 6 mi (10 km) north of Camas Valley and 11 mi (18 km) west of Winston. Regulated outlet at lat 43°07'26", long 123°38'11". Camas Valley 15-minute quadrangle (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 1.31 mi^2 (3.39 km^2).

SURFACE AREA: 5 acres (20,000 m^2) at full pool.

SURFACE ELEVATION: 1,040 ft (317 m) above mean sea level, from topographic map.

VOLUME: 50 acre-ft (62,000 m^3) at full pool.

INFLOW: Estimated total flow less than 1 ft^3/s (0.03 m^3/s) through two channels on south end of reservoir.

OUTFLOW: Estimated 0.5 ft^3/s (0.01 m^3/s) through channel on north end of reservoir to Tenmile Creek.

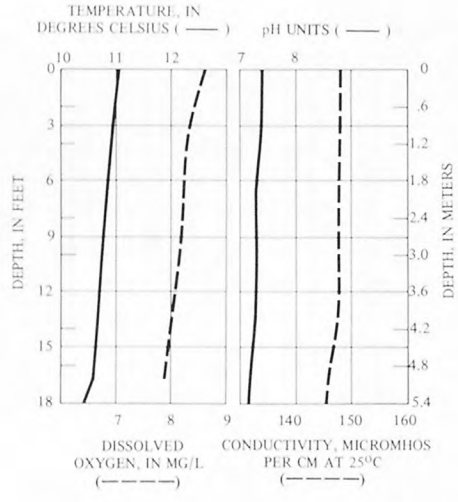
USE: Privately owned.

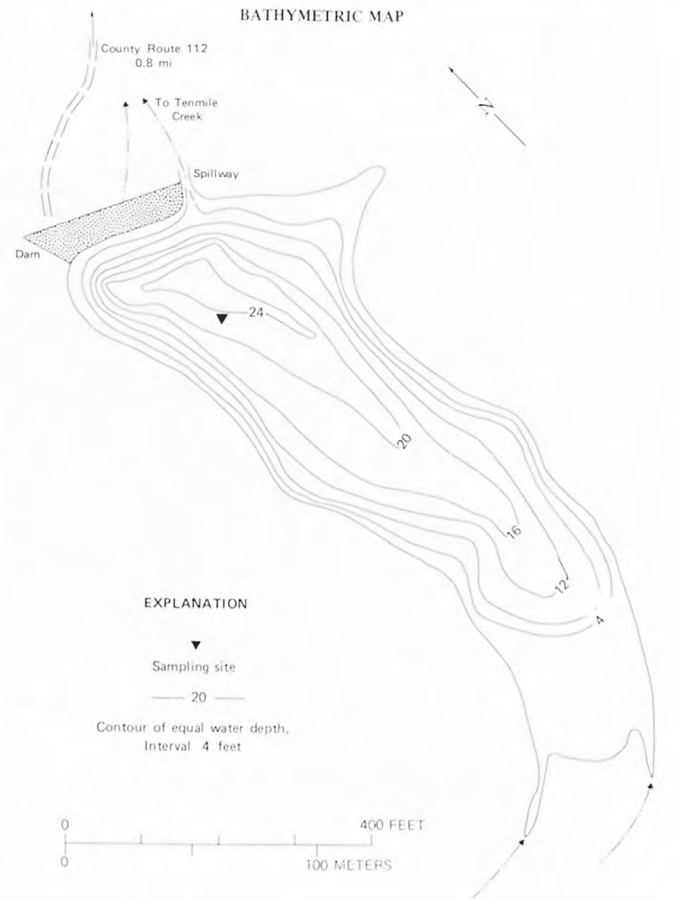
REMARKS: Floating vegetation covered about 5 percent of the surface of the reservoir, and submerged aquatic growth covered about 80 percent of the bottom of the reservoir along the shoal area. Bottom material is primarily mud, and organic detritus.
Water-rights certificate for storage of 43.0 acre-ft (0.053 hm^3) for recreation.
Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.
References: 11, 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1230 hours
CLOUD COVER	25 percent
ALKALINITY (mg/L as $CaCO_3$)	67
TOTAL HARDNESS (mg/L as $CaCO_3$)	64
DISSOLVED SOLIDS (mg/L)	99
TRANSPARENCY (meters)	2.2
COLOR (Pt-Co units)	20
FECAL COLIFORM (colonies/100 ml)	
Outflow	K14
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	K17





LOCATION: Sec. 21, T. 25 S., R. 5½ E., in the Willamette National Forest, about 18 mi (29 km) northeast of Toketee Falls and 22 mi (35 km) north of Crater Lake National Park. Surface-water outlet at lat 43°23'44", long 122°07'49". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 1.11 mi^2 (2.87 km^2).

SURFACE AREA: 11 acres (44,000 m^2).

SURFACE ELEVATION: 5,670 ft (1,730 m) above mean sea level, from topographic map.

VOLUME: 105 acre-ft (130,000 m^3).

INFLOW: No measurable flow through channel on south end of lake.

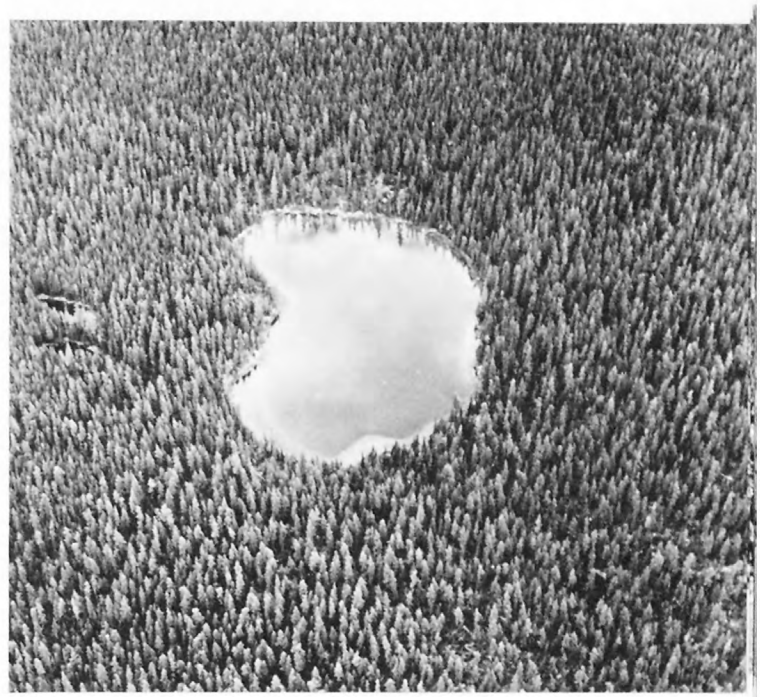
OUTFLOW: No flow observed through channel on north end of lake to Middle Fork Willamette River.

USE: Public recreation. The lake has been annually stocked with fingerling brook trout by the Oregon Department of Fish and Wildlife.

REMARKS: Some emergent grass was observed along the shoreline and submerged aquatic growth covered about 10 percent of the lake bottom. Bottom material is primarily sand, rock and pumice.

Access to lake 2 mi (3.2 km) by Forest Service Trail 3639 from Little Timpanogas Lake.

References: 5, 12.



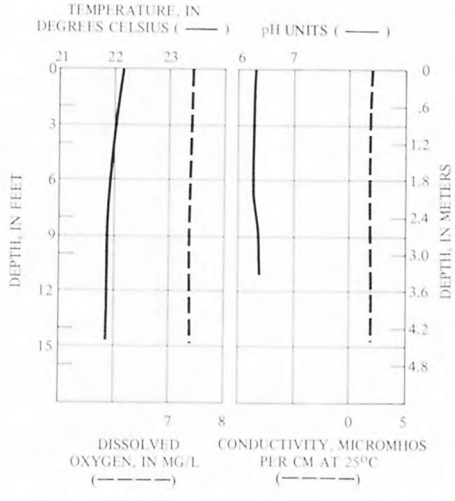
Photograph taken July 12, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1100 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	2
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	4
TRANSPARENCY (meters)	4.9 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml) Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	<1

Site 1



BATHYMETRIC MAP

LOCATION: Secs. 5 and 6, T. 29 S., R. 8 W., about 1.5 mi (2.4 km) west of Camas Mountain State Park and 18 mi (29 km) southwest of Roseburg. Regulated outlet at lat 43°04'17", long 123°41'00". Camas Valley 15-minute quadrangle (not shown on map).

DRAINAGE BASIN: Middle Fork Coquille River (Coquille River).

DRAINAGE AREA: 7.07 mi^2 (18.31 km^2).

SURFACE AREA: 23 acres (93,000 m^2) at full pool.

SURFACE ELEVATION: 1,180 ft (360 m) above mean sea level, from topographic map.

VOLUME: 340 acre-ft (420,000 m^3) at full pool.

INFLOW: Middle Fork Coquille River on north end of reservoir.

OUTFLOW: Middle Fork Coquille River.

USE: Private recreation.

REMARKS: Some emergent grass and submerged aquatic plants were observed along the shoal area. Bottom material is primarily mud.

Water-rights permit for storage of 845 acre-ft (1.04 hm^3) for recreation.

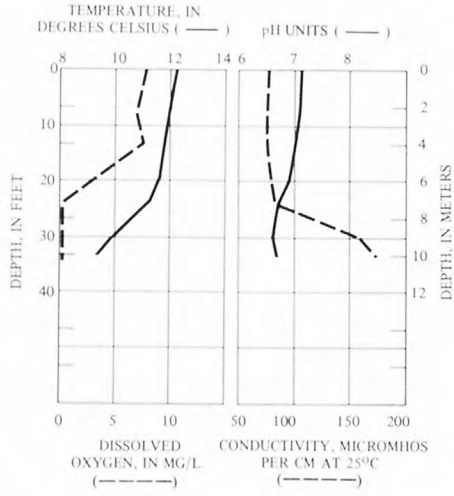
The original construction drawing of the reservoir, which is on file with the Oregon Water Resources Department, does not represent the present bathymetry of the reservoir.

Reference: 11.

Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1545 hours
CLOUD COVER:	10 percent
ALKALINITY (mg/L as $CaCO_3$)	34
TOTAL HARDNESS (mg/L as $CaCO_3$)	28
DISSOLVED SOLIDS (mg/L)	72
TRANSPARENCY (meters)	1.5
COLOR (Pt-Co units)	25
FECAL COLIFORM (colonies/100 ml)	
Outflow	K1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	K5



BATHYMETRIC MAP

LOCATION: Sec. 34, T. 25 S., R. 5½ E., in the Umpqua National Forest about 18 mi (29 km) northeast of Toketee Falls and 20 mi (32 km) north of Crater Lake National Park. Southernmost tip of lake at lat 43°21'29", long 122°06'48". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.16 mi^2 (0.41 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 5,670 ft (1,730 m) above mean sea level, from topographic map.

VOLUME: 19 acre-ft (23,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: Public recreation.

REMARKS: Floating aquatic vegetation covered about 25 percent of the surface of the lake, and some emergent growth was observed along the shoreline. Bottom material is primarily mud and silt with some organic detritus.

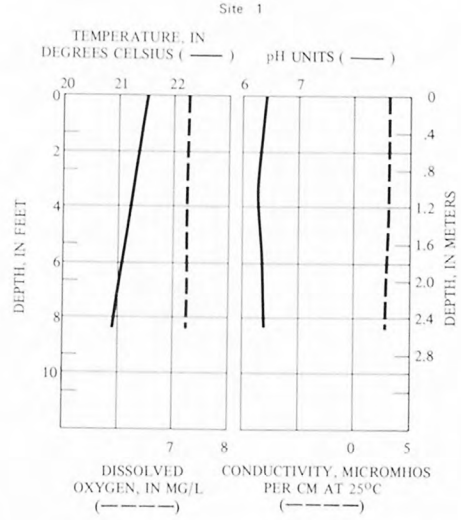
Access to lake 0.2 mi (0.3 km) by trail from primitive road (off Forest Service Road 2165).

References: 9, 12.

Photograph taken July 12, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1130 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	4
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	10
TRANSPARENCY (meters)	3.4 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	<1



LOCATION: Sec. 30, T. 22 S., R. 12 W., about 3.5 mi (5.6 km) north of Lakeside and 3 mi (4.8 km) south of Winchester Bay. Surface-water outlet at lat 43°37'45", long 124°10'40". Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: Tenmile Creek (Pacific Slope drainage).

DRAINAGE AREA: 2.26 mi^2 (5.85 km^2).

SURFACE AREA: 40 acres (160,000 m^2) on survey date.

SURFACE ELEVATION: 200 ft (60 m) above mean sea level, from topographic map.

VOLUME: 1,100 acre-ft (1.4 hm^3) on survey date.

INFLOW: No flow observed through channel on north end of lake from Clear Lake.

OUTFLOW: No flow observed through channel on south end of lake to Teal Lake.

USE: No recreational use. The lake provides a secondary municipal water source for the Reedsport area.

REMARKS: Some cattails were observed near the outlet, and submerged aquatic growth covered about 80 percent of the lake bottom. Numerous fallen trees were observed in the lake. Bottom material along the shoal area is primarily sand and organic detritus.

Water-rights permit for storage of 300 acre-ft (0.37 hm^3) for municipal water supply.

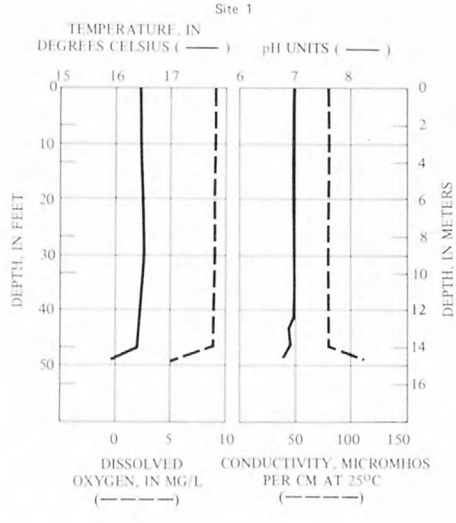
References: 9, 11, 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1000 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	15
TOTAL HARDNESS (mg/L as $CaCO_3$)	13
DISSOLVED SOLIDS (mg/L)	48
TRANSPARENCY (meters)	7.1
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 1	K1
Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	<1



BATHYMETRIC MAP

LOCATION: Sec. 17, T. 27 S., R. 1 E., in the Umpqua National Forest about 9 mi (14 km) south of Steamboat and 30 mi (48 km) east of Roseburg. Surface-water outlet at lat 43°13'01", long 122°43'26". Quartz Mountain 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.33 mi^2 (0.85 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 3,000 ft (910 m) above mean sea level, from topographic map.

VOLUME: 20 acre-ft (25,000 m^3).

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on east end of lake.

OUTFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through culvert on west end of lake to Hemlock Creek.

USE: Public recreation. The lake was stocked in 1977 and 1978 with fingerling rainbow trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground at the lake.

REMARKS: Emergent vegetation covered less than 5 percent of the surface of the lake, and submerged aquatic growth covered the lake bottom. Bottom material is primarily soft mud.

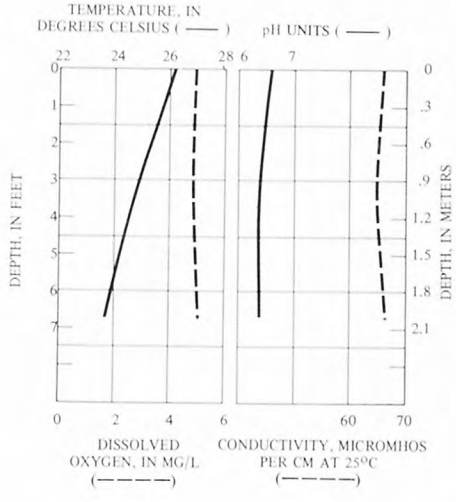
The water color was a rusty brown on the survey date.
Access to lake by Forest Service Road 272 from County Route 17.
References: 5, 9, 12.

Photograph taken July 13, 1978.

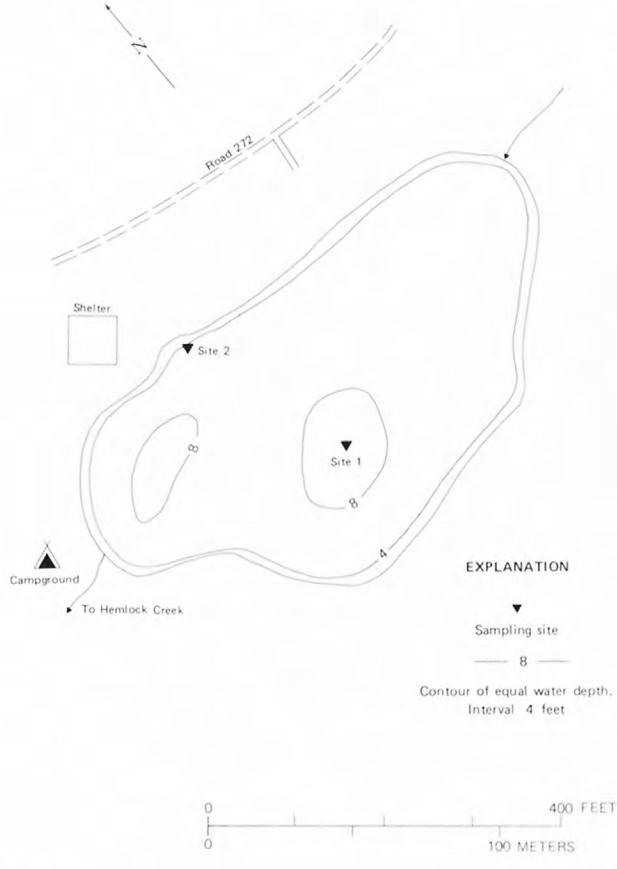
WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1500 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	39
TOTAL HARDNESS (mg/L as $CaCO_3$)	33
DISSOLVED SOLIDS (mg/L)	54
TRANSPARENCY (meters)	2.4 (bottom)
COLOR (Pt-Co units)	50
FECAL COLIFORM (colonies/100 ml)	
Site 2	270
Outflow	K1

Site 1



BATHYMETRIC MAP



LOCATION: Sec. 4, T. 27 S., R. 6½ E., in the Umpqua National Forest about 22 mi (35 km) east of Toketee Falls and 13 mi (21 km) north of Crater Lake National Park. Southernmost tip of lake at lat 43°15'14", long 122°00'53". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.92 mi² (2.38 km²).

SURFACE AREA: 9 acres (36,000 m²).

SURFACE ELEVATION: 5,950 ft (1,810 m) above mean sea level, from topographic map.

VOLUME: 70 acre-ft (86,000 m³).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a shelter on the west end of the lake.

REMARKS: No evidence of emergent growth; however, some submerged aquatic growth was observed. Bottom material is primarily sand with some pumice.
Access to lake 4 mi (6.4 km) by Forest Service Trails 8 and 1459 from Forest Service Road 2731 at Miller Lakes Digit Point Campground.
References: 2, 5, 9, 12.

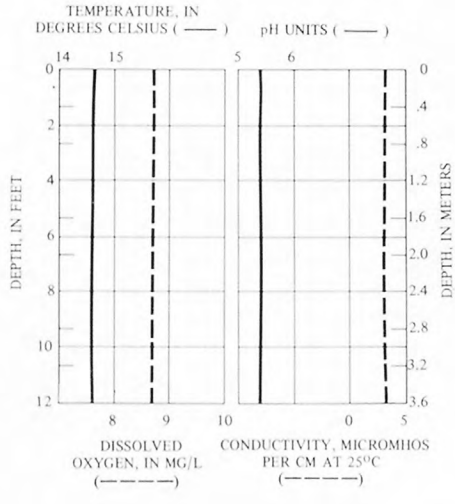
Photograph taken July 12, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1200 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	1
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	1
TRANSPARENCY (meters)	4.9 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml) Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	K15

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 13, T. 22 S., R. 13 W., about 6 mi (10 km) north of Lakeside and 4 mi (6.4 km) southwest of Reedsport. Surface-water outlet at lat 43°39'37", long 124°11'48". Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: (Umpqua River).

DRAINAGE AREA: 0.49 mi^2 (1.27 km^2).

SURFACE AREA: 15 acres (61,000 m^2).

SURFACE ELEVATION: 40 ft (12 m) above mean sea level, from topographic map.

VOLUME: 290 acre-ft (360,000 m^3).

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on south end of lake.

OUTFLOW: No flow observed through channel on north end of lake.

USE: Public recreation. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife. A campground is located on the northeast side of the lake.

REMARKS: Some dead tree limbs were observed in the lake. Bottom material is primarily sand and organic detritus.

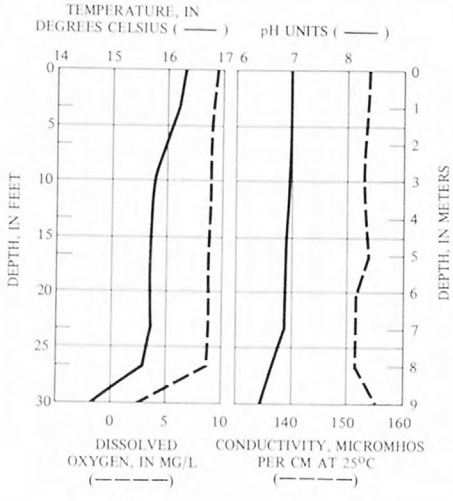
References: 5, 9, 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1515 hours
CLOUD COVER:	25 percent
ALKALINITY (mg/L as $CaCO_3$)	17
TOTAL HARDNESS (mg/L as $CaCO_3$)	38
DISSOLVED SOLIDS (mg/L)	96
TRANSPARENCY (meters)	4.8
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 2	K1
Inflow	K2
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K2
Inflow	K2

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 24, T. 26 S., R. 3 E., in the Umpqua National Forest about 2 mi (3.2 km) northeast of Toketee Falls and 17 mi (27 km) southeast of Steamboat. Regulated surface-water outlet at lat 43°17'26", long 122°24'18". Toketee Falls 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 23 acres (93,000 m^2) at normal pool.

SURFACE ELEVATION: 3,181 ft (970 m) above mean sea level, from topographic map.

VOLUME: 235 acre-ft (290,000 m^3) at normal pool.

INFLOW: No measurable flow observed through channel 1 nor through channel on east end of lake from Lemolo Lake.

OUTFLOW: Through penstock on south side of forebay to generator for power production.

USE: Power generation and recreational use.

REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered about 80 percent of the bottom of the forebay. Bottom material is primarily silt with some gravel observed near the inlet from Lemolo Lake.

The water color was green on the survey date.

Access to lake 5 mi (8 km) by Forest Service Roads 268 and 2640 from North Umpqua Highway (State Route 138).

Storage and diversion rights are licensed under Hydroelectric Project No. 23.

The bathymetric map represents the depth contours on the survey date.

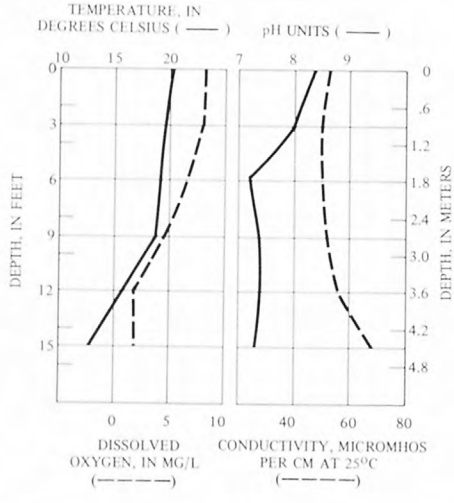
Information on surface area, volume, and the scaled outline of the forebay were furnished by the Pacific Power & Light Co.

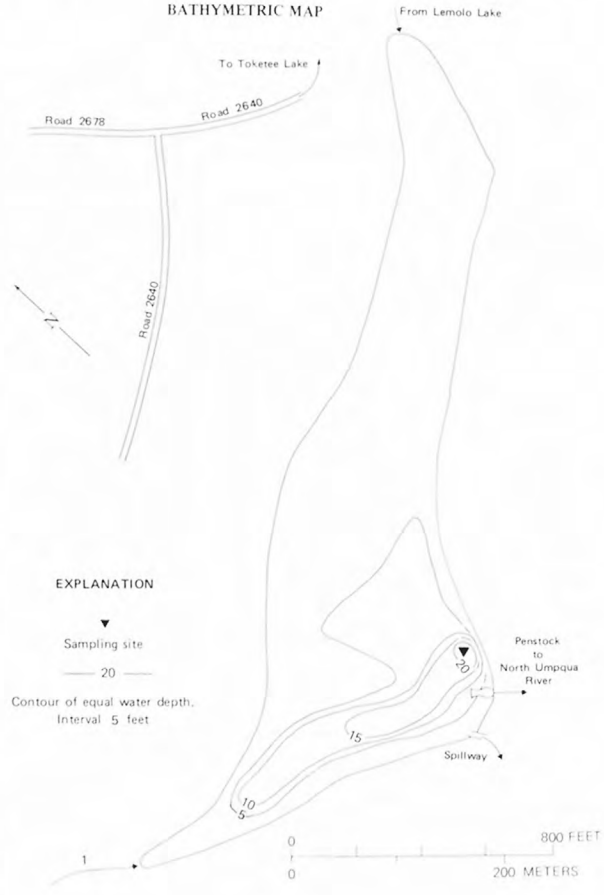
References: 2, 12.

Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1700 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	38
TOTAL HARDNESS (mg/L as $CaCO_3$)	5
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	2.2
COLOR (Pt-Co units)	50
FECAL COLIFORM (colonies/100 ml) Inflow from Lemolo Lake	200
FECAL STREPTOCOCCI (colonies/100 ml) Inflow from Lemolo Lake	300





LOCATION: Secs. 11, 12, 13, 14, and 24, T. 26 S., R. 5 E., sec. 18, T. 26 S., R. 6 E., in the Umpqua National Forest about 13 mi (21 km) east of Toketee Falls and 16 mi (26 km) north of Crater Lake National Park. Regulated outlet at lat 43°19'19", long 122°11'38". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 170 mi^2 (440 km^2).

SURFACE AREA: 420 acres (170 hm^2) at normal pool.

SURFACE ELEVATION: 4, 142 ft (1,260 m) above mean sea level, from topographic map.

VOLUME: 14,000 acre-ft (17 hm^3) at normal pool.

INFLOW: Principal inflows are shown on bathymetric map. Primary inflow from North Umpqua River. Estimated less than 2 ft^3/s (0.06 m^3/s) and 40 ft^3/s (1.1 m^3/s) from Poole Creek and Lake Creek, respectively.

OUTFLOW: North Umpqua River and canal on northwest end of lake.

USE: Power generation and recreational use. Fish species commonly found in the lake are kokanee and brown, brook, and rainbow trout. The U.S. Forest Service maintains three campgrounds at the lake. Privately owned Lemolo Lake Resort is located on the northwest end of the lake.

REMARKS: No evidence of floating or submerged aquatic growth. Bottom material is primarily pumice along the shoal area.

The water color was green on the survey date.

Storage and diversion rights are licensed under Hydroelectric Project No. 23.

The bathymetric map represents the lake at full pool.

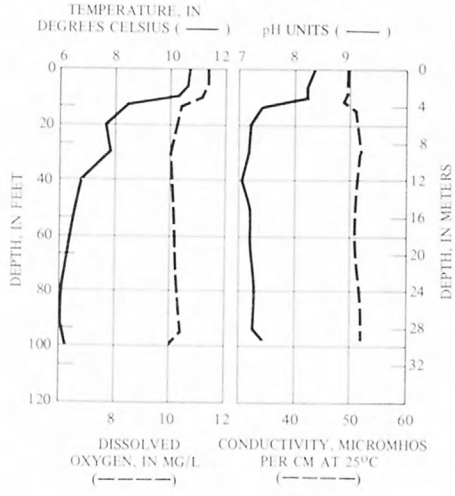
Information on surface area, volume, and bathymetry furnished by Pacific Power & Light Co.

References: 2, 5, 12, 18.

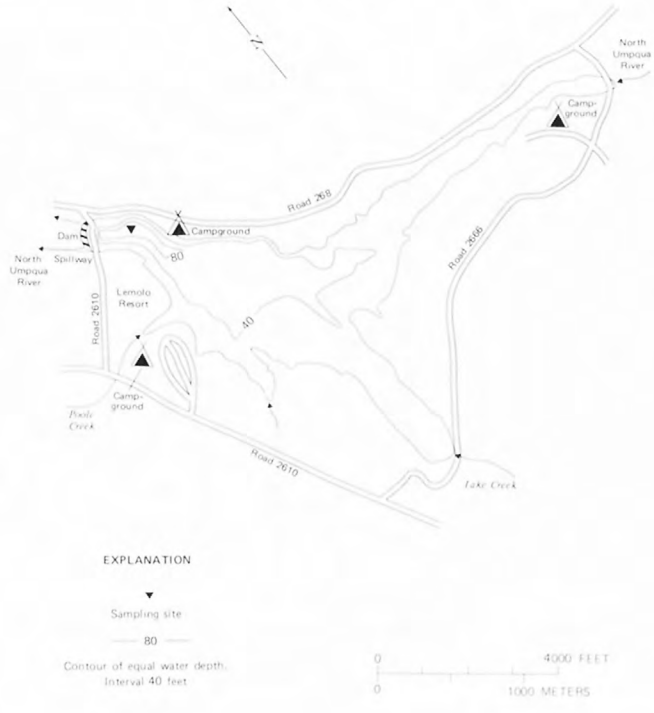
Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1630 hours
CLOUD COVER:	10 percent
ALKALINITY (mg/L as $CaCO_3$)	25
TOTAL HARDNESS (mg/L as $CaCO_3$)	16
DISSOLVED SOLIDS (mg/L)	61
TRANSPARENCY (meters)	1.9
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Poole Creek	K2
Lake Creek	K7
North Umpqua River	<1
Outflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Poole Creek	K3
Lake Creek	>100
North Umpqua River	<1
Outflow	K1



BATHYMETRIC MAP



LOCATION: Sec. 4, T. 22 S., R. 5 W., about 1 mi (1.6 km) southwest of Leona and 1 mi (1.6 km) northeast of Drain. Regulated surface-water outlet at lat 43°41'03", long 123°17'50". Drain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: 1.54 mi^2 (3.99 km^2).

SURFACE AREA: 8 acres (32,000 m^2).

SURFACE ELEVATION: 310 ft (95 m) above mean sea level, from topographic map.

VOLUME: 95 acre-ft (120,000 m^3).

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) from Johnson Creek. No inflow was observed being pumped from Pass Creek.

OUTFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through regulated outlet on north end of pond.

USE: No recreational use, active log pond.

REMARKS: No evidence of floating or submerged aquatic growth. Bottom material is primarily organic detritus.

Water-rights certificate for storage of 120.3 acre-ft (0.148 hm^3), and diversion of 0.30 ft^3/s (0.0085 m^3/s) for fire protection.

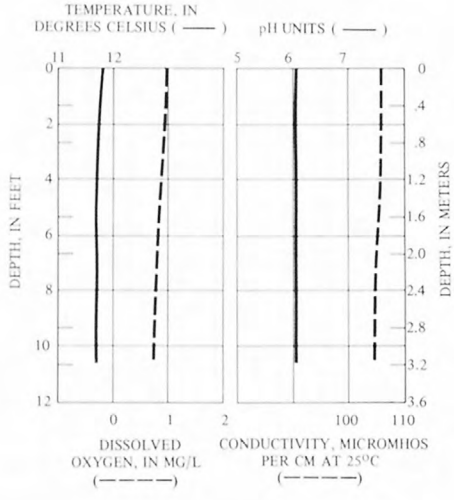
Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

Reference: 11.

Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1000 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	40
TOTAL HARDNESS (mg/L as $CaCO_3$)	31
DISSOLVED SOLIDS (mg/L)	138
TRANSPARENCY (meters)	0.2
COLOR (Pt-Co units)	400
FECAL COLIFORM (colonies/100 ml)	
Sampling site	K7
Outflow	K10
FECAL STREPTOCOCCI (colonies/100 ml)	
Sampling site	1200



LAKE OUTLINE

LOCATION: Secs. 29 and 30, T. 26 S., R. 3 W., about 1 mi (1.6 km) south of Glide and 12 mi (19 km) southeast of Sutherlin. Regulated outlet at lat 43°16'59", long 123°05'18". Glide 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Little River (Umpqua River).

DRAINAGE AREA: 0.16 mi^2 (0.41 km^2).

SURFACE AREA: 50 acres (200,000 m^2).

SURFACE ELEVATION: 739 ft (225 m) above mean sea level, from topographic map.

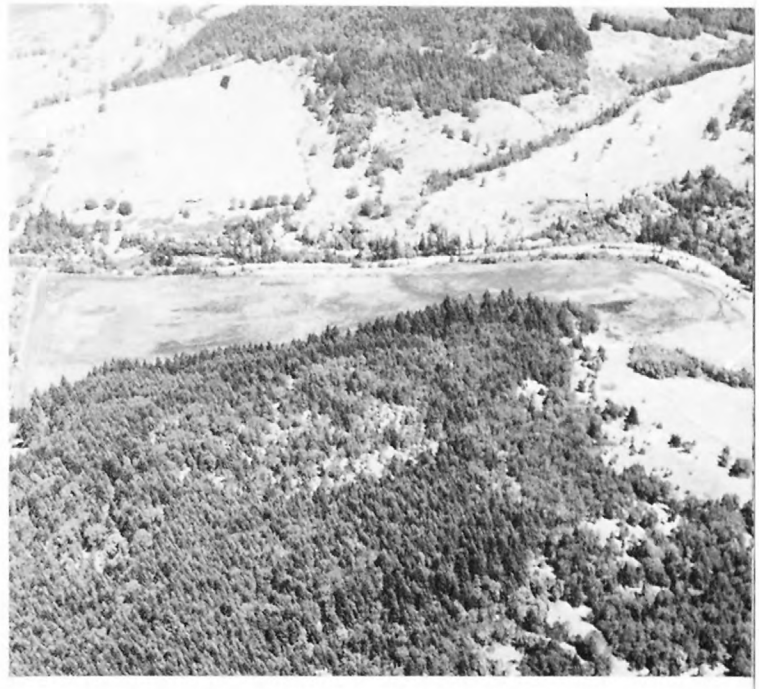
VOLUME: 335 acre-ft (410,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Through regulated outlet on northwest corner of pond.

USE: No recreational use, formerly a log pond.

REMARKS: No evidence of emergent growth; however, some submerged aquatic growth was observed near the shore. Bottom material is primarily organic detritus.
The water color was brown on the survey date.
Water-rights certificate for storage of 253 acre-ft (0.312 m^3) for industrial use.
The bathymetric data were furnished by the Oregon Water Resources Department.
References: 11, 12.

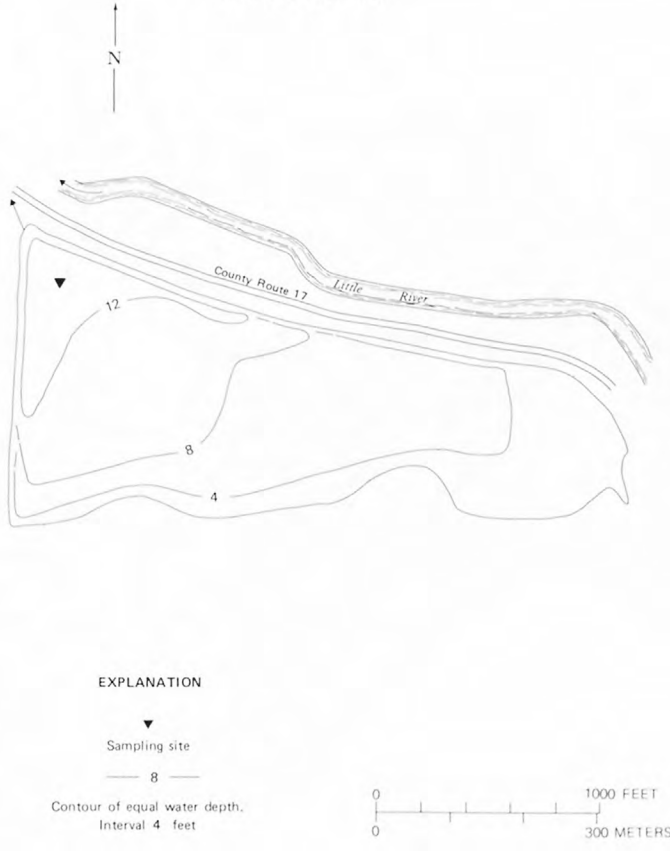


Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1340 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	21
TOTAL HARDNESS (mg/L as $CaCO_3$)	24
DISSOLVED SOLIDS (mg/L)	54
TRANSPARENCY (meters)	1.4
COLOR (Pt-Co units)	35
FECAL COLIFORM (colonies/100 ml)	K14

BATHYMETRIC MAP



LOCATION: Sec. 15, T. 25 S., R. 5½ E., in the Willamette National Forest about 19 mi (31 km) northeast of Toketee Falls and 23 mi (37 km) north of Crater Lake National Park. Surface-water outlet at lat 43°24'39", long 122°07'09". Summit Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 4.51 mi^2 (11.68 km^2).

SURFACE AREA: 7 acres (28,000 m^2).

SURFACE ELEVATION: 5,270 ft (1,610 m) above mean sea level, from topographic map.

VOLUME: 85 acre-ft (100,000 m^3).

INFLOW: No measurable flow through channel 1 from Timpanogas Lake nor through channel 2.

OUTFLOW: No measurable flow to Middle Fork Willamette River on northwest corner of lake.

USE: Public recreation. The lake has been stocked annually with fingerling brook trout and periodically stocked with rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Emergent grass covered less than 5 percent of the surface of the lake, and submerged aquatic growth covered 50 percent of the bottom of the lake. Bottom material is primarily silt.

Access to lake by Forest Service Road 250 (off Forest Service Road 244).

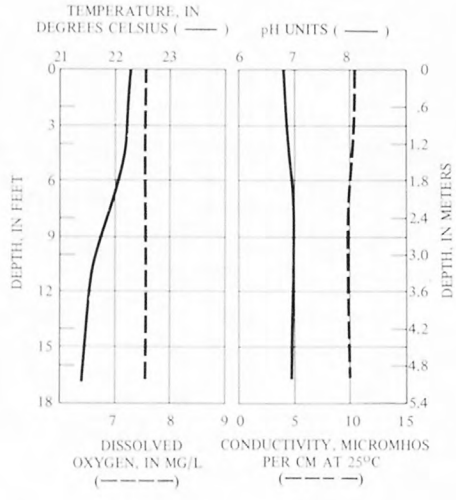
Reference: 9.

Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1400 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	11
TOTAL HARDNESS (mg/L as $CaCO_3$)	2
DISSOLVED SOLIDS (mg/L)	13
TRANSPARENCY (meters)	6.7 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Inflow 1	K2
Outflow	K1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	<1

BATHYMETRIC MAP



LOCATION: Secs. 1, 2, 11, and 12, T. 23 S., R. 10 W., about 5 mi (8 km) south of Scottsburg and 14 mi (23 km) southeast of Reedsport. Surface-water outlet at lat 43°35'45", long 123°50'38". Scottsburg 15-minute quadrangle map.

DRAINAGE BASIN: Mill Creek (Umpqua River).

DRAINAGE AREA: 89.3 mi^2 (231 km^2).

SURFACE AREA: 270 acres (110 hm^2).

SURFACE ELEVATION: 420 ft (130 m) above mean sea level, from topographic map.

VOLUME: 16,000 acre-ft (20 hm^3).

INFLOW: Principle inflows are shown on bathymetric map.

OUTFLOW: Through Mill Creek on north end of lake.

USE: Public recreation. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife. The U.S. Bureau of Land Management maintains a campground on the north end of the lake.

REMARKS: Some emergent growth was observed along the shoreline, and submerged aquatic plants covered about 90 percent of the shoal area.

The water color was green on the survey date.

Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

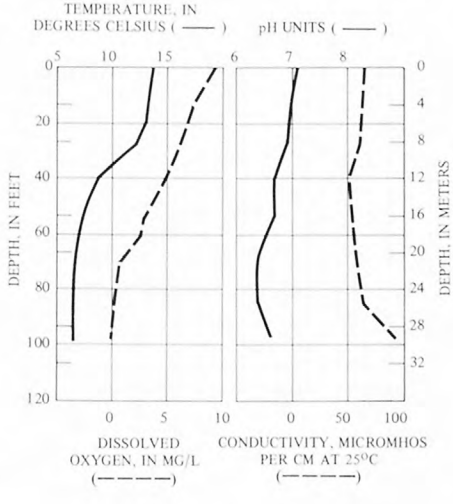
References: 5, 9, 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME	1240 hours
CLOUD COVER	100 percent
ALKALINITY (mg/L as $CaCO_3$)	17
TOTAL HARDNESS (mg/L as $CaCO_3$)	16
DISSOLVED SOLIDS (mg/L)	51
TRANSPARENCY (meters)	4.0
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	
Site 2	70
Outflow	K3
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	200

Site 1



BATHYMETRIC MAP

LOCATION: Secs. 16 and 17, T. 20 S., R. 12 W., about 10 mi (16 km) south of Florence and 9 mi (14 km) north of Reedsport. Southernmost tip of lake at lat 43°49'53", long 124°08'51". Siltcoos Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Pacific Slope drainage.

DRAINAGE AREA: 0.17 mi^2 (0.44 km^2).

SURFACE AREA: 6 acres (24,000 m^2).

SURFACE ELEVATION: 120 ft (36 m) above mean sea level, from topographic map.

VOLUME: 70 acre-ft (86,000 m^3).

INFLOW: No measurable flow observed through two channels on east end of lake.

OUTFLOW: No surface channel observed and none indicated on topographic map.

USE: Public recreation. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife. Crown Zellerbach maintains a campground on the north side of the lake.

REMARKS: No evidence of submerged aquatic vegetation; however, some emergent grass and floating pond lilies were observed along the shoreline. Some emergent snags were observed throughout the lake. Bottom material is primarily sand.

Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

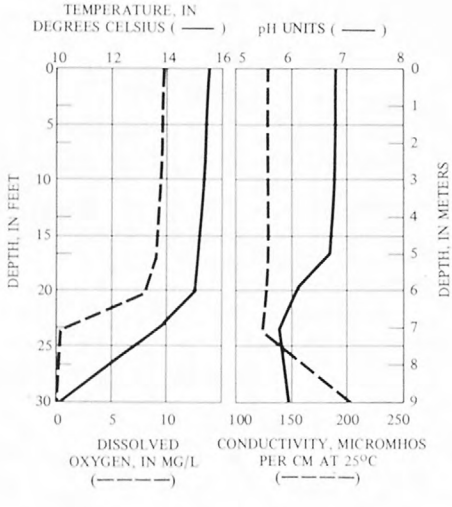
References: 5, 12.

Photograph taken June 27, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	0930 hours
CLOUD COVER:	70 percent
ALKALINITY (mg/L as $CaCO_3$)	13
TOTAL HARDNESS (mg/L as $CaCO_3$)	20
DISSOLVED SOLIDS (mg/L)	78
TRANSPARENCY (meters)	5.5
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml) Site 2	K7
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	K8

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 34, T. 26 S., R. 6½ E., and sec. 3, T. 27 S., R. 6½ E., in the Umpqua National Forest about 23 mi (37 km) east of Toketee Falls and 13 mi (21 km) north of Crater Lake National Park. Surface-water outlet at lat 43°15′25″, long 121°59′59″. Burn Butte 7½-minute quadrangle map and Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 1.09 mi^2 (2.82 km^2).

SURFACE AREA: 20 acres (81,000 m^2).

SURFACE ELEVATION: 5,980 ft (1,820 m) above mean sea level, from topographic map.

VOLUME: 140 acre-ft (170,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Estimated less than 1 ft^3/s (0.03 m^3/s) through channel on north end of lake to North Umpqua River.

USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a shelter on the south end of the lake.

REMARKS: Emergent grass covered about 5 percent of the surface of the lake, and submerged aquatic growth covered about 2 percent of the lake bottom. Bottom material is primarily sand with some small rock and pumice.

Access to lake 3 mi (4.8 km) by Forest Service Trails 8 and 1446 from Miller Lakes Digit Point Campground (off Forest Service Road 2731).

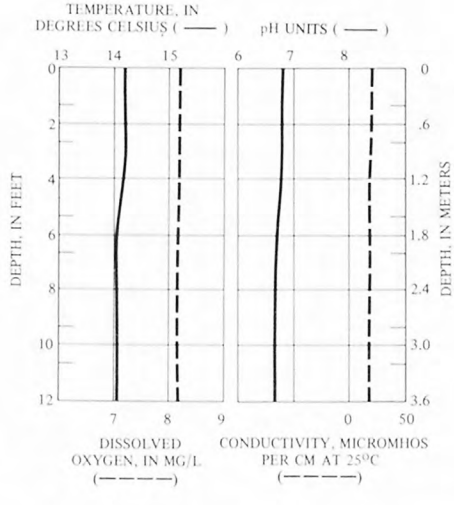
References: 2, 5, 9, 12.

Photograph taken July 12, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1430
CLOUD COVER:	100
ALKALINITY (mg/L as $CaCO_3$)	10
TOTAL HARDNESS (mg/L as $CaCO_3$)	5
DISSOLVED SOLIDS (mg/L)	40
TRANSPARENCY (meters)	3.7 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Site 2	K1
Outflow	K1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	K180

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 24, T. 26 S., R. 6 W., about 6 mi (10 km) south of Sutherlin and 4.5 mi (7.2 km) north of Roseburg. Regulated outlet at lat 43°17'51", long 123° 21'20". Sutherlin 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.30 mi^2 (0.78 km^2).

SURFACE AREA: 55 acres (220,000 m^2).

SURFACE ELEVATION: 500 ft (150 m) above mean sea level, from topographic map.

VOLUME: 260 acre-ft (320,000 m^3) on the survey date.

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Overflow pipe located in west section of pond. Some additional outflow is pumped to adjacent pond on west side Mar-Linn pond for fire protection.

USE: No recreational use, formerly a log pond.

REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered more than 70 percent of the bottom of the pond. Bottom material is primarily mud and organic detritus.

The water color was brown on the survey date.

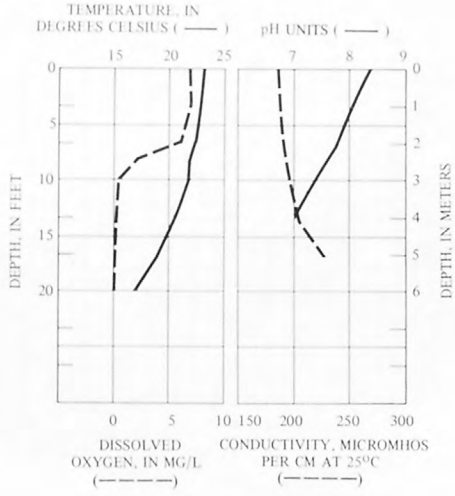
Water-rights certificate for storage of 448 acre-ft (0.55 hm^3) for industrial use.

References: 11, 12.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1000 hours
CLOUD COVER	30 percent
ALKALINITY (mg/L as $CaCO_3$)	105
TOTAL HARDNESS (mg/L as $CaCO_3$)	110
DISSOLVED SOLIDS (mg/L)	158
TRANSPARENCY (meters)	1.3
COLOR (Pt-Co units)	50
FECAL COLIFORM (colonies/100 ml)	<1



BATHYMETRIC MAP

LOCATION: Secs. 8 and 9, T. 25 S., R. 5 W., 0.1 mi (0.2 km) south of Oakland. Surface-water outlet at lat 43°24'53", long 123°18'35". Sutherlin 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Calapooya Creek (Umpqua River).

DRAINAGE AREA: 0.32 mi^2 (0.83 km^2).

SURFACE AREA: 17 acres (69,000 m^2).

SURFACE ELEVATION: 440 ft (130 m) above mean sea level, from topographic map.

VOLUME: Not determined.

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Through regulated outlet on south end of pond.

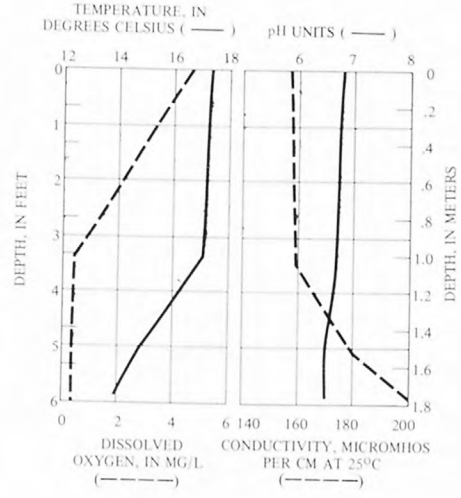
USE: No recreational use, formerly a log pond.

