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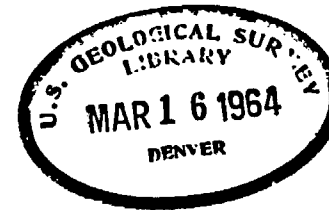
# Compilation of Records of Surface Waters of the United States, October 1950 to September 1960

## Part 10. The Great Basin

*Prepared under the direction of E. L. HENDRICKS, Chief, Surface Water Branch*

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GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1734



55063

105. Hilliard-East Fork Canal near State line, near Evanston, Wyo.

Location.--Lat 40°55', long 110°49', in NE 1/4 sec. 16, T.2 N., R.10 E., in Utah, on left bank 300 ft downstream from road bridge, three-quarters of a mile downstream from head, and 25 miles south of Evanston.

Records available.--November 1941 to September 1960. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 8,500 ft (from topographic map).

Average discharge.--18 years (1942-60), 5.15 cfs (3,730 acre-ft per year).

Extremes.--1941-60: Maximum daily discharge, 42 cfs June 15, 1956, June 16-19, 1960; no flow during winter and at other times each year except 1958.

Remarks.--Canal diverta from East Fork Bear River for irrigation of about 2,600 acres in Hilliard Flat area in Wyoming.

Monthly and yearly mean discharge, in cubic feet per second

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	0.22	0	0	0	0	0	0.06	3.35	16.3	24.1	19.5	7.77	6.07
1952	6.87	0.54	0	0	0	0	0	0	22.6	27.9	17.0	10.6	7.35
1953	2.48	0	0	0	0	0	0	0	14.3	19.3	10.5	4.54	4.29
1954	3.16	0	0	0	0	0	0.90	17.8	16.9	20.3	9.13	9.17	6.52
1955	6.94	1.51	0	0	0	0	0	5.41	22.9	19.6	6.04	13.1	6.46
1956	11.7	0	0	0	0	0	0	0	25.5	24.6	17.2	8.98	7.55
1957	6.48	0	0	0	0	0	0	1.12	5.33	23.3	14.0	6.58	4.98
1958	5.01	0.58	0	0	0	0	0.2	3.7	11.8	26.7	6.71	6.50	3.61
1959	6.40	1.78	0	0	0	0	0	2.45	15.9	20.5	4.97	6.15	7.51
1960	1.37	0.25	0	0	0	0	0	6.61	31.9	13.0	2.32	5.57	5.06

100. Great Salt Lake, Utah

Location.--Lat 40°44'05" long 112°12'45", in NE 1/4 sec. 17, T.1 S., R.3 W., at Salt Lake County Boat Harbor on southeast shore of lake, 17 miles west of Salt Lake City.

Records available.--September 1875 to December 1899, October 1902 to September 1960. Records for October 1902 to September 1912 and diagram showing fluctuations of lake from 1851-1950, published in WSP 1314.

Gage.--Water-stage recorder at Boat Harbor since October 1938 at datum 4,186.9 ft above mean sea level; datum of 1902. Prior to October 1938, staff gages at sites and datums as follows: September 1875 to October 1877 at Black Rock at datum 4,206.4 ft above mean sea level; November 1877 to October 1879 at Farmington Bay at datum 4,206.9 ft above mean sea level; November 1879 to April 1881 near Black Rock at datum 4,203.1 ft above mean sea level; April 1881 to December 1899 at Garfield Landing at datum 4,198.5 ft above mean sea level; and July 1903 to October 1938 at Saltair at datum 4,196.9 ft above mean sea level. Staff gage at Midlake October 1902 to September 1956 at datum 4,197.9 ft above mean sea level, datum of 1989.

Extremes.--1875-99: Maximum elevation observed, 4,210.9 ft June 30, 1876; minimum, 4,183.60 ft Sept. 15, 1960. Maximum elevation since 1851, 4,211.6 ft in 1873, computed from traditional data by E. C. Lantz.

Remarks.--To compensate for wind effect and seiches, elevation given for the gage are following 12:01 a.m. for the first of each month. Wind effects may cause substantial changes in elevation which are not shown in the published elevations.

Correction.--In WSP 1314, the elevations for April, June, July and August 1924 are listed in error; they should be 204.9, 205.1, 204.7, 204.5, and 204.0 respectively.

