STANSBURY LAKE

Introduction

Stansbury Lake is an intermediate-sized, artificial lake between Tooele and the Great Salt Lake. It is was created as part of the landscape of Stansbury Park, a residential community. The shores are undulating, so as to provide maximum shoreline length, thereby maximizing the number of residential lots with shoreline. Over 250 lots have lake frontage. The lake is spring fed, and has no active inlet. Due to the continual evaporation of water, the lake is somewhat saline.

Stansbury Lake was created in about 1970 by the excavation of the lake basin. The lake was allowed to fill with spring water. The shoreline is 100% privately owned, with public access restricted to a boat launch near the clubhouse. Reservoir water is for irrigating the adjacent golf course, but runoff returns to the lake via ponds in the golf course. No changes in water use are foreseen.

Characteristics and Morphometry

Lake elevation (meters / feet)	1,299 / 4,263
Surface area (hectares / acres)	48.6 / 120
Watershed area (hectares / acres)	313 / 773
Volume (m^3 / acre-feet)	
capacity	888,121 / 720
conservation pool	0
Annual inflow (m^3 / acre-feet)	
Retention time (years)	
Drawdown (m^3 / acre-feet)	296,040 / 240
Depth (meters / feet)	
maximum	1.8 / 6
mean	1.8 / 6
Length (meters / feet)	1,800 / 5,706
Width (meters / feet)	500 / 1,641
Shoreline (km / miles)	10.2 / 6.3

Location

County	Tooele
Longitude / Latitude	112 18 17 / 40 38 40
USGS Maps	Mills Junction, UT 1972
DeLorme's Utah Atlas & Gazetteer™	Page 52 B-3
Cataloging Unit	Rush/Tooele Valleys (16020304)

Recreation

Stansbury Lake is accessible from U-36 between

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Tooele and I-80. Signs direct visitors from U-36 to the clubhouse, which is on the lake. From U-36, turn west on Stansbury Parkway (1/2 mile south of the U-138 jct), and immediately south on Country Club Drive, a frontage road to U-36. 1/3 miles south, turn west (left) on Club House Drive, which passes the Club House in 1/2 mile.

Fishing, swimming and nonmotorized boating are permitted on the lake. A launching fee is charged for visitors. Remember you are a guest at this facility.

There are no public or private campgrounds in the area.

Watershed Description

Stansbury Lake is artificial lake. The basin was excavated from the alluvial plain at the northwest edge of the Oquirrh Mountains. The lake has a very small watershed, consisting solely of the golf course to the south and neighboring residential areas. The lake is spring-fed. Because the watershed consists entirely of land in an unnatural state, impacts from storm and irrigation runoff is the major factor in watershed integrity.

Because the watershed is so flat, the high point is not significant. There are no perennial surface inlets, although water from neighboring Mill Pond can be released into the lake. Runoff from the Oquirrh Mountains does not enter the lake.

The soil in the watershed is desert alluvial deposits that have been disturbed, covered with a layer of topsoil, and turned into irrigated lawns and gardens.

The vegetation communities consist of sagebrush-grass and noxious weeds in undeveloped sites, and irrigated lawns and gardens in the remainder of the watershed. The lake receives 25 - 30 cm (10 - 12 inches) of precipitation annually. The frost-free season around the reservoir is 160 -200 days per year.

Land use is urban and recreational. The remaining undeveloped land in the project is sitting idle.

Limnological Assessment

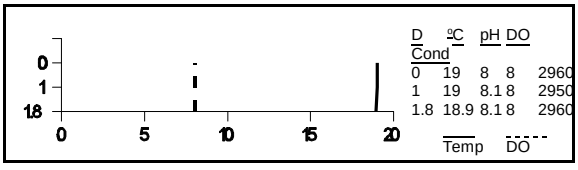
The water quality of Stansbury Lake is considered good. It is considered to be extremely had with a hardness concentration value of approximately 617 mg/L ($CaCO_3$). The only parameter that has exceeded State water quality standards for defined beneficial uses is total phosphorus. The average concentrations of total phosphorus in the water column was highest in 1981 at 50 mg/L. Recent data indicates that the average water column concentration is only slightly over the recommended pollution indicator for phosphorus of 25 ug/L at 29 mg/L. The phosphorus concentration will probably remain relatively constant due to the nature of the watershed, but could rise significantly without proper fertilizer management by property owners. Current data suggest that the reservoir is currently a nitrogen limited system. TSI values indicate the reservoir is eutrophic, but transparency values tend to be lower than probably could be expected due to the resuspension of sediments in this shallow system. The lake does not stratify due to its shallow nature.

According to DWR no fish kills have been reported in recent years. The reservoir supports a limited warm water fishery with populations of carp (*Cyprinus carpio*), bluegill (*Lepomis macrochirus*), and some largemouth bass (*Micropterus salmoides*). DWR currently does not stock the reservoir with fish. Old DWR files record naturally reproducing populations of Brown Trout and Black Bullheads.

Limnological Data

Data sampled from STORET site: 596015

Surface Data	1981	1990	1992
Trophic Status	H	E	E
Chlorophyll TSI	-	49.48	42.89
Secchi Depth TSI	61.52	75.13	77.35
Phosphorous TSI	63.19	42.70	51.40
Average TSI	62.36	55.77	57.21
Chlorophyll a (ug/L)	-	6.9	3.5
Transparency (m)	0.9	0.4	0.3
Total Phosphorous (ug/L)	60	15	27
pH	8.2	8.6	8.2
Total Susp. Solids (mg/L)	31	24	28
Total Volatile Solids (mg/L)	-	-	5
Total Residual Solids (mg/L)	-	-	23
Temperature (°C / °f)	20/68	23/74	18/64
Conductivity (umhos.cm)	2300	2620	2775
Water Column Data			
Ammonia (mg/L)	0.2	0.15	0.03
Nitrate/Nitrite (mg/L)	0.08	-	0.02
Hardness (mg/L)	557	648	645
Alkalinity (mg/L)	157	143	145
Silica (mg/L)	-	-	11.1
Total Phosphorous (ug/L)	50	14	29
Miscellaneous Data			
Limiting Nutrient	N	N	N
DO (Mg/l) at 75% depth	7.2	7.1	8.0
Stratification (m)	NO	NO	NO
Depth at Deepest Site (m)	1.5	2.2	1.8



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

Species	Cell Volume (mm^3/liter)	% Density By Volume
Gloeocystis sp.	17.180	47.88
Unknown filamentous green alga	17.164	47.84
Cosmarium sp.	0.545	1.52
Peridinium sp.	0.361	1.01
Pennate diatoms	0.311	0.87
Centric diatoms	0.142	0.40
Oocystis sp.	0.098	0.27
Ankistrodesmus falcatus	0.052	0.15
Euglena sp.	0.017	0.05
Scenedesmus sp.	0.008	0.02
Total	35.874	
Shannon-Weaver [H']	0.91	
Species Evenness	0.40	
Species Richness	0.38	

The phytoplankton community is dominated by the presence of green algae indicative of more mesotrophic conditions.

Pollution Assessment

Nonpoint pollution sources may include the following: urban wastes from streets and residential areas directly adjacent to the lake, and herbicides, pesticides or nutrients from the golf course.

There are no point sources of pollution in the watershed.

Beneficial Use Classification

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

Information

Management Agencies	
Wasatch Front Regional Council	292-4469
Division of Wildlife Resources	538-4700
Division of Water Quality	538-6146
Recreation	
Great Salt Lake Country Travel Region (SLC)	896-9222
Tooele Chamber of Commerce	882-0690
Lake Administrators	
Stansbury Park Homeowners Association	882-7447