REMARKS: Emergent growth covered over 80 percent of the surface of the pond. Bottom material is primarily mud covered with organic detritus. The water color was a reddish-brown on the survey date. Reference: 12.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1300 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	78
TOTAL HARDNESS (mg/L as $CaCO_3$)	72
DISSOLVED SOLIDS (mg/L)	188
TRANSPARENCY (meters)	0.6
COLOR (Pt-Co units)	400
FECAL COLIFORM (colonies/100 ml)	K1



LAKE OUTLINE

LOCATION: Sec. 28, T. 22 S., R. 5 W., about 2.0 mi (3.2 km) north of Yoncalla and 2.0 mi (3.2 km) south of Drain. Regulated outlet at lat 43°38'02", long 123°17'39". Drain 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Yoncalla Creek (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 17 acres (69,000 m^2).

SURFACE ELEVATION: 330 ft (100 m) above mean sea level, from topographic map.

VOLUME: 90 acre-ft (110,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Through regulated outlet on east end of pond.

USE: No recreational use, active log pond.

REMARKS: Some emergent grass and submerged aquatic growth were observed near the shoreline. Bottom material is primarily mud covered with organic detritus.

Water-rights certificate for storage of 96 acre-ft (0.12 hm^3), and diversion of 0.1 ft^3/s (0.003 m^3/s) for manufacturing use.

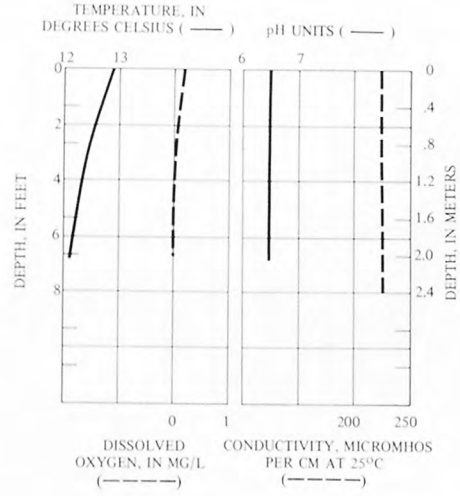
References: 11, 12.

Photograph taken July 13, 1978.

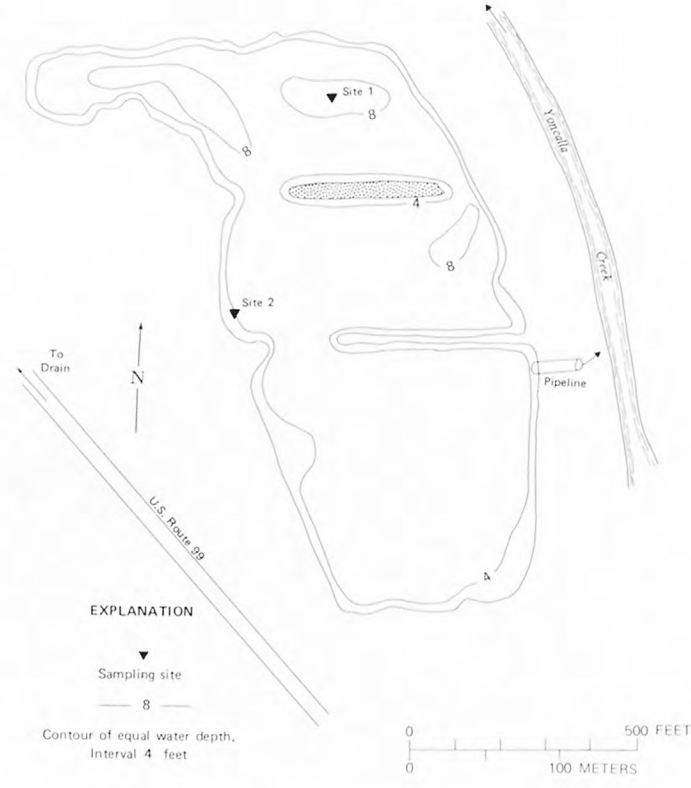
WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1600 hours
CLOUD COVER:	20 percent
ALKALINITY (mg/L as $CaCO_3$)	74
TOTAL HARDNESS (mg/L as $CaCO_3$)	50
DISSOLVED SOLIDS (mg/L)	243
TRANSPARENCY (meters)	0.1
COLOR (Pt-Co units)	>500
FECAL COLIFORM (colonies/100 ml)	
Site 2	270
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K180

Site 1



BATHYMETRIC MAP



LOCATION: Sec. 15, T. 27 S., R. 5 W., about 2.0 mi (3.2 km) west of Dixonville and 3 mi (4.8 km) east of Roseburg. Southernmost tip of pond located at lat 43°13'01", long 123°16'14". Roseburg 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.11 mi^2 (0.28 km^2).

SURFACE AREA: 15 acres (61,000 m^2).

SURFACE ELEVATION: 540 ft (160 m) above mean sea level, from topographic map.

VOLUME: Not determined.

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Through overflow and regulated drain on south side of pond.

USE: No recreational use, active log pond.

REMARKS: No evidence of submerged aquatic growth; however, some emergent grass was observed along the shoreline. Bottom material is primarily organic detritus.

Foam and an oil film were observed on the surface of the pond. A dead sheep was observed floating near the sampling site.

Water-rights certificate for storage of 108.8 acre-ft (0.134 hm^3), and diversion of 0.25 ft^3/s (0.0071 m^3/s) for industrial use.

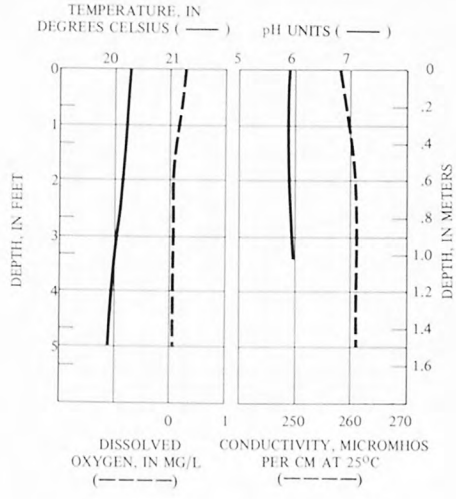
References: 11, 12.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	0930	hours
CLOUD COVER:	0	percent
ALKALINITY (mg/L as $CaCO_3$)	89	
TOTAL HARDNESS (mg/L as $CaCO_3$)	54	
DISSOLVED SOLIDS (mg/L)	284	
TRANSPARENCY (meters)	0.15	
COLOR (Pt-Co units)	500	
FECAL COLIFORM (colonies/100 ml)	>240	

LAKE OUTLINE



LOCATION: Secs. 32, 33, and 34, T. 22 S., R. 12 W., secs. 3, 4, 5, 8, 9, 10, 16, and 17, T. 23 S., R. 12 W., about 0.5 mi (0.8 km) east of Lakeside and 6 mi (10 km) south of Reedsport. Surface-water outlet at lat 43°34'39", long 124°09'38". Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: Tenmile Creek (Pacific Slope drainage).

DRAINAGE AREA: 28.8 mi² (74.6 km²).

SURFACE AREA: 1,000 acres (400 hm²).

SURFACE ELEVATION: 9 ft (3 m) above mean sea level, from topographic map.

VOLUME: 13,000 acre-ft (16 hm³).

INFLOW: Principal channels are shown on the bathymetric map.

OUTFLOW: Through channel on south end of lake to Tenmile Lake.

USE: Public recreation. The lake has been stocked annually with yearling rainbow and cutthroat trout by the Oregon Department of Fish and Wildlife.

REMARKS: Some emergent grass and submerged aquatic growth were observed along the shoreline. Bottom material is primarily mud.

The water color was green, and an algal bloom was observed on the survey date.

Water-rights certificates issued for diversion 0.03 ft³/s (0.0008 m³/s) for domestic use and 0.016 ft³/s (0.0005 m³/s) for irrigation.

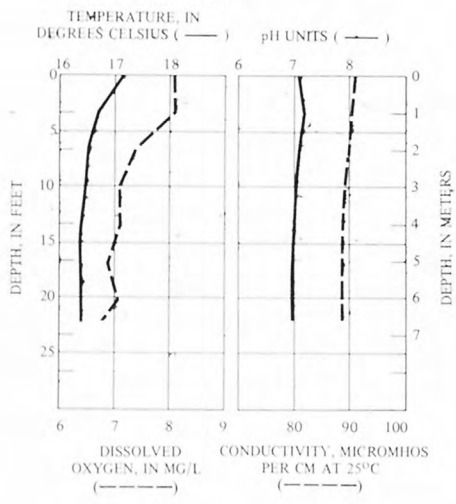
Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

References: 5, 9, 10, 12.

WATER-QUALITY DATA
Site 1

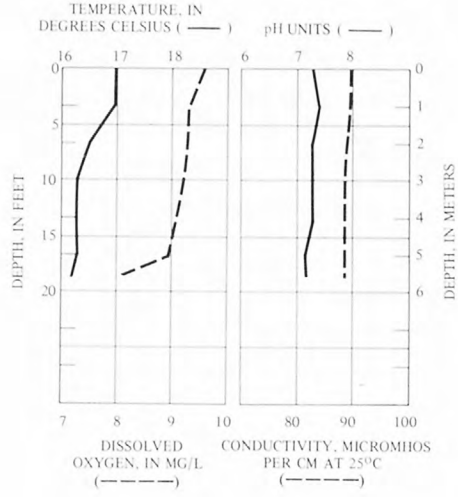
SAMPLING TIME:	1230 hours
CLOUD COVER:	25 percent
ALKALINITY (mg/L as $CaCO_3$)	32
TOTAL HARDNESS (mg/L as $CaCO_3$)	26
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	1.4
COLOR (Pt-Co units)	20
FECAL COLIFORM (colonies/100 ml) Site 3	K9
FECAL STREPTOCOCCI (colonies/100 ml) Site 3	K2

Site 1

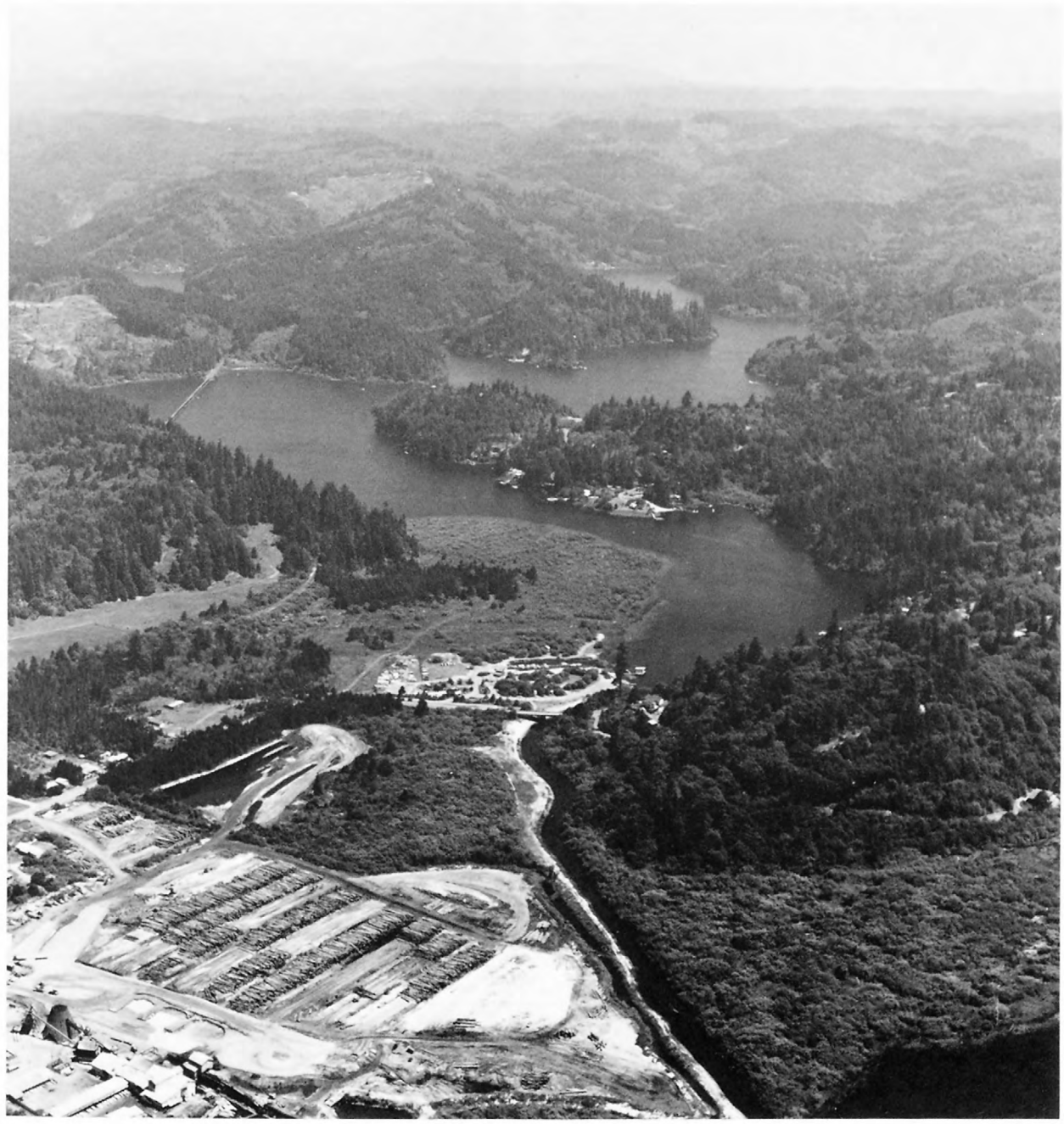


WATER-QUALITY DATA
Site 2

SAMPLING TIME:	1300 hours
CLOUD COVER:	<5 percent



BATHYMETRIC MAP



Photograph taken June 27, 1978

LOCATION: Sec. 9, T. 25 S., R. 5½ E., in the Willamette National Forest, about 19 mi (31 km) northeast of Toketee Falls and 24 mi (39 km) north of Crater Lake National Park. Surface-water outlet at lat 43°25'09", long 122°07'14". Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 0.65 mi^2 (1.68 km^2).

SURFACE AREA: 12 acres (49,000 m^2).

SURFACE ELEVATION: 5,340 ft (1,630 m) above mean sea level, from topographic map.

VOLUME: 200 acre-ft (250,000 m^3)

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Estimated less than 0.1 ft^3/s (0.003 m^3/s) through channel on south end of lake to Middle Fork Willamette River.

USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife.

REMARKS: Submerged aquatic growth covered less than 5 percent of the lake bottom, and some emergent grass was observed along the shoreline. Bottom material is primarily silt and pumice.

Access to the lake within 0.2 mi (0.3 km) from either Forest Service Road 250 or 244. There are no maintained trails to the lake.

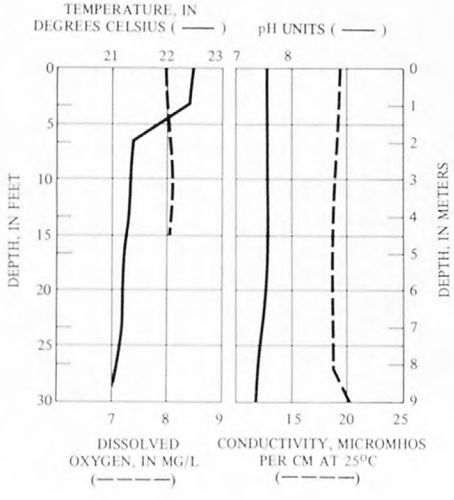
References: 9, 12.

Photograph taken July 12, 1978.

WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1300 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	10
TOTAL HARDNESS (mg/L as $CaCO_3$)	6
DISSOLVED SOLIDS (mg/L)	20
TRANSPARENCY (meters)	9.3 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Site 2	K66
Outflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	36

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 14, T. 25 S., R. 5½ E., in the Willamette National Forest about 20 mi (32 km) northeast of Toketee Falls and 23 mi (37 km) north of Crater Lake National Park. Surface-water outlet at lat 43°24'08", long 122°05'44". Summit Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 0.10 mi^2 0.26 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 5,860 ft (1,800 m) above mean sea level, from topographic map.

VOLUME: 19 acre-ft (23,000 m^3).

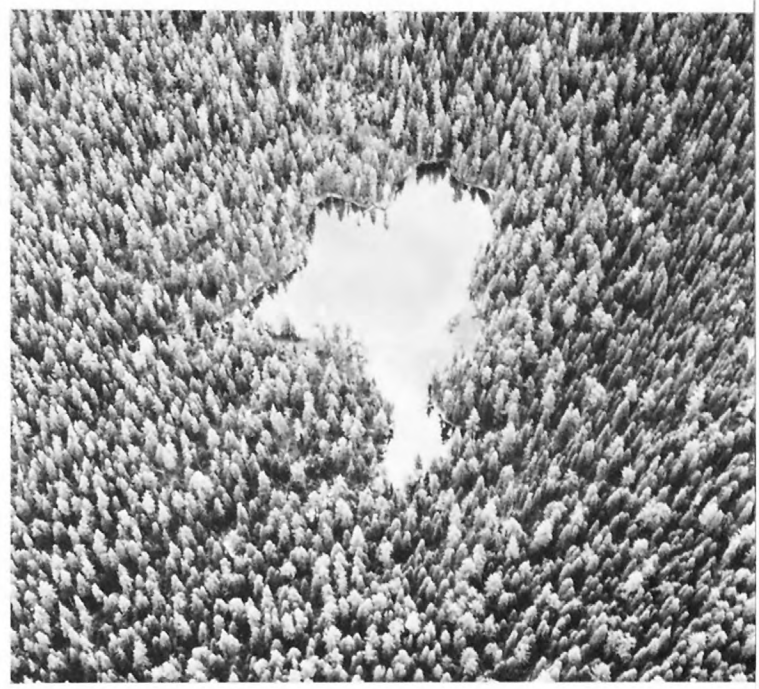
INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed in channel on northwest side of lake. Outflow not indicated on topographic map.

USE: Public recreation.

REMARKS: Emergent grass and submerged aquatic growth were observed along the perimeter of the lake. Bottom material is primarily silt and pumice.

There are no maintained trails to the lake. The lake is south of Forest Service Trail 3643 from Forest Service Road 250.



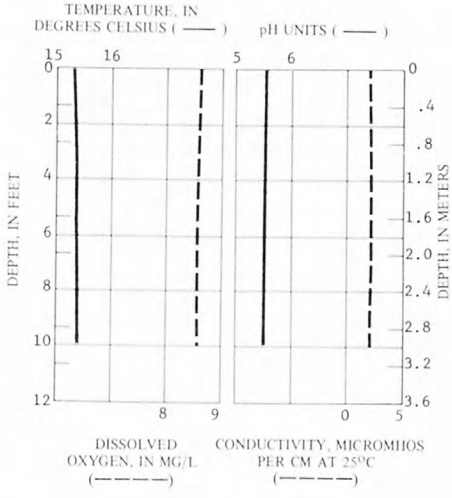
Photograph taken July 12, 1978.

WATER-QUALITY DATA
Site 1

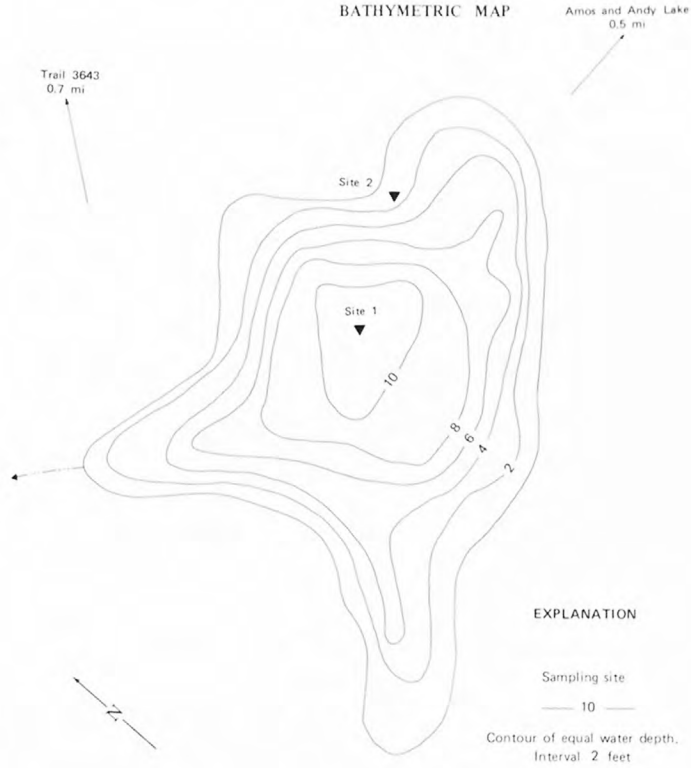
SAMPLING TIME: 1200 hours
CLOUD COVER: 100 percent

ALKALINITY (mg/L as $CaCO_3$)	1
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	3
TRANSPARENCY (meters)	3.0 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 mL)	
Site 2	<1
FECAL STREPTOCOCCI (colonies/100 mL)	
Site 2	<1

Site 1



BATHYMETRIC MAP



LOCATION: Secs. 17 and 20, T. 20 S., R. 12 W., in the Siuslaw National Forest about 10 mi (16 km) south of Florence and 8 mi (13 km) north of Reedsport. Surface-water outlet at lat 43°49'38", long 124°08'55". Siltcoos Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Pacific Slope drainage.

DRAINAGE AREA: 0.24 mi^2 (0.62 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 120 ft (36 m) above mean sea level, from topographic map.

VOLUME: 85 acre-ft (100,000 m^3).

INFLOW: Through submerged culvert on south end of lake. Inflow not indicated on topographic map.

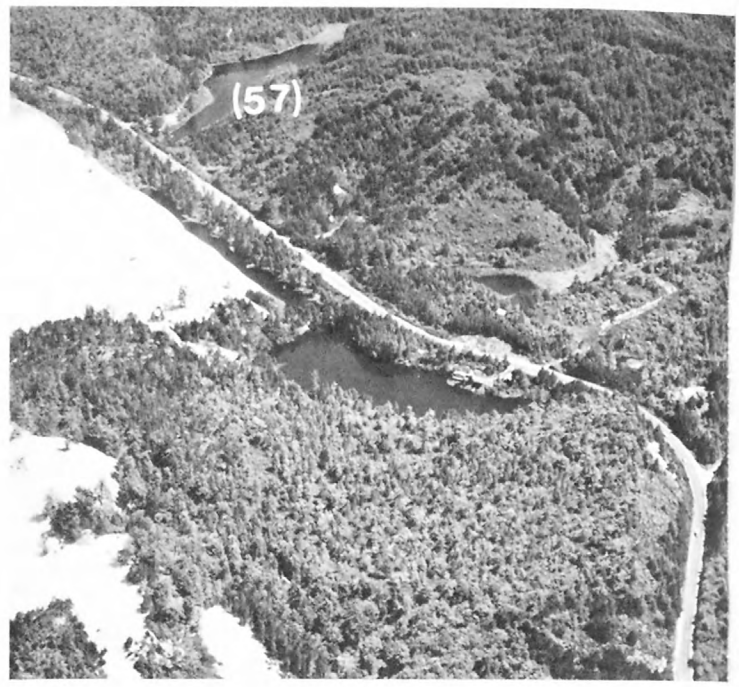
OUTFLOW: No flow observed through channel on northwest corner of lake.

USE: Public recreation. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered 100 percent of the shoal area. Bottom material is primarily sand.

Information on surface area furnished by the Oregon State Fish and Wildlife Commission.

Reference: 5.



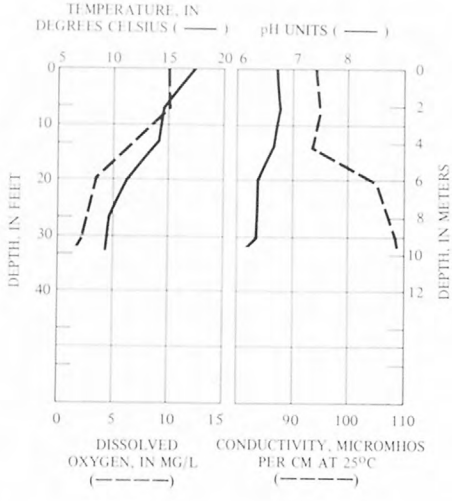
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1730 hours
CLOUD COVER:	<5 percent
ALKALINITY (mg/L as $CaCO_3$)	11
TOTAL HARDNESS (mg/L as $CaCO_3$)	16
DISSOLVED SOLIDS (mg/L)	66
TRANSPARENCY (meters)	3.4
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	
Site 2	<1

Site 1



BATHYMETRIC MAP

LOCATION: Secs. 13, 14, and 23, T. 25 S., R. 5 W., about 1.5 mi (2.4 km) east of Sutherlin and 9 mi (14 km) northeast of Winchester. Regulated surface-water outlet at lat 43°23′35″, long 123°15′10″. Sutherlin and Glide 15-minute quadrangle maps (not shown on maps).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 8.99 mi^2 (23.28 km^2).

