

## SCOUT LAKE



### Introduction

Scout Lake is an intermediate-sized natural lake in the western High Uintas. Biologically and geologically it is comparable to numerous other glacial lakes in the High Uintas. It is located within the boundaries of Camp Steiner, a Boy Scouts of America camp. Consequently, it receives

a substantial impact from recreational use during the entire summer period. It is nestled on the southern face of the divide with three major peaks on the north and west sides that ascend quickly an additional 600 feet above the lake. The shoreline is owned by the Wasatch-Cache National Forest, and public access is unrestricted. The lake drainage is the extreme headwaters of the Duchesne

#### Characteristics and Morphometry

Lake elevation (meters / feet)	3,164 / 10,380
Surface area (hectares / acres)	7.3 / 18
Watershed area (hectares / acres)	85.8 / 212
Volume (m <sup>3</sup> / acre-feet)	
capacity	222,030 / 180
conservation pool	0
Annual inflow (m <sup>3</sup> / acre-feet)	
Retention time (years)	
Drawdown (m <sup>3</sup> / acre-feet)	0
Depth (meters / feet)	
maximum	5.2 / 17
mean	3.0 / 10
Length (meters / feet)	442 / 1,450
Width (meters / feet)	351 / 1,150
Shoreline (meters / feet)	1,158 / 3,800

#### Location

County	Duchesne
Longitude / Latitude	110 53 03 / 40 43 19
USGS Map	Mirror Lake, UT 1972
DeLorme's Utah Atlas & Gazetteer™	Page 54, B-3
Cataloging Unit	Duchesne (16060003)

River and is not regulated in any way by man.

### Recreation

Scout Lake is easily accessible from U-150 about 33 miles east of Kamas. There is a roadway entrance through the Camp Steiner entrance which is clearly

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marked, but the preferred access route for the public is  
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north of Camp Steiner. Although Camp Steiner is within the jurisdiction of the U.S. forest service, public use of the lake is permitted through their lease agreement.

Fishing, boating, swimming, camping, picnicking, scenic beauty and hiking are all popular. During the summer period the lake is heavily used by the Boy Scouts of America for fishing, boating, and swimming. Motorized boats are prohibited. Except for a few warm days in the late summer, air and water are too cold for swimming. The lake is surrounded by peaks to the north and west in a fairly heavy forested area.

There are no public recreational facilities at the lake, only those provided by and for Camp Steiner. There are numerous campgrounds in the area for use by the public.

**Watershed Description**

Scout Lake is located in the western end of the High Uintas. The watershed is quite small, and consists of dense forest, smaller lakes, boggy meadows, and barren, rugged mountain peaks.

The watershed high point, an unnamed peak just west of the lake, is 3,387 m (11,113 ft) above sea level, thereby developing a complex slope of 28.8% to the reservoir. Slopes are very steep in the area, at times near 80%. Around the lake slopes moderate, with a buffer area somewhat flat near the lake. There are no perennial streams flowing into the lake, but because of the high elevation, snowmelt can flow into the lake for most of the summer. There is also no perennial outflow from the lake.

The watershed is made up primarily of high mountains and rolling mountainous area with some meadows near and around the lake. The soil associations that compose the watershed are listed in Appendix III.

The vegetation communities consist of Pine, oak, maple, spruce-fir and aspen. The watershed receives 76-102 cm (30 - 40 inches) of precipitation annually. The frost-free season around the reservoir is 0 - 20 days per year.

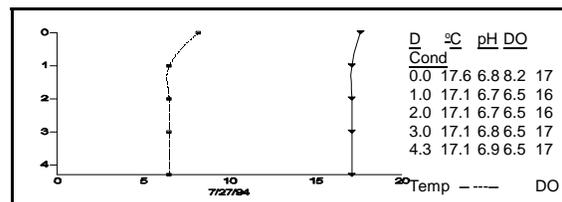
Land use in the watershed is 100% multiple use, with grazing and human recreation, primarily a boy scout camp, being the primary uses.

**Limnological Assessment**

The water quality of Scout Lake is very good. It is considered to be very soft with a hardness concentration value of approximately 6.8 mg/L (CaCO3). Currently there are no parameters with overall water column concentrations that exceed State water quality standards. However it should be noted that data has only been obtained for one summer period and additional data will need to be obtained to verify this status. There are indications that some winter monitoring needs to be conducted due to extensive mats of submerged macrophytes to determine if winter anoxic conditions exist.

Limnological Data	
Data sampled from STORET site: 593605	
<b>Surface Data</b> <u>1994</u>	
Trophic Status	O
Chlorophyll TSI	35.81
Secchi Depth TSI	39.49
Phosphorous TSI	39.98
Average TSI	38.43
Chlorophyll <u>a</u> (ug/L)	1.7
Transparency (m)	4.2
Total Phosphorous (ug/L)	12
pH	6.8
Total Susp. Solids (mg/L)	1.5
Total Volatile Solids (mg/L)	2
Total Residual Solids (mg/L)	2
Temperature (°C / °f)	13/55
Conductivity (umhos.cm)	17
<b>Water Column Data</b>	
Ammonia (mg/L)	0.03
Nitrate/Nitrite (mg/L)	0.01
Hardness (mg/L)	6.8
Alkalinity (mg/L)	7
Silica (mg/L)	-
Total Phosphorous (ug/L)	10
<b>Miscellaneous Data</b>	
Limiting Nutrient	N
DO (Mg/l) at 75% depth	6.5
Stratification (m)	NO
Depth at Deepest Site (m)	4.3

Current data indicates that this a nitrogen limited lake. TSI values define it in an oligotrophic state with low production. The potential for stratification in the lake does not exist due to the shallow nature of the lake, the short summer period and other climatic conditions. This is also indicated by the July 27, 1994 profile. According to DWR no fish kills have been reported in recent years. The reservoir supports a population of rainbow trout (*Oncorhynchus mykiss*), but other species may still be present because the lake has not been treated for rough fish competition. The DWR stocks the lake annually with 1,000 catchable rainbow trout.



Phytoplankton in the euphotic zone include the following taxa (in order of dominance)

Species	Cell Volume (mm <sup>3</sup> /liter)	% Density By Volume
<i>Merismopedia glauca</i>	1.526	46.84
<i>Gloeocystis sp.</i>	1.000	30.71
<i>Mougeotia sp.</i>	0.556	17.06
<i>Oocystis sp.</i>	0.067	2.05
Pennate diatoms	0.076	2.32
<i>Crucigenia sp.</i>	0.022	0.68
Unknown spherical chlorophyta	0.011	0.34
Total	3.258	
Shannon-Weaver [H']	1.24	
Species Evenness	0.64	
Species Richness	0.27	

The phytoplankton community is dominated by the presence of blue-green and green algae indicative of good water quality that is nitrogen limited.

#### Pollution Assessment

Nonpoint pollution sources include the following: sedimentation and nutrient loading from grazing; and litter or waste associated with recreation.

There are no point sources of pollution in the watershed.

#### Beneficial Use Classification

The state beneficial use classifications include: recreational bathing (swimming) (2A), boating and similar recreation (excluding swimming) (2B), cold water game fish and organisms in their food chain (3A) and agricultural uses (4).