Elevation, in feet, on or near first day of month

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1851	197.55	197.6	197.9	198.3	198.5	198.5	199.2	199.45	199.6	199.85	199.15	198.85
1852	199.45	199.35	199.6	199.2	199.5	200.05	200.5	200.5	200.5	200.5	200.6	199.9
1853	199.55	199.4	199.55	199.6	200.05	200.2	200.3	200.5	200.5	200.5	200.5	199.9
1854	199.95	199.75	199.75	199.8	199.05	199.15	199.3	199.35	199.05	198.85	198.35	187.75
1855	197.55	197.15	197.25	197.3	197.45	197.6	197.65	198.05	197.85	197.6	197.3	186.95
1856	196.55	196.45	196.45	196.65	197.3	197.5	197.6	197.75	197.85	197.5	197.05	186.35
1857	196.0	195.9	195.9	196.25	196.75	196.75	197.0	197.45	197.4	196.95	196.35	186.3
1858	196.0	195.85	195.85	196.15	196.35	196.5	196.75	197.4	197.4	196.95	196.35	185.9
1859	195.5	195.25	195.3	195.5	195.75	195.95	196.0	196.4	196.4	195.9	195.3	184.8
1860	194.5	194.4	194.4	194.5	194.65	194.85	195.3	195.3	195.3	194.75	194.25	183.85

NOTE.--Add 4,000 ft to obtain elevation above mean sea level, datum of 1929.

Monthly and yearly discharges, in acre-feet

Water year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	13	0	0	0	0	0	4	208	1,090	1,480	1,160	462	4,000
1952	124	37	0	0	0	0	0	0	1,850	1,190	1,048	570	3,710
1953	182	181	0	0	0	0	0	0	1,090	1,010	562	545	4,720
1954	194	0	0	0	0	0	54	1,090	1,260	1,210	494	778	4,690
1955	427	90	0	0	0	0	0	333	1,360	1,210	494	778	4,690
1956	710	0	0	0	0	0	0	0	1,820	1,650	1,060	535	5,480
1957	530	0	0	0	0	0	0	69	317	1,430	736	509	3,590
1958	309	35	31	15	11	12	22	728	1,590	535	399	215	3,900
1959	394	106	0	0	0	0	0	146	979	1,760	1,268	308	5,440
1960	84	15	0	0	0	0	0	407	1,900	798	143	331	3,600

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30		Calendar year	
		Discharge	Minimum day	Mean	Acres-foot
1950	1214	31	July 7, 1951	0	4,400
1951	1244	39	June 25, 1952	0	5,310
1952	1544	39	June 21, 1954	0	4,720
1953	1544	38	June 20, 1955	0	4,690
1954	1394	38	June 20, 1955	0	4,690
1955	1444	42	June 15, 1956	0	5,480
1956	1514	36	July 7, 1957	0	4,750
1957	1564	36	June 17, 1958	0	3,900
1958	1634	33	June 18, 1959	0	5,440
1959	1634	33	June 18, 1960	0	5,440
1960	1714	42	June 18, 1960	0	5,440

a June 23-25, 29-30, 1959.

2870. Mono Lake near Mono Lake, Calif.

Location.--Lat 38°00', long 119°08', in NE 1/4 sec. 31, T. 2 N., R. 26 E., on west bank 1 mile south of town of Mono Lake.
Records available.--June 1912 to September 1960. Records prior to September 1934 are published in WSP 765.

Gage.--Staff gage or reference point. Datum of gage is 6 410.73 ft above mean sea level, datum of 1929. Prior to Oct. 2, 1945, at datum 20.07 ft lower. Gage readings have been reduced to elevations above mean sea level.

Extremes.--1912-60: Maximum elevation observed, 6 428.1 ft July 18, 1919; minimum observed, 6 397.65 ft Sept. 26, 1960.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power.

Table with 12 columns: Year, Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, July, Aug., Sept. Data shows elevation in feet for each month from 1911 to 1960.

Note.--Add 6,000.00 ft to obtain elevation above mean sea level, datum of 1929.

2874. Rush Creek above Grant Lake, near June Lake, Calif.

Location.--Lat 37°48'30", long 119°05'30", in NE 1/4 sec. 4, T. 2 S., R. 26 E., on left bank in narrows, 0.6 mile upstream from head of Grant Lake and 2.7 miles northwest of town of June Lake.

Drainage area.--51.2 sq mi.

Records available.--December 1938 to September 1960. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder and 15-foot Parshall flume. Altitude of gage is 7,200 ft (from topographic map).

Average discharge.--83 years (1937-60), 81.0 cfs (59,640 acre-ft per year).

Extremes.--1937-60: Maximum daily discharge, 711 cfs June 28, 1938; minimum daily, 5.5 cfs Sept. 6-8, 14, 1954.