SURFACE AREA: 150 acres (610,000 m^2) at normal pool.

SURFACE ELEVATION: 590 ft (180 m) above mean sea level, from topographic map.

VOLUME: 800 acre-ft (990,000 m^3) at normal pool.

INFLOW: No flow observed through principal channels shown on bathymetric map.

OUTFLOW: No flow observed through regulated outlet on northwest corner of reservoir.

USE: Public resreation. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Cattails, emergent grass and floating aquatic vegetation covered about 40 percent of the surface of the reservoir, and submerged aquatic growth covered more than 90 percent of the bottom. Bottom material is primarily mud and rock.

Water-rights permit for storage of 880 acre-ft (1.08 hm^3), and diversion of 8.50 ft^3/s (0.24 m^3/s) for irrigation.

The bathymetric map represents the reservoir at 0.6 ft below normal water surface.

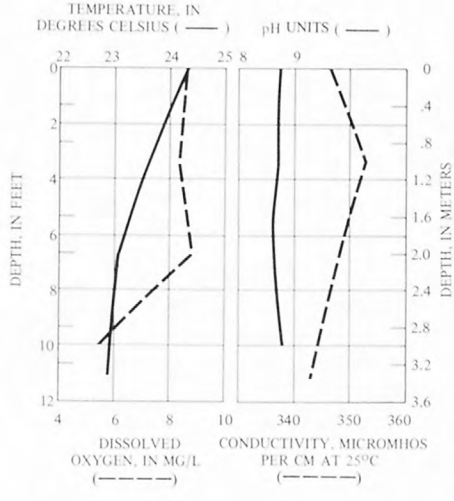
Information on surface area, volume, and bathymetry furnished by the U.S. Department of Agriculture, Soil Conservation Service.

References: 5, 11, 12.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1200 hours
CLOUD COVER:	10 percent
ALKALINITY (mg/L as $CaCO_3$)	47
TOTAL HARDNESS (mg/L as $CaCO_3$)	88
DISSOLVED SOLIDS (mg/L)	214
TRANSPARENCY (meters)	2.1
COLOR (Pt-Co units)	20
FECAL COLIFORM (colonies/100 ml)	<1



BATHYMETRIC MAP

LOCATION: Sec. 25, T. 26 S., R. 6 W., about 7 mi (11 km) south of Sutherlin and 0.5 mi (0.8 km) west of Winchester. Surface-water outlet at lat 43°17'02", long 123°21'51" Sutherlin 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 19 acres (77,000 m^2).

SURFACE ELEVATION: 420 ft (130 m) above mean sea level, from topographic map.

VOLUME: 360 acre-ft (440,000 m^3).

INFLOW: No channels observed and none indicated on topographic map.

OUTFLOW: No flow observed through channel on north end of pond.

USE: Private recreation.

REMARKS: Floating and submerged aquatic growth was abundant throughout the lake. Bottom material is primarily mud and rock.

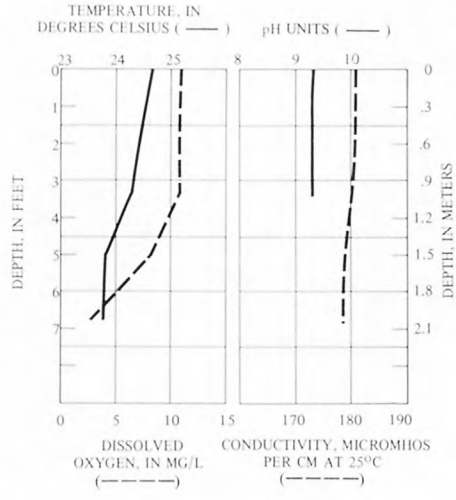
The pond was at an extremely low pool on the survey date. The deepest section of the pond was only 8 ft. The water color was green at the time of sampling.

Information on bathymetry furnished by the Douglas County Water Resources Survey.

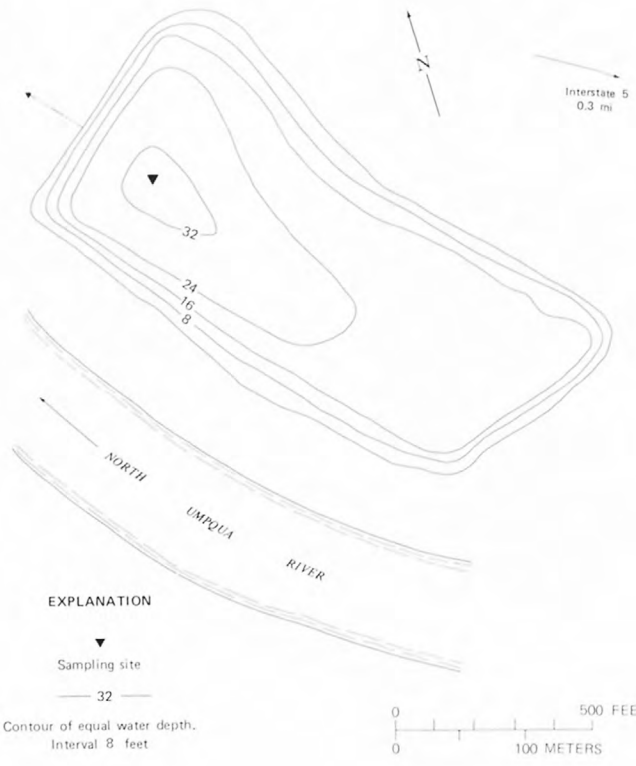
Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1100 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	73
TOTAL HARDNESS (mg/L as $CaCO_3$)	74
DISSOLVED SOLIDS (mg/L)	115
TRANSPARENCY (meters)	0.8
COLOR (Pt-Co units)	60
FECAL COLIFORM (colonies/100 ml)	<1



BATHYMETRIC MAP



LOCATION: Sec. 35, T. 27 S., R. 3 W., about 9 mi (14 km) southeast of Glide and 11 mi (18 km) east of Dixonville. Surface-water outlet at lat 43°10'27", long 123°01'07". Dixonville 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: Little River (Umpqua River).

DRAINAGE AREA: 0.21 mi^2 (0.54 km^2).

SURFACE AREA: 7 acres (28,000 m^2).

SURFACE ELEVATION: 2,100 ft (640 m) above mean sea level, from topographic map.

VOLUME: Not determined.

INFLOW: No flow observed through principal channels shown on bathymetric map.

OUTFLOW: Estimated 0.5 ft^3/s (0.01 m^3/s) observed through channel on north end of lake.

USE: Public recreation.

REMARKS: Emergent snags from fallen dead trees covered about 30 percent of the surface of the lake. Floating and submerged aquatic vegetation was abundant throughout the lake. Bottom material is primarily mud and detritus.

There are no maintained trails to the lake.

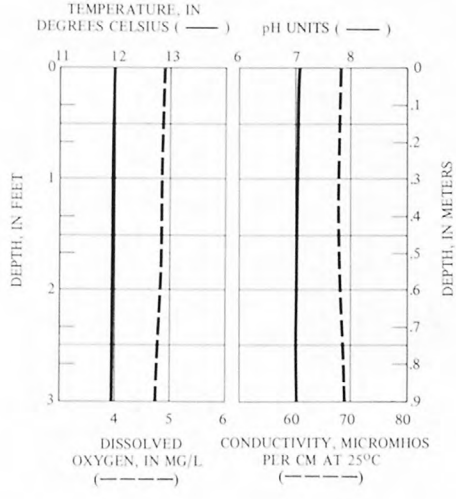
Access to lake 0.2 mi (0.3 km) from unimproved road (off Forest Service Road 2834).

Reference: 12.

Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	0915 hours
CLOUD COVER:	60 percent
ALKALINITY (mg/L as $CaCO_3$)	33
TOTAL HARDNESS (mg/L as $CaCO_3$)	22
DISSOLVED SOLIDS (mg/L)	50
TRANSPARENCY (meters)	1.0 (bottom)
COLOR (Pt-Co units)	50
FECAL COLIFORM (colonies/100 ml)	K9



LOCATION: Secs. 19 and 30, T. 19 S., R. 11 W., secs. 23, 25, 26, 27, 34, 35, and 36, T. 19 S., R. 12 W., secs. 6 and 7, T. 20 S., R. 11 W., secs. 1, 2, 3, 10, 11, and 12 T. 20 S., R. 12 W., at Dunes City, about 5 mi (8 km) south of Florence. Surface-water outlet at lat 43°52'54", long 124°06'45". Siltcoos Lake 15-minute quadrangle map.

DRAINAGE BASIN: Siltcoos River (Pacific Slope drainage).

DRAINAGE AREA: 69.5 mi² (180.0 km²).

SURFACE AREA: 2,500 acres (1,000 hm²)(summer).
4,250 acres (1,700 hm²) (winter).

SURFACE ELEVATION: 40 ft (12 m) above mean sea level, from topographic map.

VOLUME: 37,000 acre-ft (46 km³) (summer).

INFLOW: Principal channels are shown on bathymetric map.

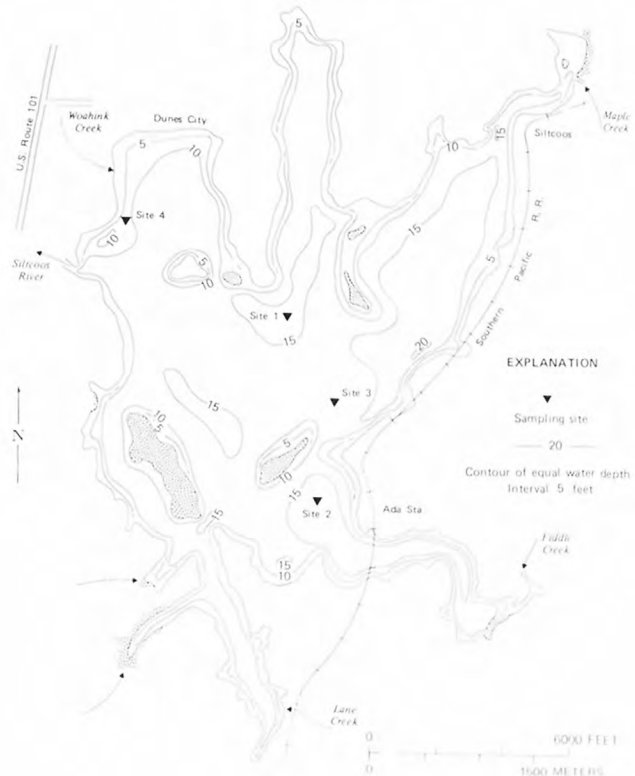
OUTFLOW: Through Siltcoos River on west side of lake to Pacific Ocean.

USE: Public recreation.. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Emergent and submerged aquatic growth were observed along the shoreline. Bottom material along the shoal area is primarily mud.
Numerous ducks were observed on the lake on the survey date.
Bathymetric map represents lake with a surface area of 3,000 acres (1,200 hm²).
Information on bathymetry furnished by the Oregon State Fish and Wildlife Commission.

Information on surface area and volume furnished by the Oregon Department of Environmental Quality.
References: 5, 8, 9, 12.

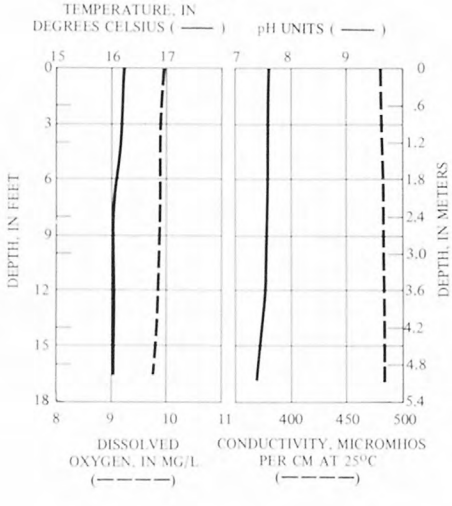
BATHYMETRIC MAP



WATER-QUALITY DATA
Site 1

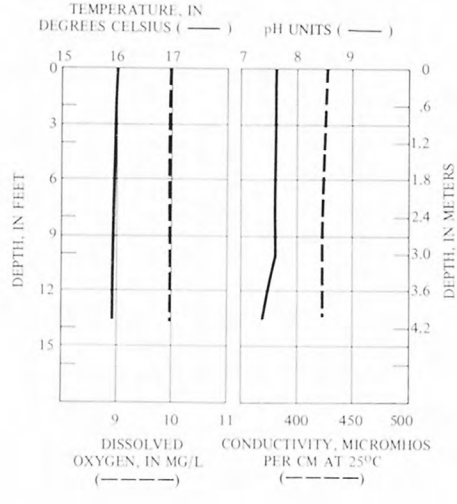
SAMPLING TIME:	1030 hours
CLOUD COVER:	>90 percent
ALKALINITY (mg/L as $CaCO_3$)	11
TOTAL HARDNESS (mg/L as $CaCO_3$)	47
DISSOLVED SOLIDS (mg/L)	272
TRANSPARENCY (meters)	5.0 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 3	<1
Site 4	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 3	<1

Site 1



WATER-QUALITY DATA
Site 2

SAMPLING TIME:	1115 hours
CLOUD COVER:	>50 percent



Photograph taken June 27, 1978

LOCATION: Sec. 3, T. 28 S., R. 4 E., in the Umpqua National Forest about 9 mi (14 km) southeast of Toketee Falls and 8 mi (13 km) northwest of Crater Lake National Park. Surface-water outlet at lat 43°10'05", long 122°20'00". Garwood Butte 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.10 mi^2 (0.26 km^2).

SURFACE AREA: 10 acres (40,000 m^2).

SURFACE ELEVATION: 5,560 ft (1,690 m) above mean sea level, from topographic map.

VOLUME: 110 acre-ft (140,000 m^3).

INFLOW: No measurable flow from spring on west side of lake. No channel indicated on topographic map.

OUTFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on north end of lake to Rough Creek.

USE: Public recreation. The lake has been stocked with brook and rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Some emergent grass was observed along the shoreline, and submerged aquatic growth covered about 30 percent of the lake bottom. Bottom material along the shoal area is primarily mud and detritus.

Access to lake 0.5 mi (0.8 km) by Forest Service Trail 1464 from Forest Service Road 2744.

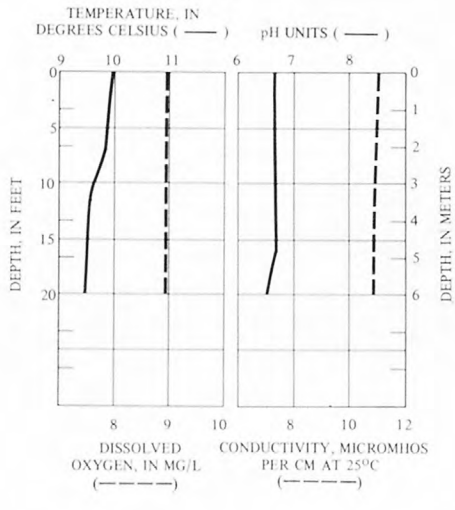
References: 2, 5, 12.

Photograph taken July 13, 1978.

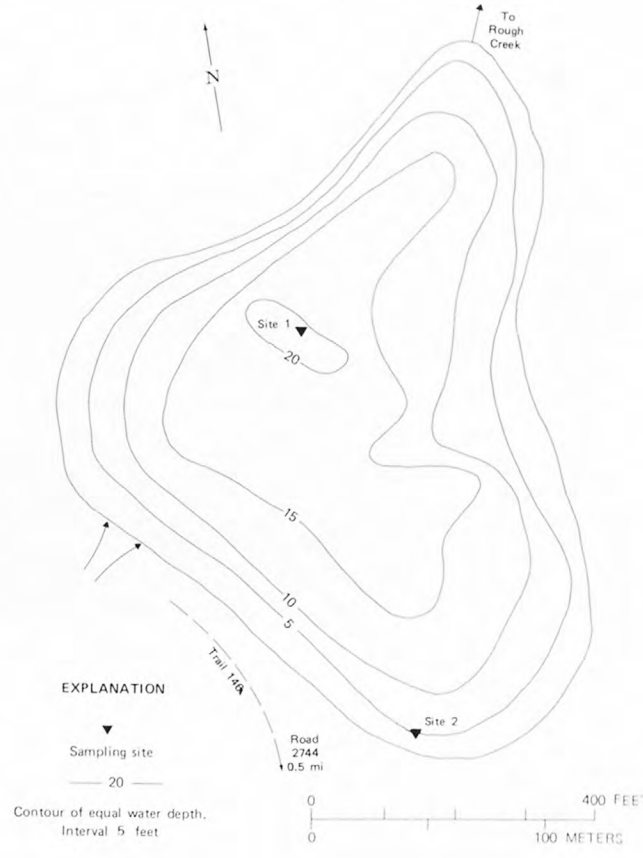
WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1200 hours
CLOUD COVER:	3 percent
ALKALINITY (mg/L as $CaCO_3$)	7
TOTAL HARDNESS (mg/L as $CaCO_3$)	5
DISSOLVED SOLIDS (mg/L)	10
TRANSPARENCY (meters)	6.1 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Inflow	K3
Site 2	K1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	K2

Site 1



BATHYMETRIC MAP



LOCATION: Sec. 33, T. 29 S., R. 2 E., in the Umpqua National Forest about 20 mi (32 km) southwest of Toketee Falls and 17 mi (27 km) west of Crater Lake National Park. Surface-water outlet at lat 43°00′31″, long 122°35′54″. Quartz Mountain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.13 mi^2 (0.34 km^2).

SURFACE AREA: 16 acres (65,000 m^2).

SURFACE ELEVATION: 3,510 ft (1,070 m) above mean sea level, from topographic map.

VOLUME: 80 acre-ft (99,000 m^3).

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on north side of pond.

OUTFLOW: Through culvert on southwest corner of pond.

USE: Public recreation. The pond has been stocked annually with fingerling rainbow trout by the Oregon Department of Fish and Wildlife.

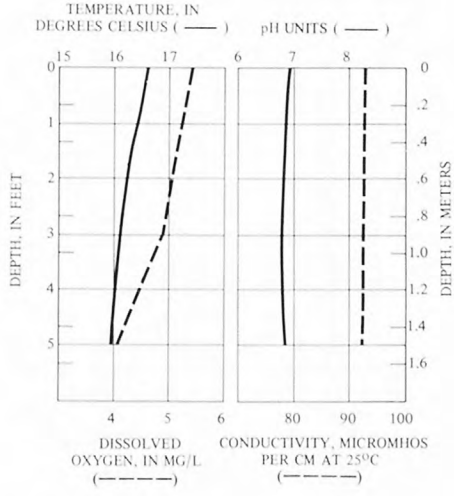
REMARKS: Floating vegetation and emergent cattails covered 80 percent of the surface of the pond. Emergent dead trees and brush were observed throughout the pond. Bottom material is primarily mud and organic detritus.

Access to pond 4 mi (6.4 km) by Forest Service Road 2932 from Forest Service Road 293.

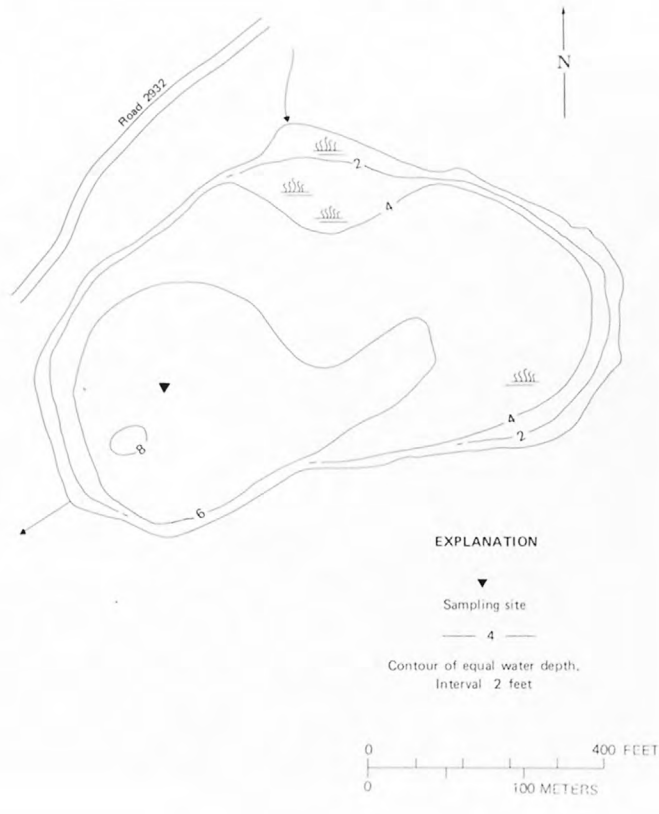
Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1200 hours
CLOUD COVER	100 percent
ALKALINITY (mg/L as $CaCO_3$)	51
TOTAL HARDNESS (mg/L as $CaCO_3$)	47
DISSOLVED SOLIDS (mg/L)	96
TRANSPARENCY (meters)	2.1 (bottom)
COLOR (Pt-Co units)	40
FECAL COLIFORM (colonies/100 ml)	
Inflow	K24
Outflow	< 1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	26



BATHYMETRIC MAP



LOCATION: Sec. 12, T. 22 S., R. 6 W., about 6 mi (10 km) northwest of Yoncalla and 2.0 mi (3.2 km) west of Drain. Regulated outlet at lat 43°39'57", long 123°21'37". Drain 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: 0.08 mi^2 (0.21 km^2).

SURFACE AREA: 14 acres (57,000 m^2).

SURFACE ELEVATION: 280 ft (85 m) above mean sea level, from topographic map.

VOLUME: 40 acre-ft (49,000 m^3) on the survey date.

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: Through culvert on southwest corner of pond.

USE: No recreational use, formerly a log pond.

REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered more than 90 percent of the bottom of the pond. Bottom material is primarily silt and organic detritus.
Water-rights permit for storage of 119 acre-ft (0.147 hm^3) for industrial use.
Bathymetric map represents the lake on the survey date.
References: 11, 12.

BATHYMETRIC MAP

EXPLANATION

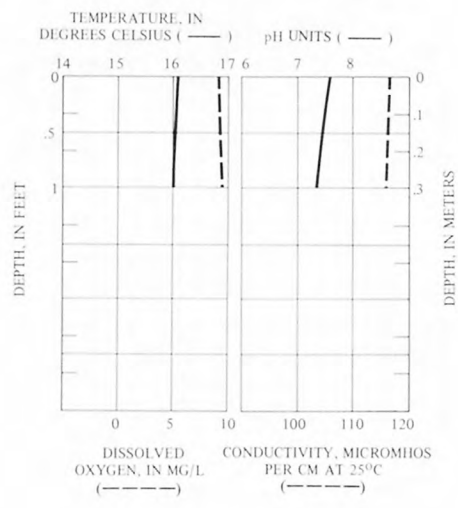
▼ Sampling site

— 8 — Contour of equal water depth. Interval 2 feet

0 500 FEET
0 100 METERS

WATER-QUALITY DATA
Site 1

SAMPLING TIME: 1645 hours
CLOUD COVER: 100 percent

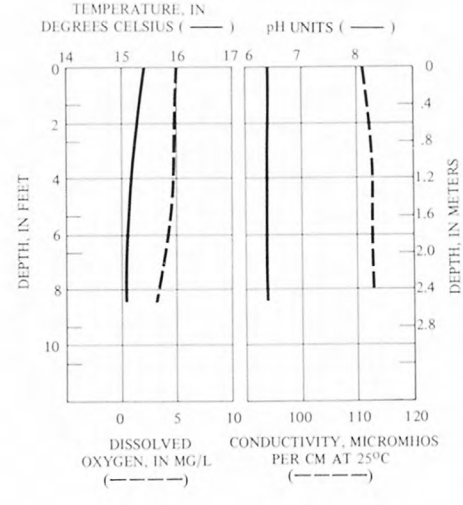


WATER-QUALITY DATA
Site 2

SAMPLING TIME: 1630 hours
CLOUD COVER: 100 percent

ALKALINITY (mg/L as $CaCO_3$)	25
TOTAL HARDNESS (mg/L as $CaCO_3$)	32
DISSOLVED SOLIDS (mg/L)	76
TRANSPARENCY (meters)	2.0
COLOR (Pt-Co units)	20
FECAL COLIFORM (colonies/100 ml)	10
FECAL STREPTOCOCCI (colonies/100 ml)	6

Site 2



Photograph taken July 13, 1978

LOCATION: Secs. 17, 20, and 21, T. 26 S., R. 3 E., in the Umpqua National Forest, about 2 mi (3.2 km) northwest of Toketee Falls and 12 mi (19 km) east of Steamboat. Regulated surface-water outlet at lat 43°18'11", long 122°29'38". Toketee Falls 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 430 mi^2 (1,110 km^2).

SURFACE AREA: 30 acres (120,000 m^2) at normal pool.

SURFACE ELEVATION: 1,808 ft (551 m) above mean sea level, from topographic map.

VOLUME: 240 acre-ft (300,000 m^3) on the survey date.

INFLOW: North Umpqua River and Medicine Creek.

OUTFLOW: North Umpqua River.

USE: Power generation and public recreation. The reservoir was stocked in 1978 with fingerling rainbow trout by the Oregon Department of Fish and Wildlife. The steep shoreline along the reservoir tends to limit recreational use.

REMARKS: Some emergent vegetation and submerged aquatic growth were observed. Bottom material is primarily mud, silt, and rock.

The bathymetric map indicates depth contours on the survey date.

Information on the surface area and the scaled outline of the reservoir furnished by Pacific Power & Light Co.

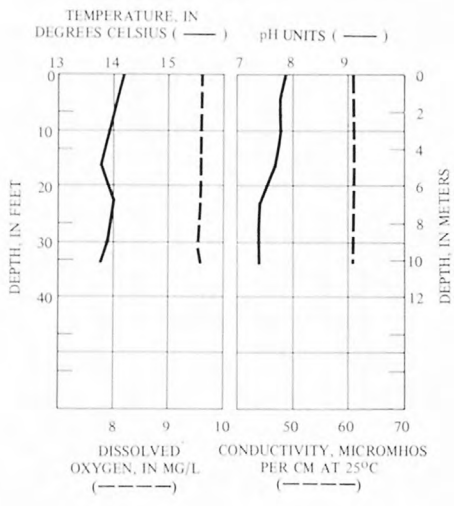
References: 2, 5.

Photograph taken July 12, 1978.

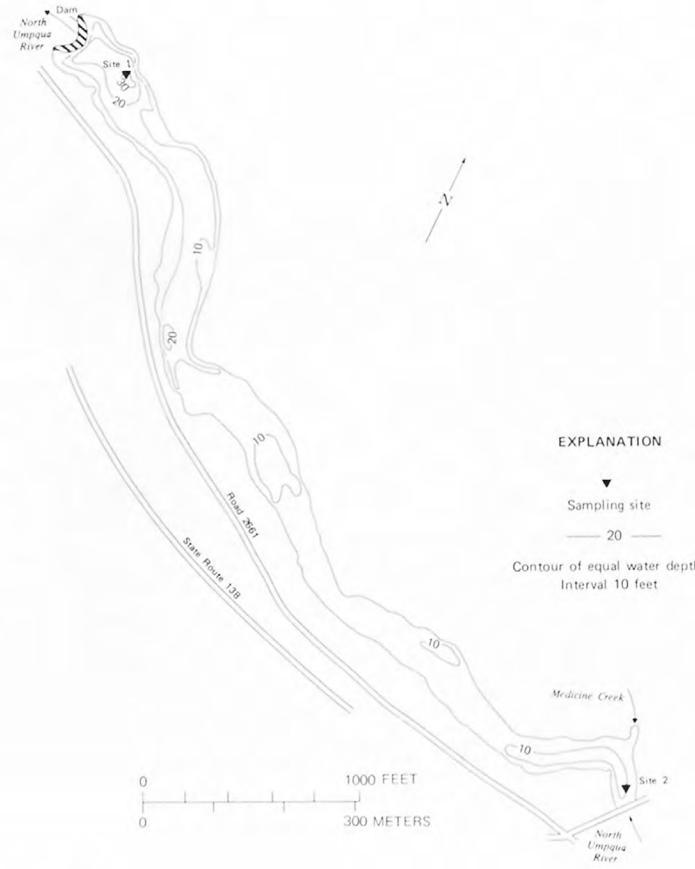
WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1700 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	31
TOTAL HARDNESS (mg/L as $CaCO_3$)	17
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	4.8
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 1	K6
Site 2	K9
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 1	K2

Site 1



BATHYMETRIC MAP



LOCATION: Sec. 14, T. 27 S., R. 6 W., near intersection of Garden Valley Road and Stewart Parkway in Roseburg. Surface-water outlet at lat 43°13′38″, long 123°22′22″. Roseburg 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 6.48 mi^2 (16.78 km^2).

SURFACE AREA: 2.5 acres (10,000 m^2).

SURFACE ELEVATION: 460 ft (140 m) above mean sea level, from topographic map.

VOLUME: Not determined.

INFLOW: No measurable flow from Newton Creek on north end of pond.

OUTFLOW: No flow observed over spillway on southwest corner of pond into Newton Creek.

USE: Public recreation. No swimming or boating permitted.

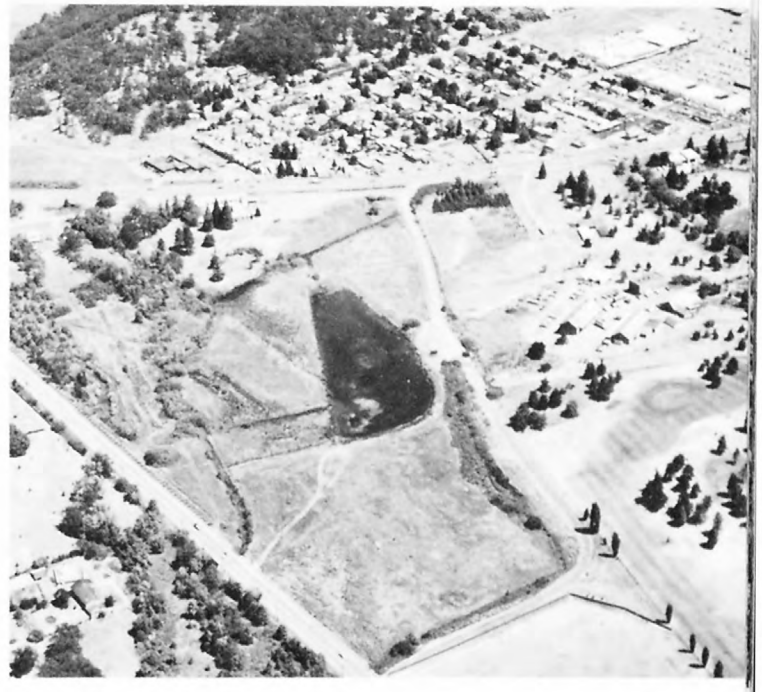
REMARKS: No evidence of emergent growth; however, submerged and floating vegetation covered more than 90 percent of the bottom of the pond. Bottom material is primarily clay.

Ducks were observed at the pond on the survey date.

Water-rights permit issued for storage of 92.18 acre-ft (0.114 hm^3) for recreation.

The bathymetric data on file with the Oregon Water Resources Department do not represent the present depth contours of the pond.

Reference: 11.

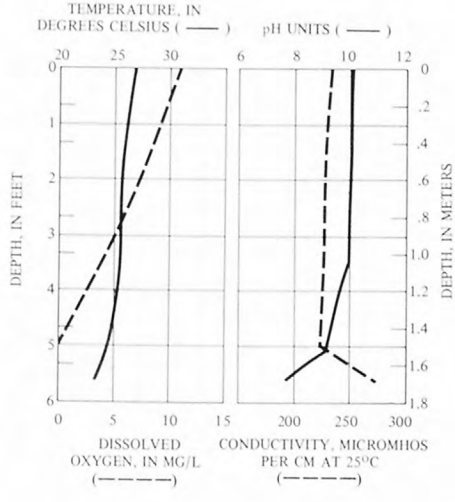


Photograph taken August 2, 1978.

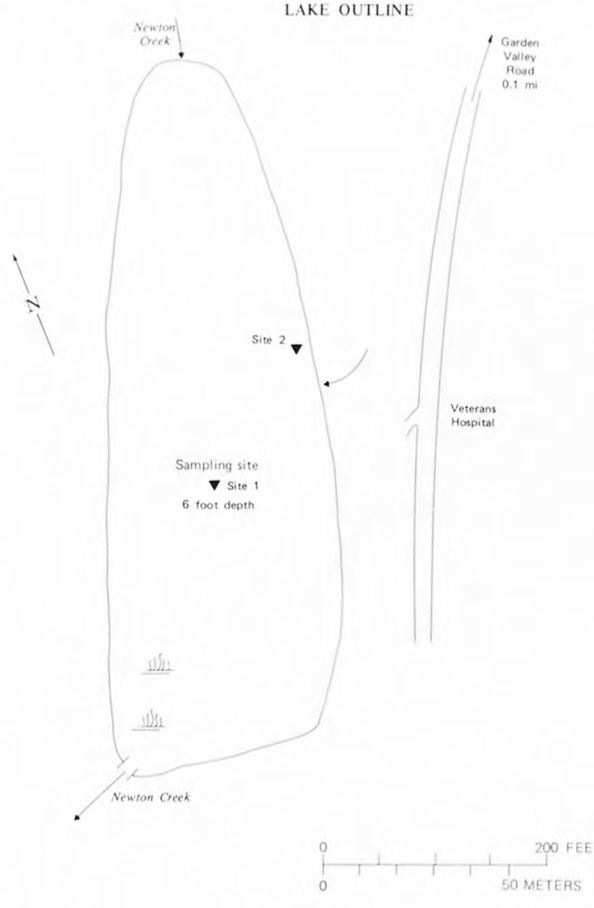
WATER-QUALITY DATA
Site 1

SAMPLING TIME:	1230 hours
CLOUD COVER:	90 percent
ALKALINITY (mg/L as $CaCO_3$)	83
TOTAL HARDNESS (mg/L as $CaCO_3$)	79
DISSOLVED SOLIDS (mg/L)	135
TRANSPARENCY (meters)	0.70
COLOR (Pt-Co units)	35
FECAL COLIFORM (colonies/100 ml) Site 2	K1100

Site 1



LAKE OUTLINE



LOCATION: Sec. 6, T. 27 S., R. 5 E., in the Umpqua National Forest, about 9 mi (14 km) east of Toketee Falls and 12 mi (19 km) north of Crater Lake National Park. Regulated surface-water outlet at lat 43°14'42", long 122°16'51". Garwood Butte 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 41.5 mi^2 (107.5 km^2).

SURFACE AREA: 11 acres (44,000 m^2) at full pool.

SURFACE ELEVATION: 3,871 ft (1,180 m) above mean sea level, from topographic map.

VOLUME: 55 acre-ft (68,000 m^3) at full pool.

INFLOW: Principle inflows are shown on bathymetric map.

OUTFLOW: Over spillway to Clearwater River and through canal to Clearwater No. 1 Forebay. Mean daily discharge into Clearwater River on July 31, 1978, was 142 ft^3/s (4.0 m^3/s).

USE: Power generation and public recreation. Fish species commonly found in the lake are eastern brook and rainbow trout.

REMARKS: Numerous tree stumps and snags were observed throughout the lake. Emergent vegetation covered less than 5 percent of the surface of the lake, and submerged aquatic growth covered 80 percent of the lake bottom. Bottom material is primarily silt.

References: 2, 5, 9, 12.

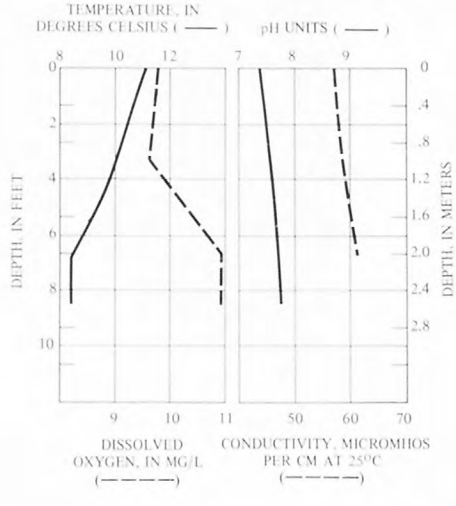
Photograph taken July 12, 1978

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1930 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	32
TOTAL HARDNESS (mg/L as $CaCO_3$)	18
DISSOLVED SOLIDS (mg/L)	80
TRANSPARENCY (meters)	3.0 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Site 1	K10
Site 2	K2
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 1	<1

Site 1



BATHYMETRIC MAP

LOCATION: Secs. 35 and 36, T. 27 S., R. 6 W., about 4 mi (6.4 km) north of Winston and 1 mi (1.6 km) south of Roseburg. Surface-water outlet at lat 43°11'05", long 123°22'03". Roseburg 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.10 mi^2 (0.16 km^2).

SURFACE AREA: 11 acres (45,000 m^2).

SURFACE ELEVATION: 490 ft (150 m) above mean sea level, from topographic map.

VOLUME: 75 acre-ft (92,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed in channel on northwest side of pond to South Umpqua River. Outflow not indicated on topographic map.

USE: No recreational use.

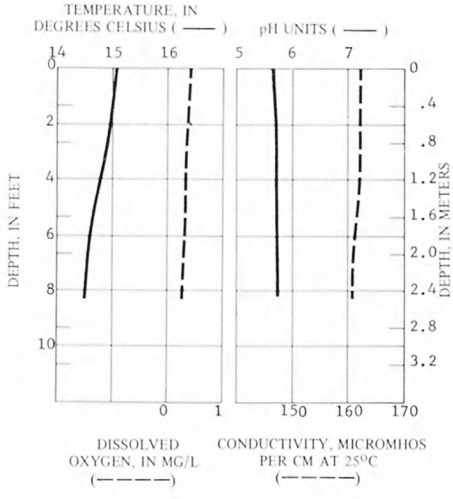
REMARKS: Cattails were observed along the perimeter of the pond. Bottom material is primarily clay and detritus.

Photograph taken August 2, 1978

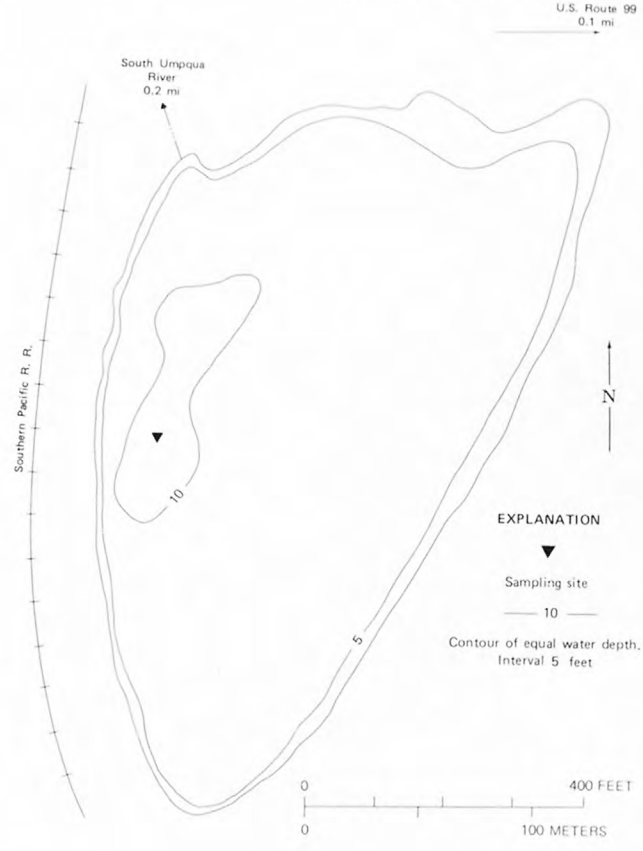
WATER-QUALITY DATA

SAMPLING TIME: 1000 hours
CLOUD COVER: 70 percent

ALKALINITY (mg/L as $CaCO_3$)	34
TOTAL HARDNESS (mg/L as $CaCO_3$)	60
DISSOLVED SOLIDS (mg/L)	190
TRANSPARENCY (meters)	0.05
COLOR (Pt-Co units)	> 500
FECAL COLIFORM (colonies/100 mL)	<8
FECAL STREPTOCOCCI (colonies/100 mL)	K69



BATHYMETRIC MAP



LOCATION: Secs. 13, 14, and 23, T. 25 S., R. 6 W., about 1.5 mi (2.4 km) west of Sutherlin and 11 mi (18 km) north of Roseburg. Surface-water outlet at lat 43°23'44", long 123°22'08". Sutherlin 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Calapooya Creek (Umpqua River).

DRAINAGE AREA: 1.04 mi^2 (2.69 km^2).

SURFACE AREA: 130 acres (530,000 m^2).

SURFACE ELEVATION: 390 ft (120 m) above mean sea level, from topographic map.

VOLUME: 1,200 acre-ft (1.5 hm^3).

INFLOW: Estimated total flow less than 0.1 ft^3/s (0.003 m^3/s) through channels 2, 3, and 4. No measurable flow through channels 1, 5, and 6.

OUTFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on north side of pond to Calapooya Creek.

USE: Active log pond owned by Roseburg Lumber Co. Fishing has been permitted during nonworking hours. Fish species commonly found in the pond are bluegill, crappies, perch, catfish, and bass.

REMARKS: No evidence of submerged aquatic growth; however, some emergent grass was observed along the shoreline. Bottom material is primarily organic detritus.

The water color was green on the survey date.

The pond is also referred to as Ford's pond.

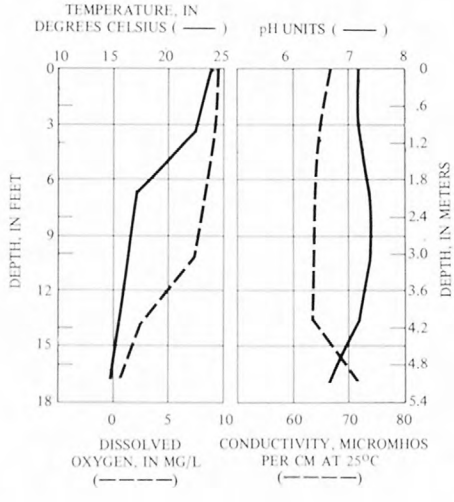
Water-rights certificate issued for storage of 1,040 acre-ft (1.28 hm^3) for industrial use.

References: 5, 11, 12.

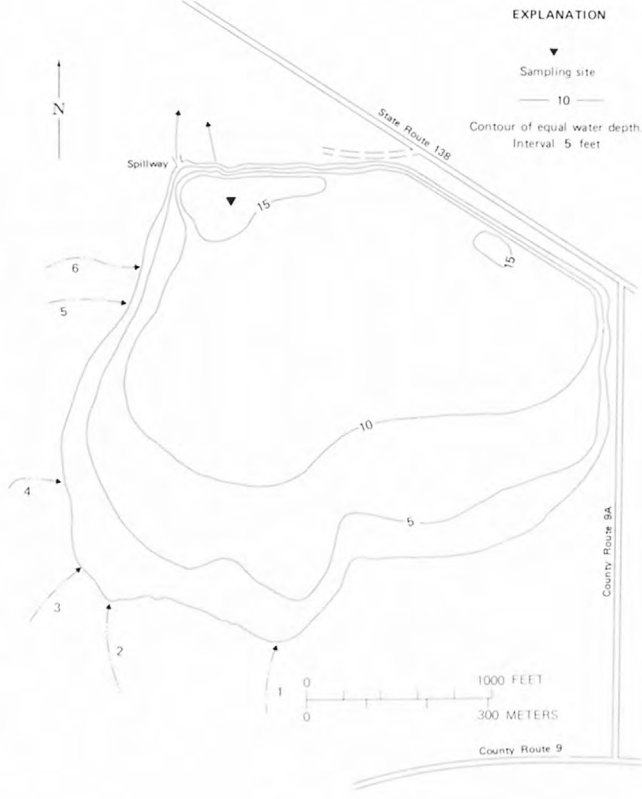
Photograph taken August 2, 1978

WATER-QUALITY DATA

SAMPLING TIME:	1545 hours
CLOUD COVER:	20 percent
ALKALINITY (mg/L as $CaCO_3$)	25
TOTAL HARDNESS (mg/L as $CaCO_3$)	20
DISSOLVED SOLIDS (mg/L)	59
TRANSPARENCY (meters)	1.1
COLOR (Pt-Co units)	40
FECAL COLIFORM (colonies/100 ml)	
Inflow 1	29
Sampling site	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Sampling site	K1



BATHYMETRIC MAP



LOCATION: Sec. 20, T. 25 S., R. 5 W., at Sutherlin. Southernmost tip of pond at lat 43°22'57", long 123°19'12". Sutherlin 15-minute quadrangle map (not named on map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 30 acres (120,000 m^2).

SURFACE ELEVATION: 500 ft (150 m) above mean sea level, from topographic map.

VOLUME: 100 acre-ft (120,000 m^3).

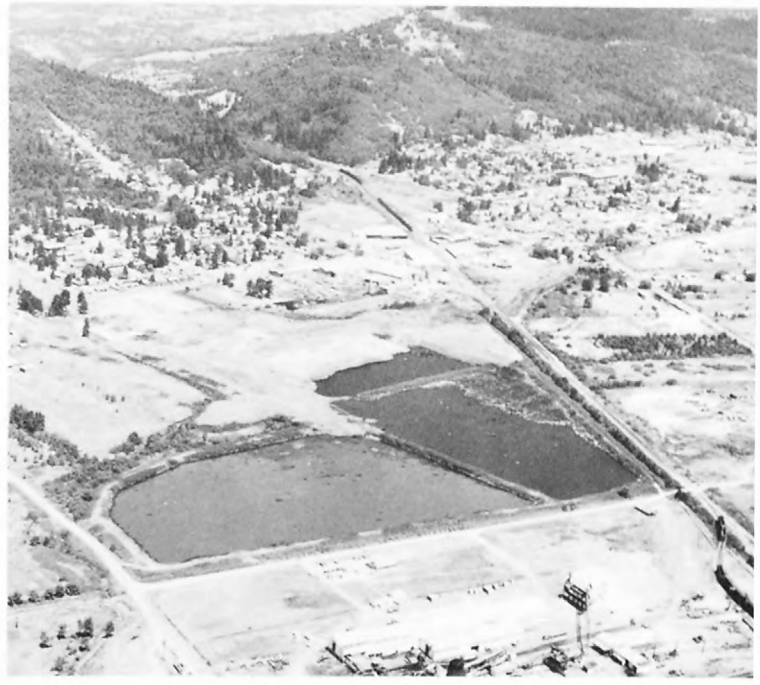
INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: No recreational use.

REMARKS: Emergent growth covered about 20 percent of the surface of the pond, and submerged aquatic vegetation was observed along the shoal area. Bottom material is primarily organic detritus.

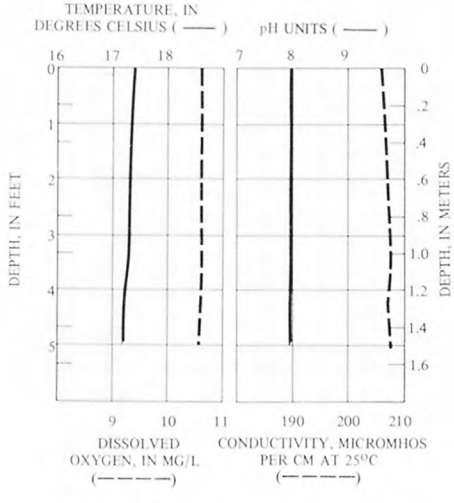
Water-rights certificate issued for storage of 148.08 acre-ft (0.18 hm^3). Reference: 11.