Remarks.--Flow regulated by Gem Lake, Lake Agnew, and Vaugh Lake (combined capacity, 23,400 acre-ft), and by many natural lakes. No diversion.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; those for 1951-59 not previously published by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Table with 13 columns: Year, Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., The year. Data shows monthly and yearly mean discharge in cubic feet per second from 1961 to 1960.

Monthly and yearly discharge, in acre-feet

Table with 13 columns: Year, Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., The year. Data shows monthly and yearly discharge in acre-feet from 1961 to 1960.

Yearly discharges, in cubic feet per second

Table with 10 columns: Year, WSP, Discharge, Water year ending Sept. 30, Minimum day, Mean, Acre-feet, Calendar year, Mean, Acre-feet. Data shows yearly discharge statistics from 1960 to 1950.

a Files of city of Los Angeles, Department of Water and Power.

2885. Walker Lake near Hawthorne, Nev.

Location.--Lat 38°35'05", long 118°42'15", in NE 1/4 sec. 2, T. 8 N., R. 29 E., 5 1/2 miles northwest of Hawthorne.

Records available.--August 1928 to September 1960. Occasional readings prior to August 1928.

Gage.--Bench mark, at U. S. Naval Depot, 4,053.41 ft above mean sea level, adjustment of 1912.

Extremes.--1928-60: Maximum elevation observed, 4,051.8 ft Mar. 13, 1928 (Indian Service); minimum observed, 3,983.43 ft Sept. 23, 1960. An elevation of 4,078.0 ft, adjustment of 1912, was observed Sept. 27, 1908, by Geological Survey.

Remarks.--Elevations determined by spirit leveling.

Cooperation.--Records furnished by U. S. Navy Department.

Date		Elevation		Date		Elevation		Date		Elevation	
1950	Oct. 6	3,999.0	1954-Con.	Aug. 2	3,995.5	1957	Jan. 2	3,991.6	1958-Con.	Sept. 7	3,990.3
	Nov. 4	3,998.7		Sept. 30	3,994.2		Feb. 5	3,991.5		Dec. 1	3,989.8
	Dec. 11	3,998.4		Oct. 1	3,994.2		Mar. 7	3,991.5			
1951	Feb. 13	3,998.8		Oct. 29	3,993.8		Apr. 8	3,991.5	1959	Feb. 4	3,989.4
	Mar. 23	3,999.0		Dec. 1	3,993.4		May 2	3,991.5		Mar. 6	3,989.5
	May 18	3,999.0	1955	Jan. 6	3,993.3		June 4	3,991.4		Apr. 3	3,989.1
	June 7	3,998.6		July 6	3,992.1		July 1	3,991.1		June 25	3,988.8
	July 5	3,998.6		Aug. 1	3,992.0		Aug. 15	3,990.9		July 2	3,988.6
	Sept. 28	3,997.7		Sept. 1	3,991.3		Sept. 3	3,989.6		Aug. 2	3,987.8
	Oct. 3	3,997.3		Oct. 1	3,991.3		Oct. 4	3,989.3		Sept. 2	3,987.1
	Nov. 5	3,996.0	1956	Apr. 16	3,990.4		Nov. 1	3,989.2		Oct. 5	3,987.1
1952	Feb. 25	3,996.6		Apr. 16	3,990.4	1958	Jan. 7	3,989.1	1960	July 7	3,984.8
	Apr. 22	3,996.0		July 5	3,987.0		Feb. 5	3,988.0		Sept. 6	3,983.7
	Apr. 22	3,999.0		July 5	3,987.0		Apr. 19	3,988.0		Sept. 23	3,983.4
	Dec. 10	3,999.0		Aug. 1	3,982.2		May 2	3,989.2			
1954	Apr. 15	3,996.5		Sept. 6	3,991.5		June 2	3,989.5			
	May 13	3,996.4		Oct. 5	3,991.5		July 7	3,990.5			
	June 30	3,995.8		Nov. 5	3,991.6		Aug. 4	3,990.4			

2879. Lee Vining Creek near Lee Vining, Calif.

Location.--Lat 37°55'45", long 119°10'10", in SW 1/4 sec. 24, T. 1 N., R. 25 E., on right bank 0.8 mile upstream from Gibbs Canyon and 3.3 miles southwest of Lee Vining.

Drainage area.--35.8 sq mi.

Records available.--April 1934 to September 1960. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder on concrete revetment walls, rebuilt at different datum Oct. 17, 1955. Altitude of gage is 7,400 ft (from topographic map). Prior to Aug. 6, 1944, staff gage at same site at different datum.

Average discharge.--26 years (1934-60), 67.8 cfs (49,080 acre-ft per year).

Extremes.--1934-60: Maximum discharge observed, 503 cfs June 9, 1938 (gage height, 3,07 ft); no flow Nov. 29, 1935.

Remarks.--Flow regulated by Elbert, Saddlebag, and Pioga Lakes (combined capacity, 13,269 acre-ft), and several small natural lakes. No diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; those for 1951-59 not previously published by Geological Survey.

Monthly and yearly mean discharge, in cubic feet per second

Water Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	40.5	52.9	48.1	25.1	40.0	60.7	82.7	127	210	118	39.8	39.8	75.4
1952	38.8	44.1	38.3	37.1	35.1	46.7	67.3	166	248	212	97.4	82.8	61.3
1953	56.5	25.2	28.2	48.4	31.9	21.4	30.5	54.0	188	150	25.1	21.3	54.7
1954	20.0	9.04	11.4	8.95	16.5	14.3	17.9	13.5	135	66.2	47.3	42.2	40.1
1955	18.1	21.7	18.4	15.6	14.6	16.5	18.5	13.5	135	66.2	47.3	42.2	40.1
1956	31.7	30.4	33.6	55.9	57.6	33.5	32.9	84.0	201	76.8	60.2	77.7	77.7
1957	51.2	74.5	53.2	34.9	54.3	44.4	25.2	75.2	207	90.1	22.4	62.6	62.6
1958	31.5	23.0	22.5	18.2	36.7	30.6	28.1	140	109	168	33.0	70.1	70.1
1959	25.7	43.5	38.5	36.3	39.7	31.9	54.2	71.2	112	54.3	30.8	27.4	46.2
1960	18.7	16.1	24.1	24.7	24.0	20.0	48.7	64.4	114	44.8	24.3	18.7	38.5

Monthly and yearly discharge, in acre-feet

Water Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	The year
1951	2,490	3,150	2,860	1,450	2,220	3,750	4,850	7,600	12,510	7,160	2,450	2,380	55,190
1952	2,380	2,620	2,350	2,280	2,670	4,010	10,180	14,840	15,050	5,990	3,750	3,450	66,290
1953	3,480	1,370	1,740	2,850	1,770	1,310	1,850	3,320	10,010	11,060	2,600	2,450	45,150
1954	1,250	538	703	531	480	878	2,180	7,350	5,540	3,200	410	2,510	25,080
1955	1,110	1,390	1,150	949	859	965	1,070	4,580	6,020	3,700	2,910	2,510	25,080
1956	1,810	1,810	2,060	2,080	2,160	2,060	1,960	5,170	16,490	12,340	4,720	3,580	56,370
1957	2,850	4,420	3,270	2,140	2,170	2,580	1,580	4,500	12,320	5,540	2,550	1,530	45,310
1958	1,840	1,370	1,380	1,120	2,040	1,690	1,670	6,600	11,890	10,220	6,680	1,860	50,760
1959	1,460	2,590	2,370	2,230	2,210	1,460	5,230	4,390	6,640	5,340	1,900	1,650	35,940
1960	1,150	960	1,480	1,520	1,590	1,250	2,900	5,190	6,810	2,740	1,310	1,110	27,980

Yearly discharge, in cubic feet per second

Year	WSP	Water year ending Sept. 30		Calendar Year	
		Discharge	Minimum day	Mean	Acres-foot
1950	(a)				
1951	(a)	365	June 17, 1951	75.4	53,190
1952	(a)	391	June 9, 1952	91.5	66,290
1953	(a)	497	June 15, 1953	60.4	43,760
1954	(a)	254	May 20, 1954	5.6	25,150
1955	(a)	278	June 6, 1955	40.7	29,060
1956	(a)	391	June 29, 1956	7.4	56,370
1957	(a)	378	June 5, 1957	62.6	45,310
1958	(a)	335	June 24, 1958	8.0	50,760
1959	(a)	165	May 12, 1959	12	33,840
1960	1714	218	June 2, 1960	38.5	27,980

a Files of city of Los Angeles, Department of Water and Power.

HUMBOLDT RIVER BASIN

3360. Humboldt River near Lovelock, Nev.

Location.--Lat 40°03'05" N, long 118°28'105" W in SE 1/4 sec. 11, T.25 N., R.31 E., on right bank 300 ft below breached dam of Lovelock Land and Development Co. and 9 miles south of Lovelock.

Drainage area.--16,600 sq mi (revised), approximately.