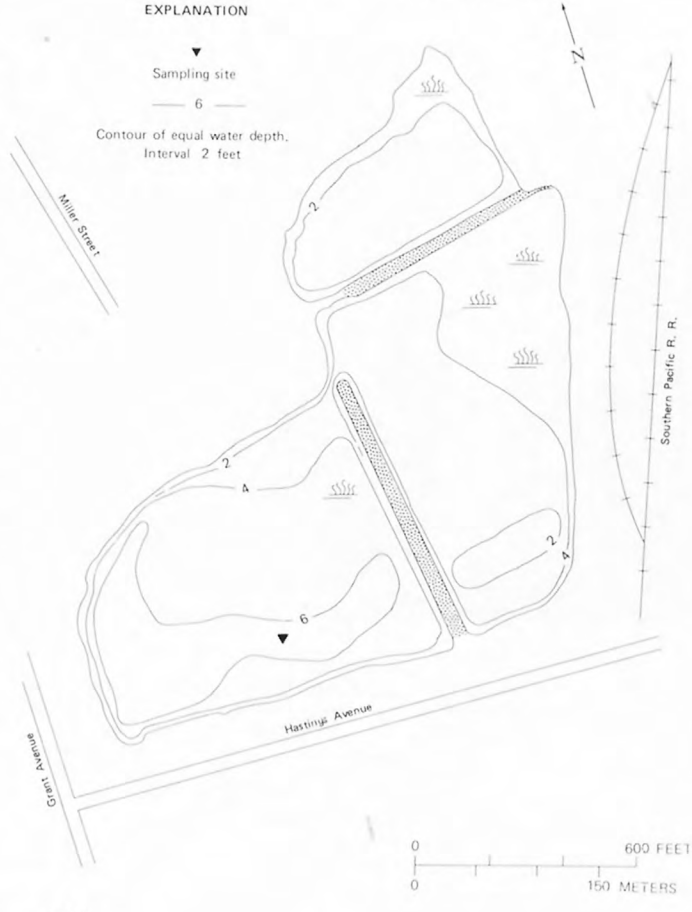
Photograph taken August 2, 1978

WATER-QUALITY DATA

SAMPLING TIME:	1600 hours
CLOUD COVER:	50 percent
ALKALINITY (mg/L as $CaCO_3$)	91
TOTAL HARDNESS (mg/L as $CaCO_3$)	49
DISSOLVED SOLIDS (mg/L)	170
TRANSPARENCY (meters)	0.8
COLOR (Pt-Co units)	100
FECAL COLIFORM (colonies/100 ml)	<1
FECAL STREPTOCOCCI (colonies/100 ml)	<1



BATHYMETRIC MAP



LOCATION: Secs. 14, 15, 21, 22, 23, 26, 27, 28, 29, 33, 34, and 35, T. 20 S., R. 12 W., secs. 3 and 4, T. 21 S., R. 12 W., about 4 mi (6.4 km) north of Reedsport and 10 mi (16 km) south of Florence. Surface-water outlet at lat 43°48′26″, long 124°09′01″. Siltcoos Lake 15-minute quadrangle map.

DRAINAGE BASIN: Tahkenitch Creek (Pacific Slope drainage).

DRAINAGE AREA: 34.2 mi^2 (88.6 km^2).

SURFACE AREA: 1,500 acres (610 hm^2).

SURFACE ELEVATION: 11 ft (3.4 m) above mean sea level, from topographic map.

VOLUME: 20,000 acre-ft (25 hm^3).

INFLOW: Principal inflows are shown on topographic map.

OUTFLOW: Tahkenitch Creek on west side of lake to Pacific Ocean.

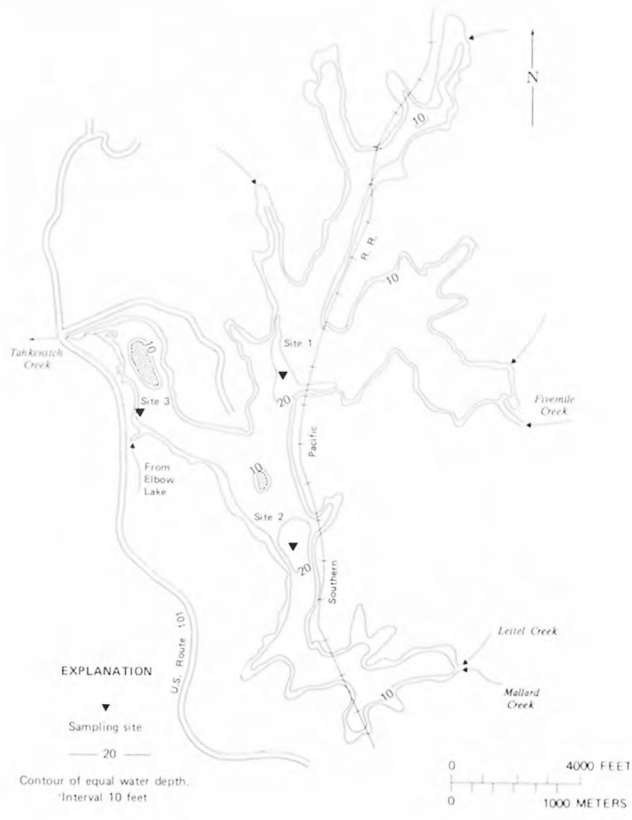
USE: Public recreation. The lake was stocked in 1977 with fingerling coho salmon and cutthroat trout. The lake has been stocked annually with yearling rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Emergent reeds were observed along the shoreline, and submerged aquatic vegetation was observed in the shoal area. Bottom material along the shoal area is primarily mud.

Bathymetric map represents depths prior to the damming of the outlet. Information on surface area, volume, and bathymetry furnished by the Oregon State Fish and Wildlife Commission.

References: 5, 8, 9, 12.

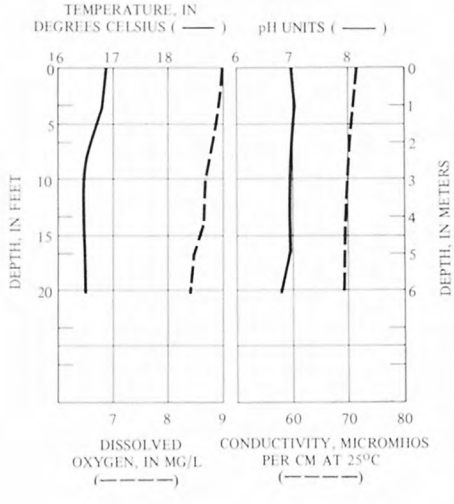
BATHYMETRIC MAP



WATER-QUALITY DATA
Site 1

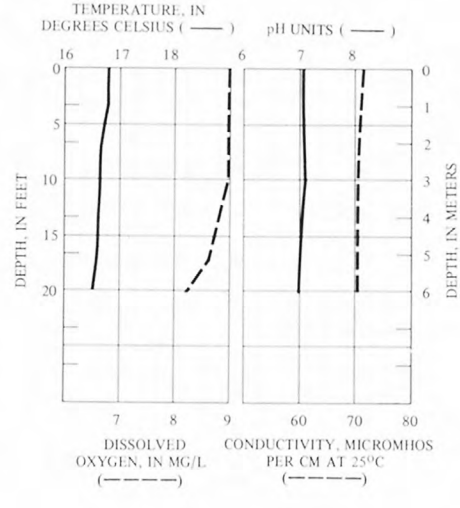
SAMPLING TIME:	1315 hours
CLOUD COVER:	<40 percent
ALKALINITY (mg/L as $CaCO_3$)	16
TOTAL HARDNESS (mg/L as $CaCO_3$)	16
DISSOLVED SOLIDS (mg/L)	63
TRANSPARENCY (meters)	3.7
COLOR (Pt-Co units)	10
FECAL COLIFORM (colonies/100 ml)	
Site 1	<1
Site 3	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 3	<1

Site 1



WATER-QUALITY DATA
Site 2

SAMPLING TIME:	1345 hours
CLOUD COVER:	30 percent



Photograph taken June 27, 1978

LOCATION: Sec. 20, T. 28 S., R. 5½ E., in the Umpqua National Forest, about 18 mi (29 km) southeast of Toketee Falls, 0.5 mi (0.8 km) south of Diamond Lake, and 4 mi (6.4 km) north of Crater Lake National Park. Southernmost tip of lake at lat 43°07'43", long 122°09'17". Diamond Lake 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.64 mi^2 (1.66 km^2).

SURFACE AREA: 2.5 acres (10,000 m^2).

SURFACE ELEVATION: 5,195 ft (1,583 m) above mean sea level, from topographic map.

VOLUME: 5 acre-ft (6,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

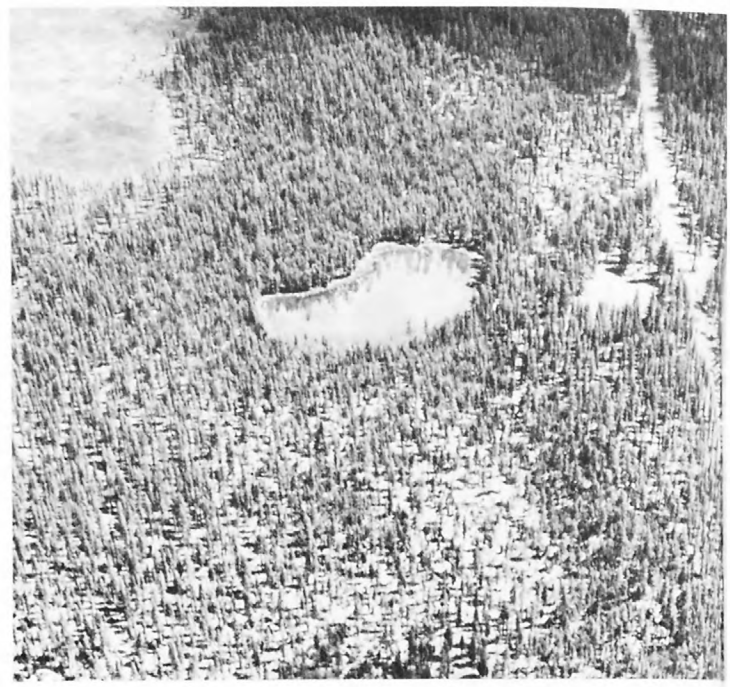
OUTFLOW: No channel observed and none indicated on topographic map.

USE: Public recreation. The lake was last stocked in 1977 with fingerling rainbow trout by the Oregon Department of Fish and Wildlife.

REMARKS: Emergent grass and floating pond lilies covered less than 5 percent of the surface of the lake. Submerged aquatic growth covered 80 percent of the lake bottom. Bottom material is primarily silt.

Access to lake 0.1 mi (0.2 km) by trail from Forest Service Road 271.

References: 5, 9, 12.



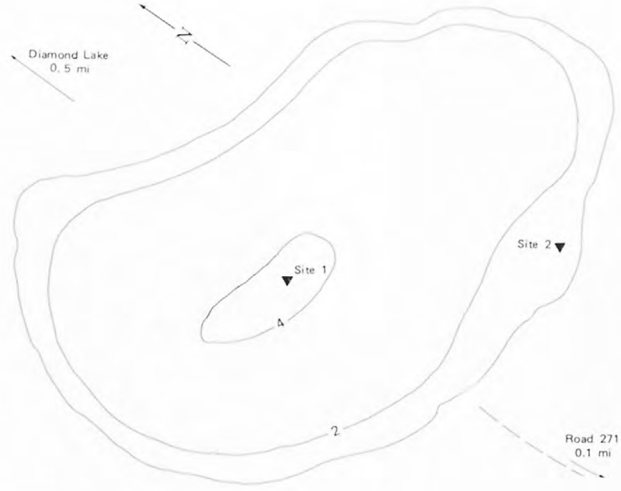
Photograph taken July 12, 1978

WATER-QUALITY DATA

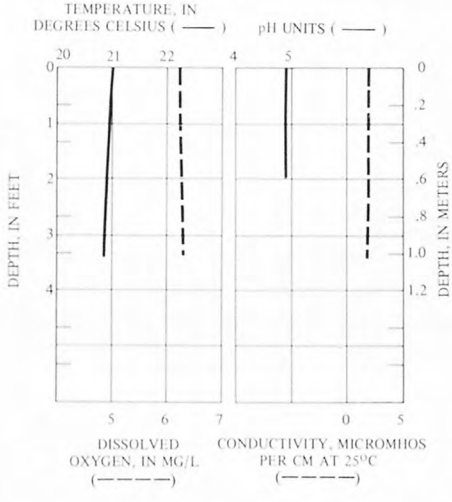
Site 1

SAMPLING TIME	0845 hours
CLOUD COVER	0 percent
ALKALINITY (mg/L as $CaCO_3$)	2
TOTAL HARDNESS (mg/L as $CaCO_3$)	3
DISSOLVED SOLIDS (mg/L)	5
TRANSPARENCY (meters)	1.3 (bottom)
COLOR (Pt-Co units)	10
FECAL COLIFORM (colonies/100 ml)	
Site 2	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	<1

BATHYMETRIC MAP



Site 1



EXPLANATION

▼ Sampling site

— 4 — Contour of equal water depth, Interval 2 feet

0 200 FEET
0 50 METERS

LOCATION: Sec. 30, T. 22 S., R. 12 W., about 3.5 mi (5.6 km) north of Lakeside, and 5 mi (8 km) southwest of Reedsport. Surface-water outlet at lat 43°37'37", long 124°10'50". Reedsport 15-minute quadrangle map.

DRAINAGE BASIN: Tenmile Creek (Pacific Slope drainage).

DRAINAGE AREA: 2.31 mi^2 (5.98 km^2).

SURFACE AREA: 6 acres (24,000 m^2).

SURFACE ELEVATION: 190 ft (58 m) above mean sea level, from topographic map.

VOLUME: 100 acre-ft (120,000 m^3).

INFLOW: No flow observed in channel on north end of lake from Lake Edna.

OUTFLOW: No flow observed into Clear Creek.

USE: Private recreation.

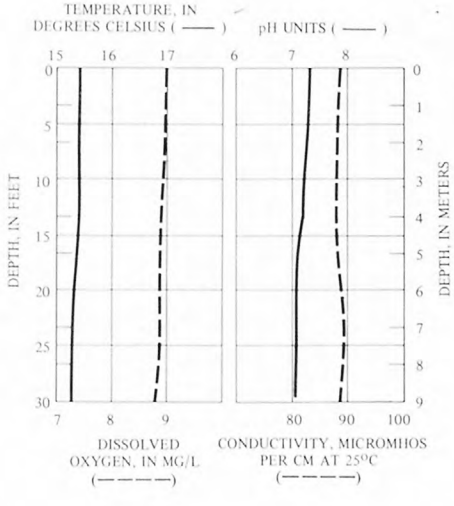
REMARKS: No evidence of emergent growth; however, submerged aquatic vegetation covered about 70 percent of the lake bottom. Bottom material is primarily sand and organic detritus.

Reference: 12.

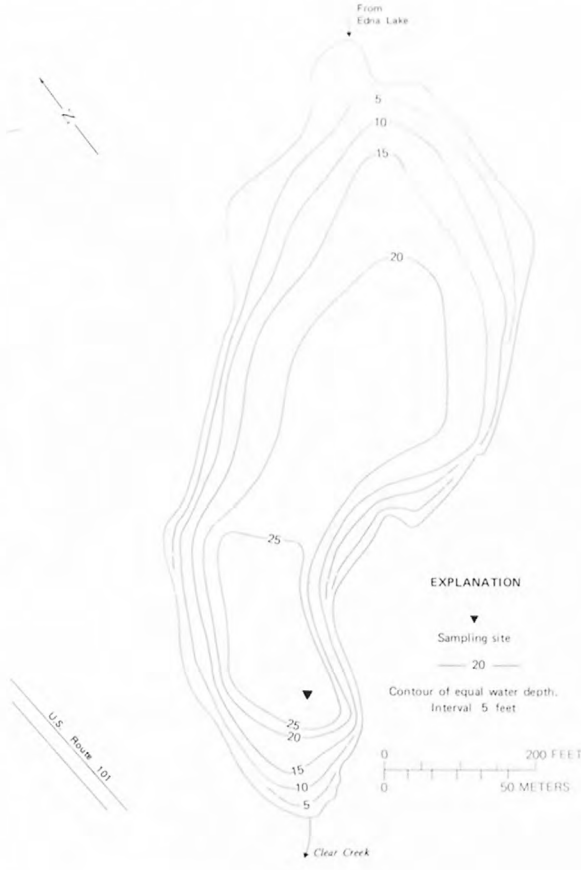
Photograph taken June 27, 78

WATER-QUALITY DATA

SAMPLING TIME:	1300 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	17
TOTAL HARDNESS (mg/L as $CaCO_3$)	20
DISSOLVED SOLIDS (mg/L)	60
TRANSPARENCY (meters)	7.9
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	<1
FECAL STREPTOCOCCI (colonies/100 ml)	<1



BATHYMETRIC MAP



LOCATION: Secs. 6 and 7, T. 21 S., R. 12 W., about 14 mi (22 km) south of Florence and 5 mi (8 km) northwest of Reedsport. Southernmost tip of lake at lat 43°46'01", long 124°10'06". Siltcoos Lake 15-minute quadrangle map.

DRAINAGE BASIN: Pacific Slope drainage.

DRAINAGE AREA: 1.67 mi^2 (4.32 km^2) including Threemile Lake (South).

SURFACE AREA: 30 acres (120,000 m^2).

SURFACE ELEVATION: 20 ft (6 m) above mean sea level, from topographic map.

VOLUME: 360 acre-ft (440,000 m^3).

INFLOW: No flow observed in channel on the north end of the lake.

OUTFLOW: No flow observed in channel to Threemile Lake (South).

USE: Public recreation. There is a natural reproduction of a variety of fish including cutthroat trout and yellow perch.

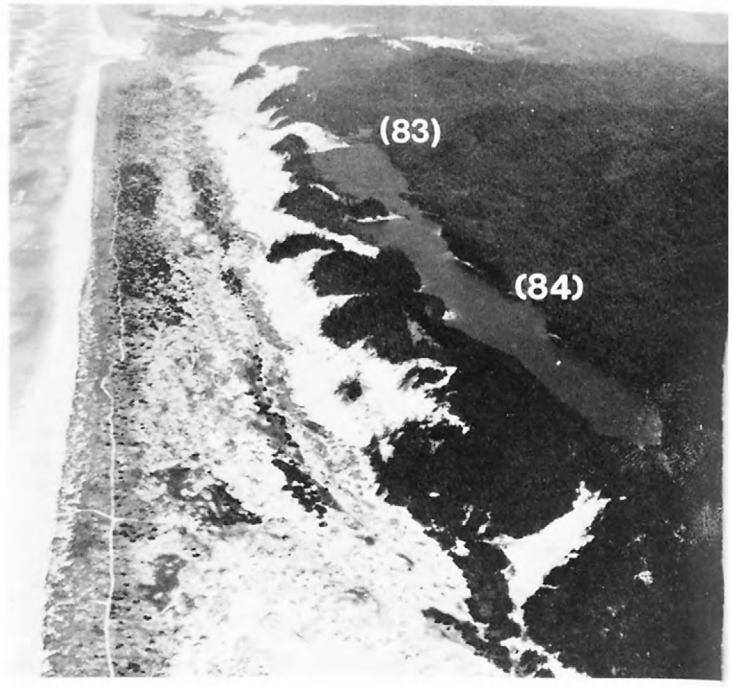
REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered the lake bottom along the shoal area. Bottom material is primarily sand.

There are no maintained trails to the lake.

Access to lake 1.5 mi (2.4 km) over sand dunes from Forest Service Road 2068. The lake is the northern body of the two bodies of water together called Threemile Lake on the topographic map. The two water bodies are connected by a channel.

Information on surface area, volume, drainage area, and bathymetry furnished by the Oregon Fish and Wildlife Commission.

References: 9, 12.



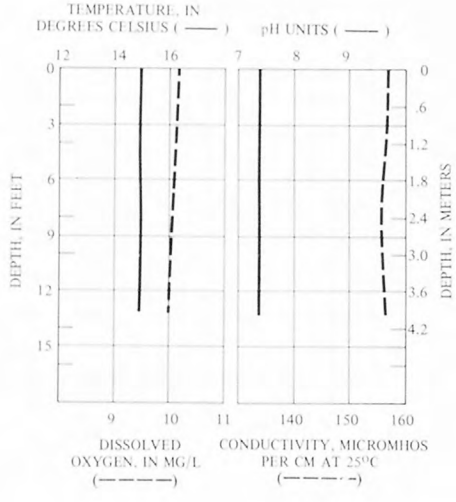
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1645	hours
CLOUD COVER:	30	percent
ALKALINITY (mg/L as $CaCO_3$)	14	
TOTAL HARDNESS (mg/L as $CaCO_3$)	21	
DISSOLVED SOLIDS (mg/L)	98	
TRANSPARENCY (meters)	3.4	
COLOR (Pt-Co units)	5	
FECAL COLIFORM (colonies/100 ml) Site 2	K4	
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	30	

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 7, T. 21 S., R. 12 W., about 14 mi (22 km) south of Florence and 4.5 mi (7.2 km) northwest of Reedsport. Southernmost tip of lake at lat 43°45'20", long 124°10'14". Siltcoos Lake 15-minute quadrangle map.

DRAINAGE BASIN: Pacific Slope drainage.

DRAINAGE AREA: 1.67 mi² (4.32 km²) including Threemile Lake (North).

SURFACE AREA: 35 acres (140,000 m²).

SURFACE ELEVATION: 20 ft (6 m) above mean sea level, from topographic map.

VOLUME: 410 acre-ft (500,000 m³).

INFLOW: No flow observed through channel north end of lake from Threemile Lake (North) nor through channel on south end of lake.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: Public recreation. There is a natural reproduction of a variety of fish, including cutthroat trout and yellow perch.

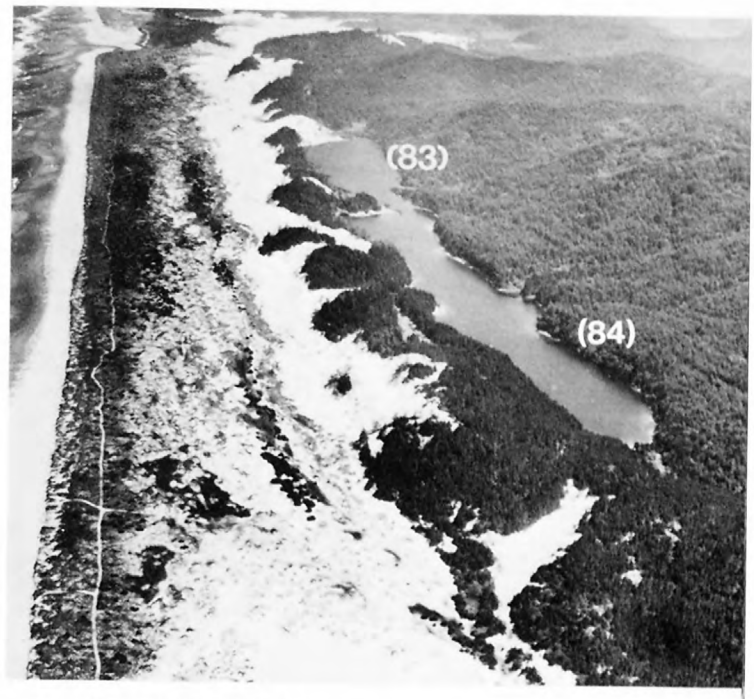
REMARKS: No evidence of emergent growth; however, submerged aquatic growth covered the lake bottom along the shoal area. Bottom material is primarily sand.

There are no maintained trails to the lake.

Access to lake 0.6 mi (1 km) over sand dunes from Forest Service Road 2068. The lake is the southern body of the two bodies of water together called Threemile Lake on the topographic map.

Information on surface area, volume, and bathymetry furnished by the Oregon Fish and Wildlife Commission.

References: 9, 12.



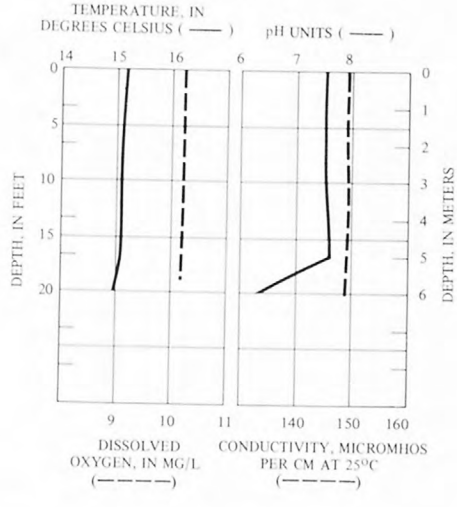
Photograph taken June 27, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1530	hours
CLOUD COVER:	50	percent
ALKALINITY (mg/L as $CaCO_3$)	11	
TOTAL HARDNESS (mg/L as $CaCO_3$)	19	
DISSOLVED SOLIDS (mg/L)	84	
TRANSPARENCY (meters)	4.0	
COLOR (Pt-Co units)	5	
FECAL COLIFORM (colonies/100 ml) Site 2	<1	
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	79	

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 15, T. 25 S., R. 5½ E., in the Willamette National Forest about 23 mi (37 km) north of Crater Lake National Park and 19 mi (31 km) northeast of Toketee Falls. Surface-water outlet at lat 43°24′38″, long 122°06′52″. Summit Lake 15-minute quadrangle map.