Records available.--February 1912 to September 1927. June 1950 to September 1959. Monthly discharge only for some periods, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 3,900 ft (from topographic map). Prior to June 17, 1912, staff gage and June 17, 1912, to September 1927, water-stage recorder, at site 600 ft downstream at different datums. June 14, 1950, to Nov. 13, 1951, water-stage recorder at site 300 ft upstream at same datum.

Average discharges.--20 years (1913-16, 1918-22, 1923-27, 1950-59), 74.4 cfs (52,860 acre-ft per year).

Extremes.--1912-27. Maximum discharge, 3,540 cfs May 19, 1952 (gage height, 9.36 ft); no flow for several months in many years prior to construction of Rye Patch Dam.

Remarks.--Flow regulated by Rye Patch Reservoir (see p. 264) since Feb. 20, 1936, and affected by irrigation in Lovelock Valley.

Monthly and yearly mean discharge, in cubic feet per second

Table with columns: Water Year, Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., The year. Rows: 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960.

Monthly and yearly discharge, in acre-feet

Table with columns: Water Year, Oct., Nov., Dec., Jan., Feb., Mar., Apr., May, June, July, Aug., Sept., The year. Rows: 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960.

Yearly discharge, in cubic feet per second

Table with columns: Year, WSP, Discharge, Minimum day, Mean, Acre-foot, Calendar year. Rows: 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960.

PYRAMID AND WINNEMUCCA LAKES BASIN

3365. Pyramid Lake near Nixon, Nev.

Location.--Lat 39°50'130" N, long 119°28'100" W in SE 1/4 sec. 24, T.23 N., R.22 E., at southwest corner of concrete bridge No. 296 B, 150 ft southwest of milepost 297, 6 miles west of Nixon, and 11.5 miles south along Southern Pacific Railroad from station at Sutcliffe.

Records available.--1867-1925 (occasional elevations in some years), June 1926 to September 1950 (occasional elevations in each year).

Gage.--Bench mark N-21 of U. S. Coast and Geodetic Survey at elevation of 3,940.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. Prior to January 1934 elevations were determined from bench mark No. 1 of General Land Office using elevator of 3,882.26 ft adjustment of 1912 (to convert these records to supplementary adjustment of 1956, add 0.61 ft). January 1934 to September 1955, elevations were determined from bench mark N-21 using elevation of 3,940.04 ft, datum of 1929 (to convert these records to supplementary adjustment of 1956, add 0.25 ft).

Extremes.--1926-50. Maximum elevation observed, 3,848.75 ft June 1926; minimum observed, 3,796.44 ft Sept. 21, 1960. The highest elevation observed since 1867 was 3,884.9 ft in 1871.

Table with columns: Date, Elevation, Date, Elevation, Date, Elevation, Date, Elevation, Date, Elevation. Rows: 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960.

3370. Lake Tahoe at Tahoe, Calif.

Location.--Lat 39°10'04" N, long 120°08'23" W, in NE 1/4 sec. 7, T.15 N., R.17 E., on Truckee River at Tahoe, on pier 1,000 ft east of dam at lake outlet.

Drainage area.--506 sq mi at lake outlet.

Records available.--April 1900 to September 1960.

Gage.--Water-stage recorder. Datum of gage is 6,220.00 ft above mean sea level, datum of Bureau of Reclamation (6,219.01 ft, datum of 1929). Prior to Oct. 1, 1957, staff gages at several sites near outlet of lake at same datum. Oct. 1, 1957, to May 8, 1958, water-stage recorder on left wingwall of dam at outlet of lake at same datum.

Extremes.--1900-60. Maximum elevation, 6,231.26 ft July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft Dec. 28, 1934.

Remarks.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began about 1874. Reservoir capacity, 744,600 acre-ft between elevations 6,223 (natural rim of lake) and 6,229.1 ft (maximum permissible elevation by Federal Court decree). Water is used for domestic and recreational purposes in Lake Tahoe area and for irrigation and power in downstream areas. Figures given herein represent usable contents. Lake elevations are referred to Bureau of Reclamation datum because that datum is used as the official reference point by all local, state, and Federal agencies. One interagency trans-mountain diversion from Echo Lake to South Fork American River (Sacramento River basin) for power and irrigation. Records of chemical analyses for the period April 1951 to September 1960 and water temperatures for the period October 1958 to September 1960 are published in reports of Geological Survey.

Cooperation.--Records for 1934-57, not previously published by Geological Survey, furnished by Truckee-Carson Irrigation District in cooperation with Federal Court Watermaster.