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 4.39 mi^2 (11.37 km^2).

SURFACE AREA: 40 acres (160,000 m^2).

SURFACE ELEVATION: 5,270 ft (1,610 m) above mean sea level, from topographic map.

VOLUME: 1,500 acre-ft (1.8 hm^3).

INFLOW: Estimated total flow less than 0.5 ft^3/s (0.01 m^3/s) through two channels on southeast corner of lake.

OUTFLOW: No measurable flow through channel on southwest side of lake to Little Timpanogas Lake.

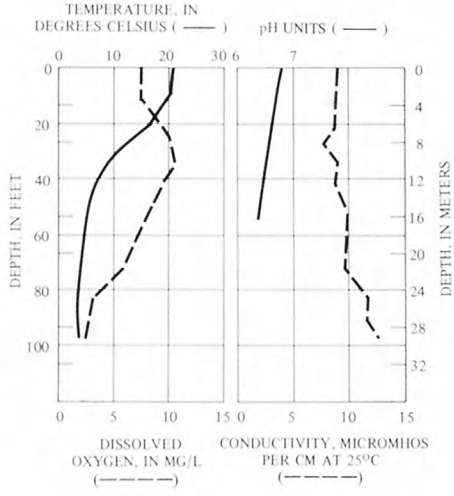
USE: Public recreation. The lake has been stocked annually with fingerling brook trout and stocked periodically with fingerling rainbow trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the south side of the lake.

REMARKS: No evidence of either floating or submerged aquatic growth. Bottom material is primarily silt.
Access to lake from Forest Service Road 250 (off Forest Service Road 244).
References: 5, 9, 12.

Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1400 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	9
TOTAL HARDNESS (mg/L as $CaCO_3$)	4
DISSOLVED SOLIDS (mg/L)	20
TRANSPARENCY (meters)	11.4
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml) Outflow	< 1
FECAL STREPTOCOCCI (colonies/100 ml) Outflow	K2



BATHYMETRIC MAP

LOCATION: Secs. 25, 35, and 36, T. 26 S., R. 3 E., in the Umpqua National Forest about 17 mi (27 km) southeast of Steamboat and 1.5 mi (2.4 km) southeast of Toketee Falls. Regulated surface-water outlet at lat 43°15'48", long 122°25'06". Toketee Falls 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 330 mi^2 (855 km^2).

SURFACE AREA: 80 acres (320,000 m^2) on survey date.

SURFACE ELEVATION: 2,426 ft (739 m) above mean sea level, from topographic map.

VOLUME: 850 acre-ft (1.0 hm^3) on survey date.

INFLOW: North Umpqua River, Clearwater River, and penstock from Clearwater No. 2 Forebay.

OUTFLOW: North Umpqua River.

USE: Power generation and public recreation. The lake was last stocked in 1979 with fingerling and yearling brown trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the northeast end of the reservoir. Recreation includes boating and fishing.

REMARKS: Some emergent growth was observed, and submerged aquatic vegetation covered 75 percent of the bottom of the reservoir. Bottom material is primarily mud, rock, and pumice.

Storage and diversion rights are licensed under Hydroelectric Project No. 23.

References: 2, 5, 9, 12.

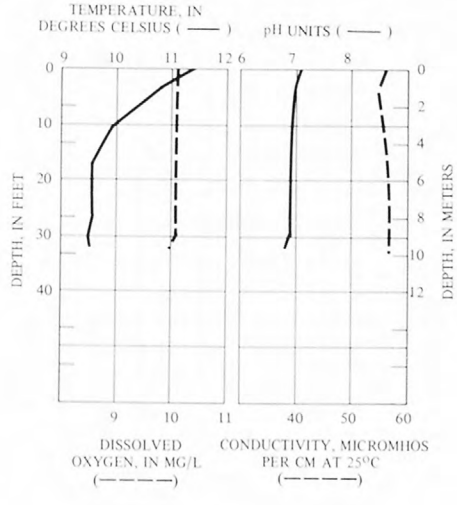
Photograph taken July 12, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1830 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	28
TOTAL HARDNESS (mg/L as $CaCO_3$)	18
DISSOLVED SOLIDS (mg/L)	56
TRANSPARENCY (meters)	5.2
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
North Umpqua River	<1
Site 2	K4
FECAL STREPTOCOCCI (colonies/100 ml)	
Site 2	46

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 20, T. 29 S., R. 3 E., in the Umpqua National Forest about 17 mi (27 km) south of Toketee Falls and 11 mi (18 km) west of Crater Lake National Park. Surface-water outlet at lat 43°01'41", long 122°28'53". Garwood Butte 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.37 mi^2 (0.96 km^2).

SURFACE AREA: 5 acres (20,000 m^2).

SURFACE ELEVATION: 4,600 ft (1,400 m) above mean sea level, from topographic map.

VOLUME: 25 acre-ft (31,000 m^3).

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) from inflow 1 and 1 ft^3/s (0.03 m^3/s) from inflow 2.

OUTFLOW: Estimated 1.5 ft^3/s (0.04 m^3/s) through channel on south end of lake to Lonewoman Creek.

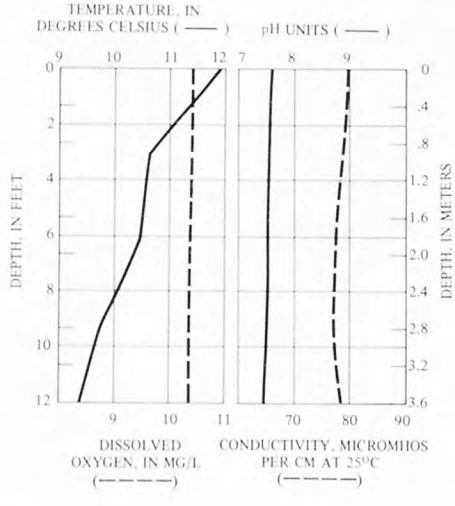
USE: Public recreation.

REMARKS: Some emergent and submerged growth was observed in the lake. Bottom material is primarily silt.
There are no maintained trails to the lake.
Access to lake 0.8 mi (1.3 km) by foot from Forest Service Road 293.
Reference: 12.

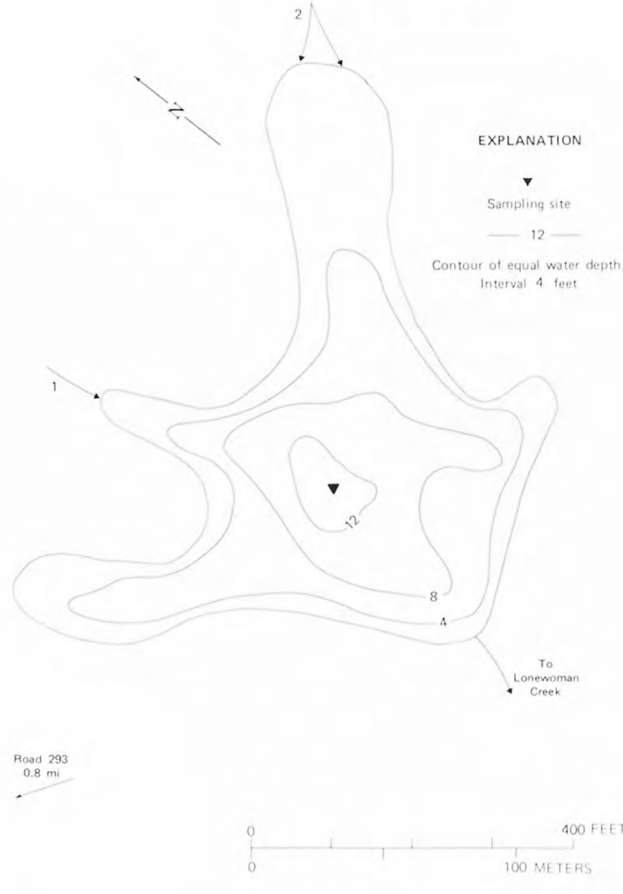
Photograph taken July 13, 1978

WATER-QUALITY DATA

SAMPLING TIME	1530 hours
CLOUD COVER	100 percent
ALKALINITY (mg/L as $CaCO_3$)	45
TOTAL HARDNESS (mg/L as $CaCO_3$)	34
DISSOLVED SOLIDS (mg/L)	85
TRANSPARENCY (meters)	3.7 (bottom)
COLOR (Pt-Co units)	5
FECAL COLIFORM (colonies/100 ml)	
Outflow	K2
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	K8



BATHYMETRIC MAP



LOCATION: Sec. 9, T. 27 S., R. 2 E., in the Umpqua National Forest about 11 mi (18 km) southeast of Steamboat and 20 mi (32 km) northwest of Crater Lake National Park. Surface-water outlet at lat 43°13′50″, long 122°35′31″. Quartz Mountain 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.33 mi^2 (0.85 km^2).

SURFACE AREA: 14 acres (57,000 m^2).

SURFACE ELEVATION: 5,029 ft (1,533 m) above mean sea level, from topographic map.

VOLUME: 240 acre-ft (300,000 m^3).

INFLOW: Estimated 0.5 ft^3/s (0.01 m^3/s) from inflow 1 and less than 0.1 ft^3/s (0.003 m^3/s) from inflow 2. No measurable flow from inflows 3 and 4.

OUTFLOW: Estimated 1.5 ft^3/s (0.04 m^3/s) into Twin Lake Creek on northwest corner of lake.

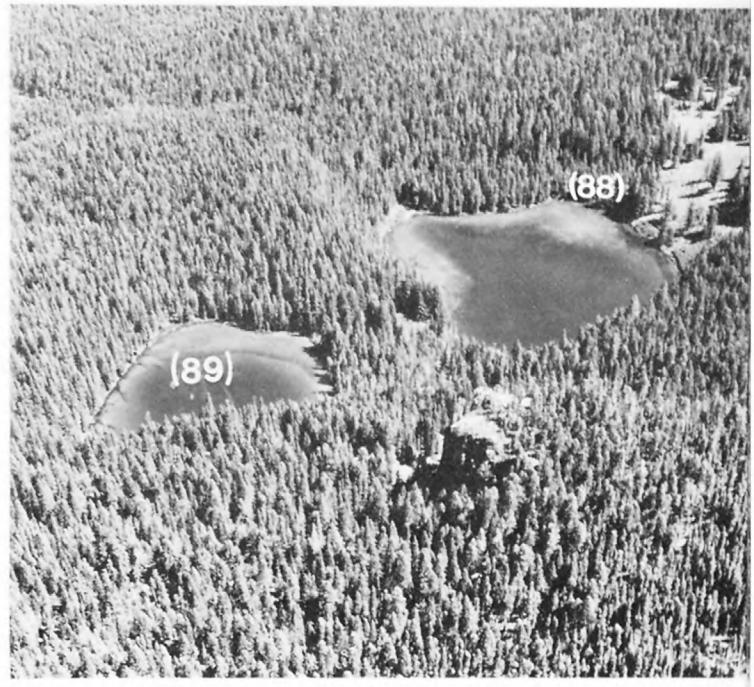
USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife. The U.S. Forest Service maintains a campground on the east end of the lake.

REMARKS: Floating pond lilies and emergent grass covered about 1 percent of the surface of the lake, and some submerged aquatic vegetation was observed along the shoal area. Bottom material is primarily mud and rock with some organic detritus.

The lake is the eastern lake of the two lakes named Twin Lakes on the topographic map. The lake is also referred to as Big Twin Lake in the records of Oregon Department of Fish and Wildlife.

Access to lake 1 mi (1.6 km) by trail from Forest Service Road 2611.

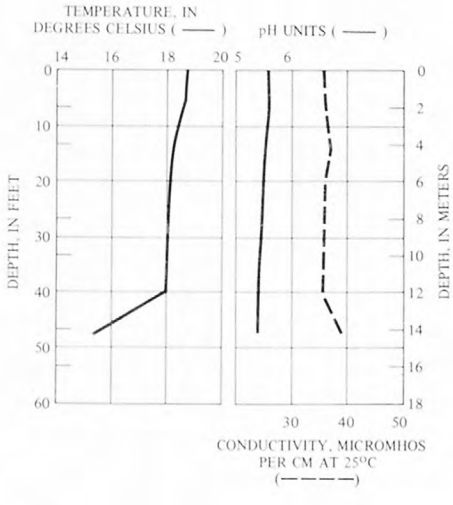
References: 2, 5, 9, 12.



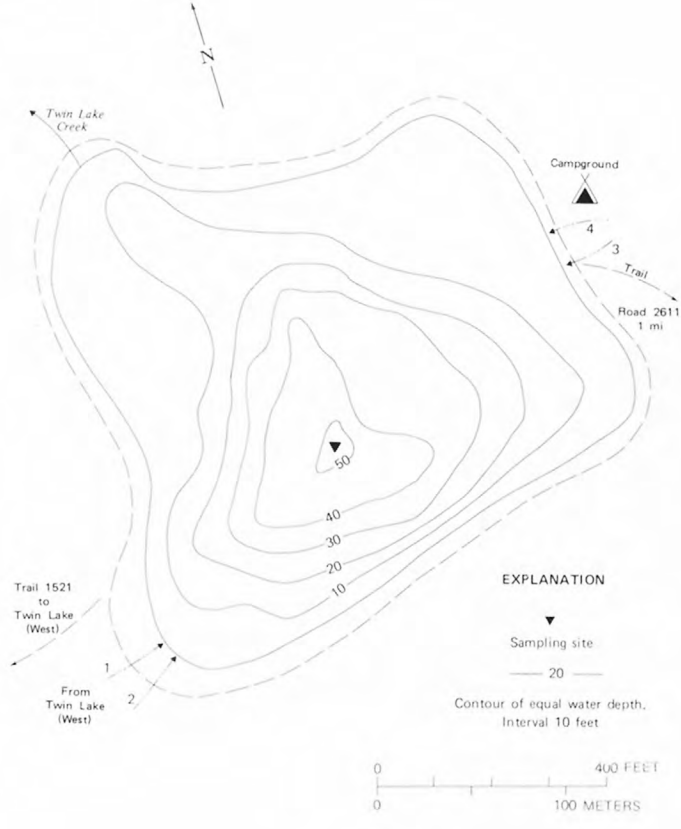
Photograph taken July 13, 1978

WATER-QUALITY DATA

SAMPLING TIME:	1435 hours
CLOUD COVER:	80 percent
ALKALINITY (mg/L as $CaCO_3$)	3
TOTAL HARDNESS (mg/L as $CaCO_3$)	10
DISSOLVED SOLIDS (mg/L)	32
TRANSPARENCY (meters)	15.2 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Inflow 1	K1
Outflow	K12
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	<1



BATHYMETRIC MAP



LOCATION: Sec. 9, T. 27 S., R. 2 E., in the Umpqua National Forest about 11 mi (18 km) southeast of Steamboat and 20 mi (32 km) northwest of Crater Lake National Park. Surface-water outlet at lat 43°13'43", long 122°35'37". Quartz Mountain 15-minute quadrangle map.

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.13 mi^2 (0.34 km^2).

SURFACE AREA: 6 acres (24,000 m^2).

SURFACE ELEVATION: 5,040 ft (1,540 m) above mean sea level, from topographic map.

VOLUME: 80 acre-ft (99,000 m^3).

INFLOW: Estimated total flow less than 0.1 ft^3/s (0.003 m^3/s) from inflows 1 and 2.

OUTFLOW: Estimated less than 0.1 ft^3/s (0.003 m^3/s) through channel on northeast corner of lake to Twin Lake (East).

USE: Public recreation. The lake has been stocked annually with fingerling brook trout by the Oregon Department of Fish and Wildlife.

REMARKS: Some emergent growth was observed along the shoreline, and submerged aquatic vegetation covered about 40 percent of the lake bottom. Bottom material is primarily rock and silt with some organic detritus.

The lake is the western lake of the two lakes named Twin Lakes on the topographic map. The lake is also referred to as Little Twin Lake in the records of Oregon Department of Fish and Wildlife.

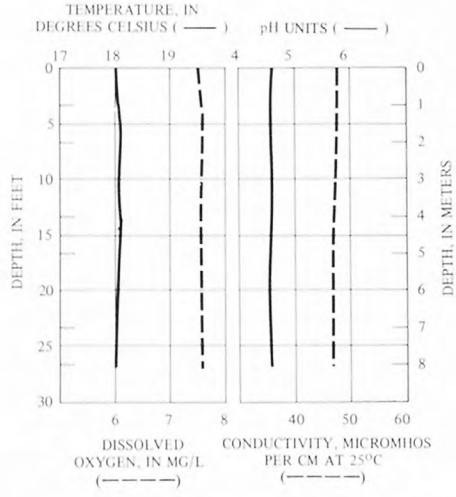
Access to lake 1.5 mi (2.4 km) by trail from Forest Service Road 2611.

References: 2, 5, 9, 12.

Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1200
CLOUD COVER	100
ALKALINITY (mg/L as $CaCO_3$)	1
TOTAL HARDNESS (mg/L as $CaCO_3$)	11
DISSOLVED SOLIDS (mg/L)	39
TRANSPARENCY (meters)	9.1 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Inflow 1	<1
Outflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	1



BATHYMETRIC MAP

LOCATION: Sec. 10, T. 25 S., R. 5½ E., in the Willamette National Forest, about 20 mi (32 km) northeast of Toketee Falls and 24 mi (39 km) north of Crater Lake National Park. Surface-water outlet at lat 43°25'10", long 122°06'11". Summit Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 0.53 mi^2 (1.37 km^2).

SURFACE AREA: 3 acres (12,000 m^2).

SURFACE ELEVATION: 5,910 ft (1,800 m) above mean sea level, from topographic map.

VOLUME: 16 acre-ft (20,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No flow observed in channel on southwest corner of lake.

USE: Public recreation.

REMARKS: No evidence of emergent or submerged growth; however, floating grass covered about 1 percent of the surface of the lake. Bottom material is primarily pumice.

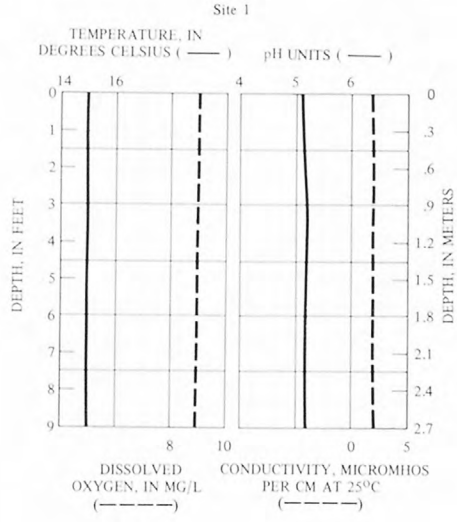
Access to lake 1.5 mi (2.4 km) by Forest Service Trail 3643 from Forest Service Road 250 c.

Photograph taken July 12, 1978.

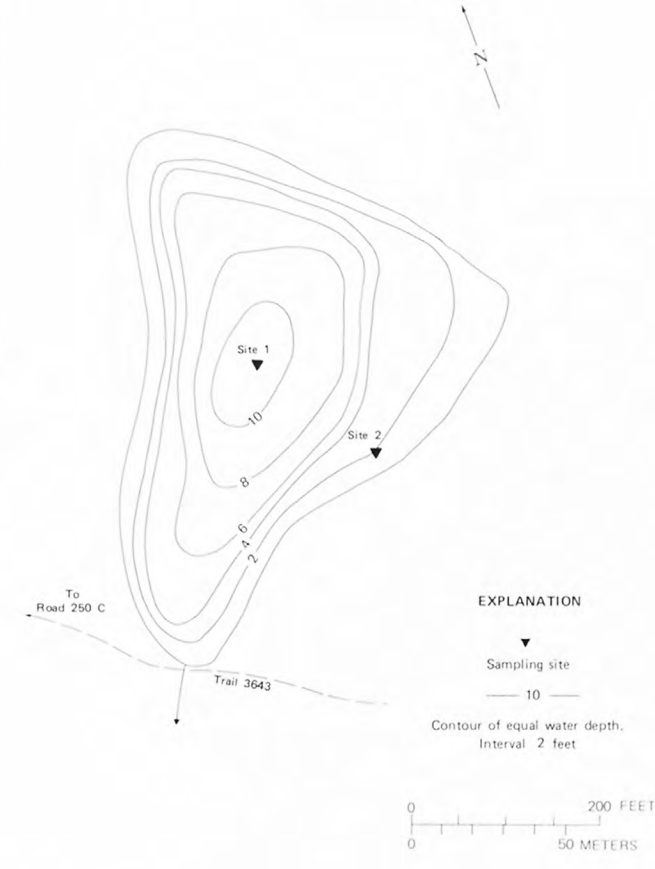
WATER-QUALITY DATA

Site 1

SAMPLING TIME	1830	hours
CLOUD COVER	100	percent
ALKALINITY (mg/L as $CaCO_3$)	1	
TOTAL HARDNESS (mg/L as $CaCO_3$)	1	
DISSOLVED SOLIDS (mg/L)	2	
TRANSPARENCY (meters)	3.1 (bottom)	
COLOR (Pt-Co units)	0	
FECAL COLIFORM (colonies/100 ml)		
Site 2	<1	
FECAL STREPTOCOCCI (colonies/100 ml)		
Site 2	K4	



BATHYMETRIC MAP



LOCATION: Sec. 14, T. 25 S., R 5½ E., in the Willamette National Forest about 20 mi (32 km) northeast of Toketee Falls and 23 mi (37 km) north of Crater Lake National Park. Surface-water outlet at lat 43°24'10", long 122°05'07". Summit Lake 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Middle Fork Willamette River (Willamette River).

DRAINAGE AREA: 1.14 mi^2 (2.95 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 6,060 ft (1,850 m) above mean sea level, from topographic map.

VOLUME: 25 acre-ft (31,000 m^3).

INFLOW: No flow observed in channel on south end of lake.

OUTFLOW: No measurable flow observed through channel to Amos and Andy Lake.

USE: Public recreation. The lake has been stocked annually with fingerling brook and rainbow trout by the Oregon Department of Fish and Wildlife.

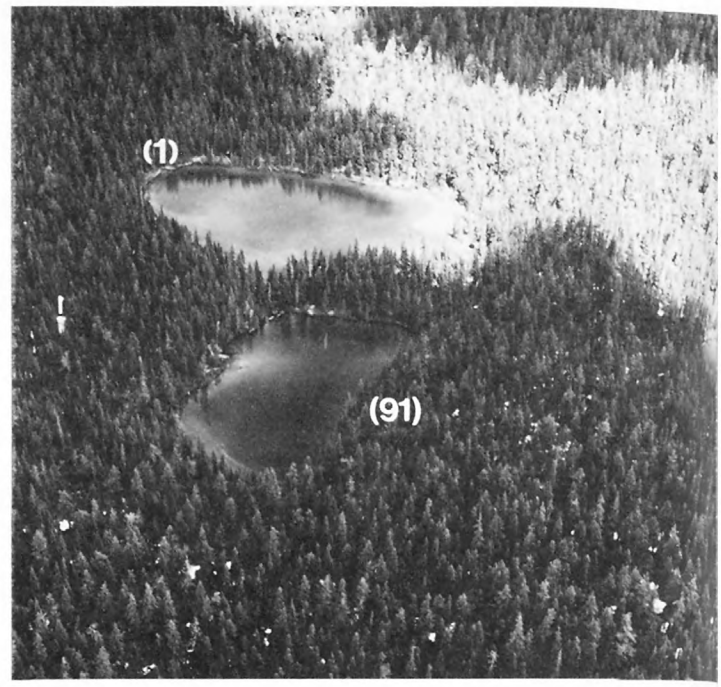
REMARKS: No evidence of submerged aquatic vegetation; however, emergent and floating grass covered about 1 percent of the surface of the lake. Bottom material is primarily silt and pumice with some organic detritus.

There are no maintained trails to the lake.

Access to lake 0.5 mi (0.8 km) from Forest Service Trail 3643 (off Forest Service Road 250 c).

The lake is also referred to as Andy Lake in the records of Oregon Department of Fish and Wildlife.

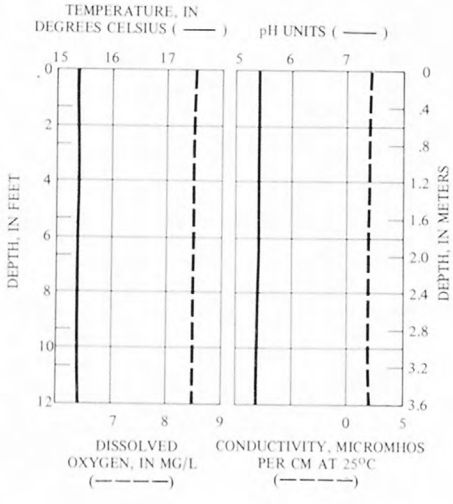
Reference: 9.



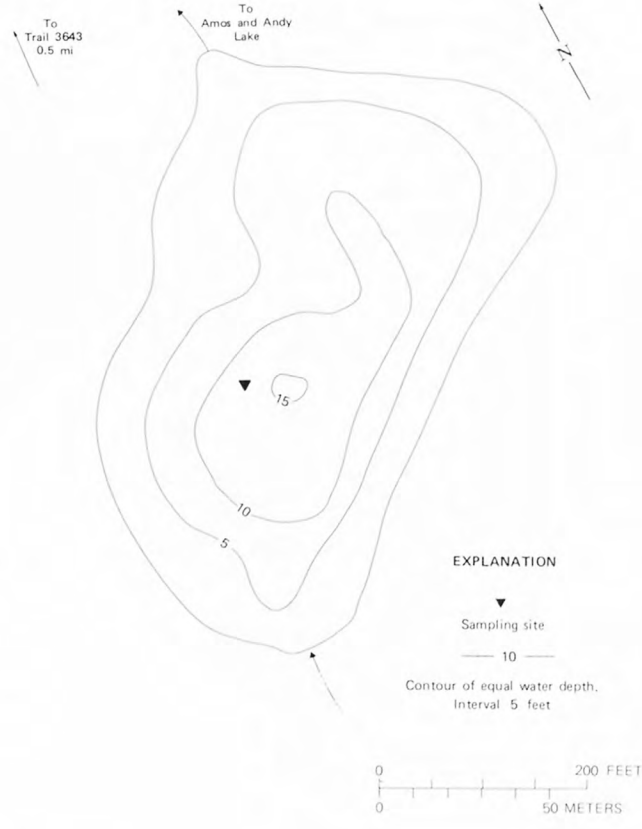
Photograph taken July 12, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1415
CLOUD COVER:	100
ALKALINITY (mg/L as $CaCO_3$)	1
TOTAL HARDNESS (mg/L as $CaCO_3$)	1
DISSOLVED SOLIDS (mg/L)	1
TRANSPARENCY (meters)	3.7 (bottom)
COLOR (Pt-Co units)	0
FECAL COLIFORM (colonies/100 ml)	
Outflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Outflow	44



BATHYMETRIC MAP



LOCATION: Sec. 24, T. 26 S., R. 4 W., about 1.0 mi (1.6 km) west of Glide and 11 mi (18 km) southeast of Sutherlin. Regulated outlet at lat 43°17'43", long 123°07'14". Glide 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.86 mi^2 (2.23 km^2).

SURFACE AREA: 14 acres (57,000 m^2) at normal pool.

SURFACE ELEVATION: 780 ft (240 m) above mean sea level, from topographic map.

VOLUME: 170 acre-ft (210,000 m^3) at normal pool.

INFLOW: No flow observed through channels on south end of reservoir.

OUTFLOW: No flow observed through regulated outlet on north end of reservoir.

USE: Private recreation and irrigation.

REMARKS: No evidence of floating or submerged aquatic growth. Bottom material is primarily mud and rock.

Water-rights certificates issued for storage of 171.9 acre-ft (0.21 hm^3) for irrigation.

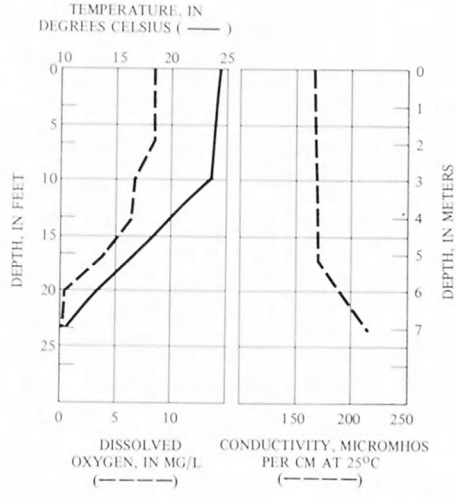
The bathymetric map represents the reservoir at 1 ft (0.3 m) below normal pool. Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

References: 11, 12.

Photograph taken August 2, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1100 hours
CLOUD COVER:	0 percent
ALKALINITY (mg/L as $CaCO_3$)	48
TOTAL HARDNESS (mg/L as $CaCO_3$)	80
DISSOLVED SOLIDS (mg/L)	105
TRANSPARENCY (meters)	3.0
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	K6



LOCATION: Sec. 25, T. 28 S., R. 8 W., about 1.5 mi (2.4 km) west of Tenmile and 6 mi (10 km) northeast of Camas Valley. Regulated outlet at lat 43°06'14", long 123°35'18". Camas Valley 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: South Umpqua River (Umpqua River).

DRAINAGE AREA: 0.28 mi^2 (0.73 km^2).

SURFACE AREA: 4 acres (16,000 m^2).

SURFACE ELEVATION: 800 ft (240 m) above mean sea level, from topographic map.

VOLUME: 50 acre-ft (62,000 m^3).

INFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) through channel on northwest end of reservoir.

OUTFLOW: Estimated less than 0.5 ft^3/s (0.01 m^3/s) over spillway into channel on southeast end of reservoir.

USE: No recreational use, irrigation storage pond.

REMARKS: Some emergent reeds, dead trees, and submerged aquatic growth were observed in the reservoir. Bottom material is primarily mud and gravel.

The water color was green on the survey date.

Water-rights certificate issued for storage of 50.0 acre-ft (62,000 m^3), not to exceed 50.0 acre-ft (62,000 m^3) for irrigation.

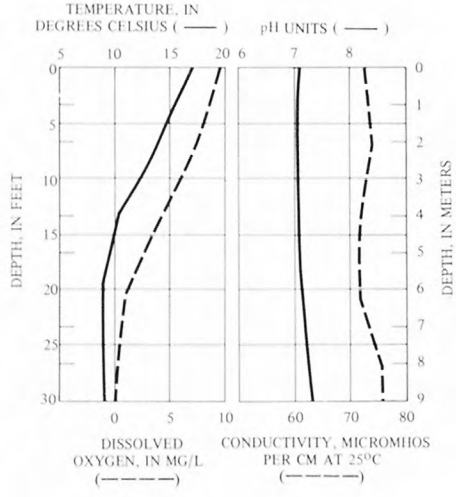
Information on surface area, volume, and bathymetry furnished by Edward J. Wageman.

Reference: 11.

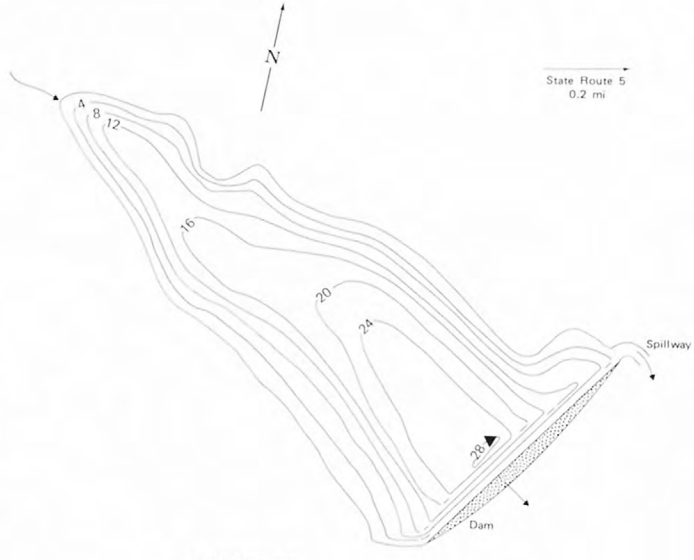
Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1730 hours
CLOUD COVER	60 percent
ALKALINITY (mg/L as $CaCO_3$)	30
TOTAL HARDNESS (mg/L as $CaCO_3$)	28
DISSOLVED SOLIDS (mg/L)	64
TRANSPARENCY (meters)	2.2
COLOR (Pt-Co units)	30
FECAL COLIFORM (colonies/100 ml)	
Sampling site	<1
Inflow	<1
FECAL STREPTOCOCCI (colonies/100 ml)	
Sampling site	K2



BATHYMETRIC MAP



EXPLANATION

▼ Sampling site

—— 20 —— Contour of equal water depth. Interval 4 feet

0 250 FEET
0 50 METERS

LOCATION: Sec. 17, T. 21 S., R. 9 W., about 7 mi (11 km) north of Scottsburg and 15 mi (24 km) northeast of Reedsport. Surface-water outlet at lat 43°44'51", long 123° 47'41". Scottsburg 15-minute quadrangle map.

DRAINAGE BASIN: Smith River (Umpqua River).

DRAINAGE AREA: 1.26 mi^2 (3.26 km^2).

SURFACE AREA: 5 acres (20,000 m^2).

SURFACE ELEVATION: 840 ft (260 m) above mean sea level, from topographic map.

VOLUME: 50 acre-ft (62,000 m^3).

INFLOW: Through Wassen Creek on the south side of the lake and through unnamed channel on the east side of the lake. Estimated 0.5 ft^3/s (0.01 m^3/s) from Wassen Creek.

OUTFLOW: Wassen Creek on the west end of the lake.

USE: Public recreation. There is a natural reproduction of cutthroat trout in the lake.

REMARKS: Some submerged aquatic vegetation was observed along the shoal area, and floating pond lilies and emergent grass covered about 10 percent of the surface of the lake. Emergent dead trees were observed throughout the lake. Bottom material along the shoal area is primarily mud and sand with some organic detritus.

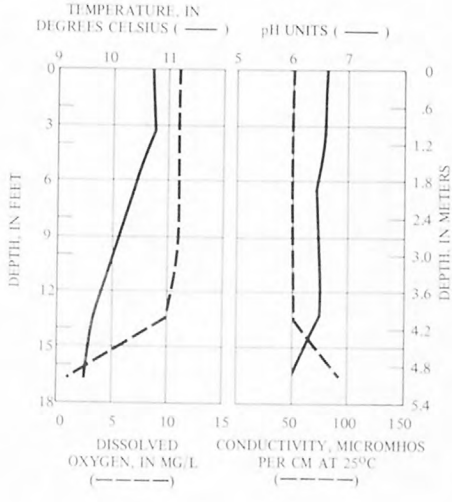
Access to lake 0.2 mi (0.3 km) by primitive road from Western Lane Forest Road 21-9-8.

References: 5, 9, 12.

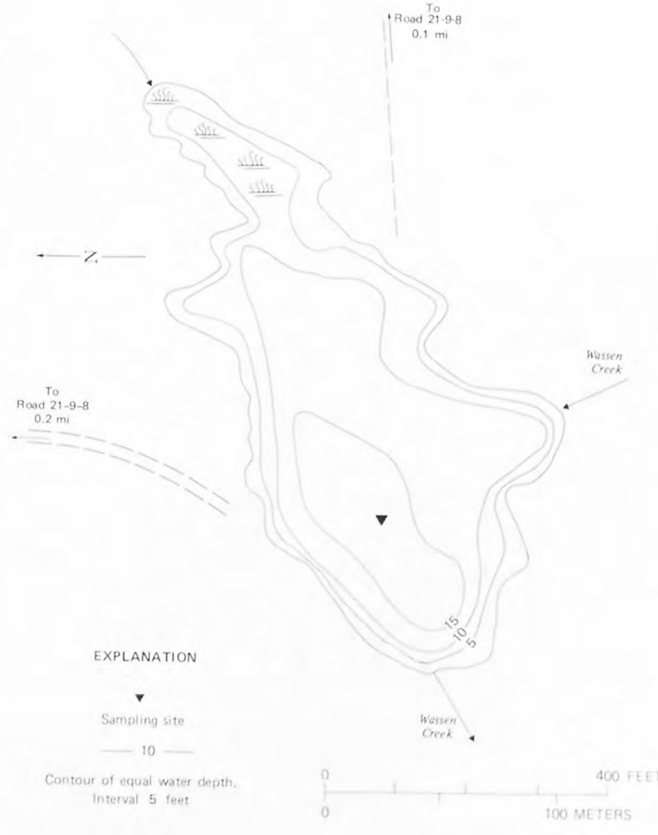
Photograph taken June 27, 1978.

WATER-QUALITY DATA

SAMPLING TIME	1230	hours
CLOUD COVER	70	percent
ALKALINITY (mg/L as $CaCO_3$)	17	
TOTAL HARDNESS (mg/L as $CaCO_3$)	13	
DISSOLVED SOLIDS (mg/L)	44	
TRANSPARENCY (meters)	2.6	
COLOR (Pt-Co units)	20	
FECAL COLIFORM (colonies/100 ml)		
Wassen Creek (inflow)	<1	
Wassen Creek (outflow)	K6	



BATHYMETRIC MAP



LOCATION: Sec. 28, T. 23 S., R. 5 W., near Rice Hill about 3.5 mi (5.6 km) south of Yoncalla. Regulated outlet at lat 43°32'34", long 123°17'58". Drain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: 0.42 mi² (1.09 km²).

SURFACE AREA: 13 acres (53,000 m²) at full pool.

SURFACE ELEVATION: 520 ft (160 m) above mean sea level, from topographic map.

VOLUME: 75 acre-ft (92,000 m³) at full pool.

INFLOW: No flow observed through channel on the north end of the reservoir.

OUTFLOW: No flow observed through regulated outlet on the south side of the reservoir to Yoncalla Creek.

USE: Privately owned storage pond for irrigation water. There is a natural reproduction of crappies, bluegills, and bass in the lake.

REMARKS: Emergent dead trees and submerged aquatic growth were observed along the shoreline. Bottom material is primarily mud.

Water-rights certificate issued for storage of 50.0 acre-ft (62,000 m³) for irrigation, and 5.0 acre-ft (6,200 m³) for fish culture.

Reference: 11.

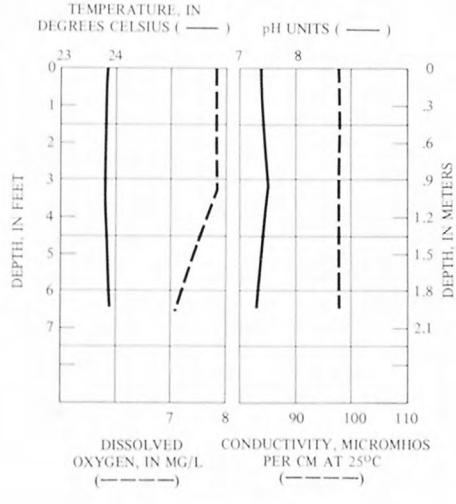
Photograph taken July 13, 1978.

WATER-QUALITY DATA

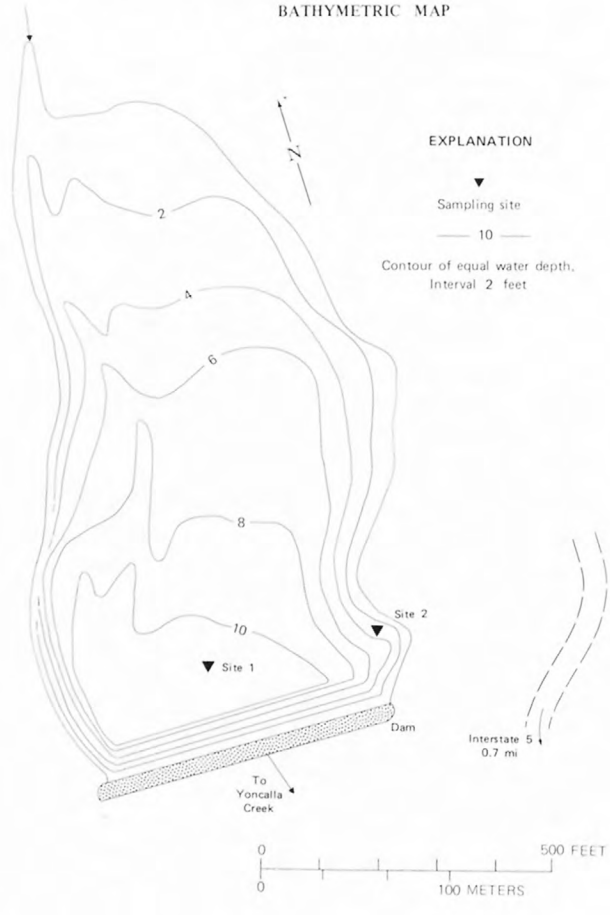
Site 1

SAMPLING TIME:	0930 hours
CLOUD COVER:	100 percent
ALKALINITY (mg/L as $CaCO_3$)	42
TOTAL HARDNESS (mg/L as $CaCO_3$)	43
DISSOLVED SOLIDS (mg/L)	68
TRANSPARENCY (meters)	0.8
COLOR (Pt-Co units)	25
FECAL COLIFORM (colonies/100 ml)	
Site 2	K7

Site 1



BATHYMETRIC MAP



LOCATION: Sec. 35, T. 22 S., R. 6 W., about 4 mi (6.4 km) northwest of Yoncalla and 4 mi (6.4 km) southwest of Drain. Regulated outlet at lat 43°37'14", long 123°22'11". Drain 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: 4.52 mi^2 (11.7 km^2).

SURFACE AREA: 20 acres (81,000 m^2) at normal pool.

SURFACE ELEVATION: 720 ft (220 m) above mean sea level, from topographic map.

VOLUME: 290 acre-ft (360,000 m^3) at normal pool.

INFLOW: Estimated total flow 5 ft^3/s (0.14 m^3/s) from Lost Cabin Creek and inflows 2 and 3. No measureable inflow from inflow 1.

OUTFLOW: Estimated 4.5 ft^3/s (0.13 m^3/s) through regulated outlet into Bear Creek.

USE: No recreational use. The reservoir provides a municipal water supply for the city of Drain.

REMARKS: No evidence of emergent growth; however, submerged aquatic vegetation was observed along the shoal area. Bottom material is primarily mud.

Water-rights permit for storage of 1,000 acre-ft (1.2 hm^3), not to exceed 1,000 acre-ft (1.2 hm^3) for municipal use.

The bathymetric map represents the reservoir 1 ft (0.3 m) above normal pool.

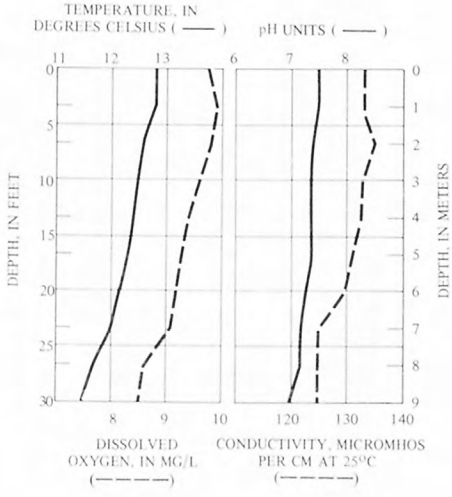
Information on bathymetry furnished by the Oregon Water Resources Department.

Reference: 11.

Photograph taken July 13, 1978.

WATER-QUALITY DATA

SAMPLING TIME:	1345	hours
CLOUD COVER:	60	percent
ALKALINITY (mg/L as $CaCO_3$)	51	
TOTAL HARDNESS (mg/L as $CaCO_3$)	53	
DISSOLVED SOLIDS (mg/L)	93	
TRANSPARENCY (meters)	1.8	
COLOR (Pt-Co units)	25	
FECAL COLIFORM (colonies/100 ml)		
Inflow 3	K14	
FECAL STREPTOCOCCI (colonies/100 ml)		
Inflow 3	K95	



LOCATION: Secs. 17, 18, 19, and 20, T. 26 S., R. 4 W., about 7 mi (11 km) southeast of Sutherlin and 5.5 mi (8.8 km) west of Glide. Surface-water outlet at lat 43°18'10", long 123°12'26". Glide 15-minute quadrangle map (not shown on map).

DRAINAGE BASIN: North Umpqua River (Umpqua River).

DRAINAGE AREA: 0.82 mi^2 (2.12 km^2).

SURFACE AREA: 35 acres (140,000 m^2) at normal pool.

SURFACE ELEVATION: 680 ft (210 m) above mean sea level, from topographic map.

VOLUME: 380 acre-ft (470,000 m^3) at normal pool.

INFLOW: No flow observed through channels on southeast end of reservoir.

OUTFLOW: No flow observed in Bull Creek on northwest end of reservoir.

USE: Used for irrigation and as a water supply for livestock.

REMARKS: Some emergent grass was observed along the shoreline, and submerged aquatic growth covered about 20 percent of the bottom of the reservoir. Bottom material is primarily mud.

Water-rights certificate issued for storage of 350 acre-ft (0.43 hm^3).

Information on surface area, volume, and bathymetry furnished by the Oregon Water Resources Department.

References: 11, 12.

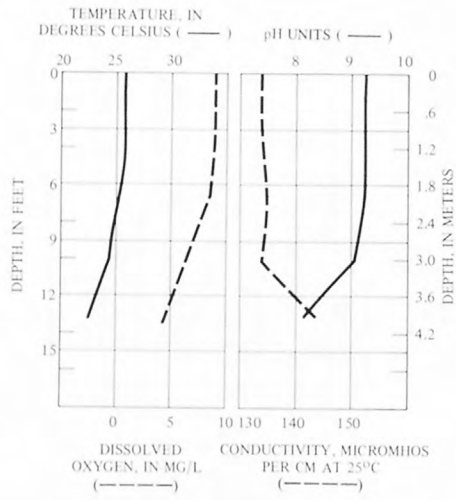
Photograph taken August 2, 1978

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1430 hours
CLOUD COVER:	90 percent
ALKALINITY (mg/L as $CaCO_3$)	62
TOTAL HARDNESS (mg/L as $CaCO_3$)	63
DISSOLVED SOLIDS (mg/L)	95
TRANSPARENCY (meters)	2.2
COLOR (Pt-Co units)	15
FECAL COLIFORM (colonies/100 ml)	
Site 1	K1
Site 2	K1

Site 1



BATHYMETRIC MAP

LOCATION: Sec. 3, T. 23 S., R. 5 W., just east of Yoncalla and about 4 mi (6.4 km) southeast of Drain. Southernmost tip of pond at lat 43°35'39", long 123°16'41". Drain 15-minute quadrangle map (not named on map).

DRAINAGE BASIN: Elk Creek (Umpqua River).

DRAINAGE AREA: Indeterminate.

SURFACE AREA: 40 acres (160,000 m^2).

SURFACE ELEVATION: 350 ft (110 m) above mean sea level, from topographic map.

VOLUME: 220 acre-ft (270,000 m^3).

INFLOW: No channel observed and none indicated on topographic map.

OUTFLOW: No channel observed and none indicated on topographic map.

USE: No recreational use, formerly a log pond.

REMARKS: Emergent growth covered about 10 percent of the surface of the pond, and some submerged aquatic vegetation was observed. Bottom material is primarily mud. The water color was green on the survey date.

Water-rights certificate issued for storage of 206.2 acre-ft (0.25 hm^3) for industrial use.

References: 11, 12.

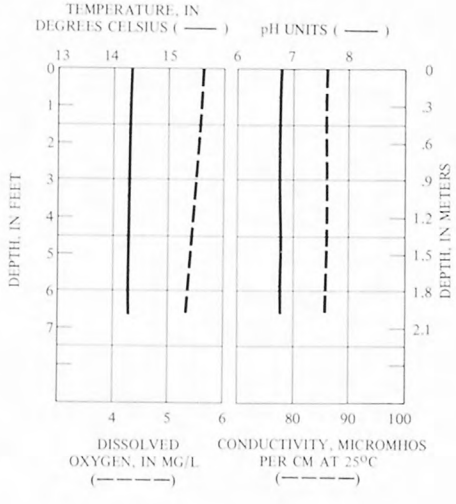
Photograph taken July 13, 1978.

WATER-QUALITY DATA

Site 1

SAMPLING TIME:	1000 hours
CLOUD COVER:	15 percent
ALKALINITY (mg/L as $CaCO_3$)	27
TOTAL HARDNESS (mg/L as $CaCO_3$)	46
DISSOLVED SOLIDS (mg/L)	66
TRANSPARENCY (meters)	0.6
COLOR (Pt-Co units)	40
FECAL COLIFORM (colonies/100 ml) Site 2	K82
FECAL STREPTOCOCCI (colonies/100 ml) Site 2	20

Site 1



BATHYMETRIC MAP

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Lake Marie *(Photograph courtesy of Douglas County Museum collection)*

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
Water Resources Division
Portland, Oregon