Lake Tahoe lies between the main range of the Sierra Nevada, to the west in California, and the Carson Range, to the east in Nevada. Of the 192 mi² of its surface area, 70 percent lies in California and 30 percent in Nevada. Of the 314 mi² of tributary area, 75 percent is in California and 25 percent is in Nevada.

Because of the great interest in Lake Tahoe and its environs for land development and regional planning, there is need for accurate information concerning the areas of the drainage basins that together constitute the hydrologic area of the lake. To meet this need, the basins have been measured on the topographic maps of the region. Table 1 presents a summary of these measurements and lists the component areas that contribute to the outflow of Lake Tahoe at the outlet dam.

Basins and subbasins listed in table 1 are outlined on figure 1, a map of the lake and its tributary area. The map shows the points used to delimit the basins that were measured and shows gaging stations in the area. The points are indexed with an arbitrary numbering system that runs clockwise around the lake, starting at the northeast end of the Lake Tahoe outlet dam. All basins of appreciable size were measured independently; the intervening areas were also measured. In addition, the areas above stream-gaging points and the areas of major tributaries in selected large basins were measured. Some of these areas differ slightly from the areas previously determined, but the figures shown in this report are considered the best available and should be used.

Because of their possible value in hydrologic studies, table 1 also shows–for each basin measured–the channel length, the elevation of the channel at two points (10 percent and 85 percent of the channel length from the mouth or other point of interest to the crest of the divide), and the maximum elevation within the basin in question. For sites where a Geological Survey gaging station has been operated, the station number is listed.

Figure 2 is an index to the Geological Survey quadrangle maps that portray the Tahoe basin. All the basin except the southernmost part has been mapped on 7½-minute quadrangles. The map numbers shown in table 1 correspond to the quadrangle numbers of figure 2.

The gaging stations shown are continuous-record and partial-record streamflow and lake-stage measurement sites. At some of the stations sediment-discharge and water-quality data are also available. Data have been collected for years and continue to be collected at many stations. At other stations the data have been obtained sporadically, for specific studies. Other governmental and private agencies have also gathered data at or near these sites. Because of the difficulty of indicating the availability of all the various data, it is not attempted here; however, it would be wise for planners and developers to ascertain what data are available at the time and place of interest.

In addition to sewerage facilities, there are three known means of water export from the basin: Diversion from Echo Lake to the South Fork American River; diversion from Marlette Lake during dry years to Virginia City and Carson City; and diversion from the headwaters of Third Creek to Ophir Creek and thence to Washoe Valley. The total drainage area from which the three diversions can receive inflow is less than 10 mi². There is no known diversion of water into the Lake Tahoe basin from outside sources.

For the 75 years of record ending in September 1975, the average annual runoff from the lake and its basin, adjusted for net change in storage and for estimated diversions, was 7.0 in. (188,000 acre-ft). The highest year's runoff was 28.5 in. (767,000 acre-ft) in 1907 and the lowest was a net loss, because of low precipitation and high evaporation, of 7.2 in. (194,000 acre-ft) in 1924. More than 80 percent of the runoff into Lake Tahoe is from basins in California.

SELECTED REFERENCES

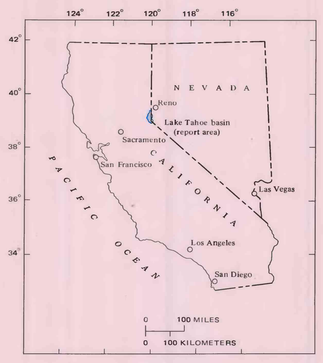
Crippen, J. R., and Pavelka, B. R., 1970, The Lake Tahoe basin, California-Nevada: U.S. Geol. Survey Water-Supply Paper 1972, 56 p.

U.S. Geological Survey, 1976, Water resources data for California, water year 1975. Volume 3, Southern Central Valley basins and The Great Basin from Walker River to Truckee River: U.S. Geol. Survey Water-Data Rept. CA 75 – 3, 397 p. (One in an annual series.)

TABLE 1. – *Selected data from areas tributary to Lake Tahoe and Truckee River at the Lake Tahoe outlet dam*

Site (fig. 1)	Basin name and reference point	Map No. (fig. 2)	Drainage area (mi²)	Channel length (mi)	Channel elevation (ft) Lower[1]	Channel elevation (ft) Upper[1]	Maximum basin elevation (ft)	Gaging station
1	AREA BETWEEN TRUCKEE RIVER AND SITE 2	4	0.15					
2	LAKE TAHOE TRIBUTARY AT MOUTH AT TAHOE CITY	4	1.11	2.55	6300	7200	7572	
2A	LAKE TAHOE TRIBUTARY AT TAHOE CITY	4	1.08	2.40	6340	7235	7572	10336680
3	INTERVENING AREA	4	0.40					
4	BURTON CREEK AT MOUTH	5	5.22	4.47	6350	7200	8424	
5	INTERVENING AREA	5	0.05					
6	UNNAMED CREEK AT MOUTH NEAR LAKE FOREST	5	1.13	3.07	6280	7460	8410	
7	INTERVENING AREA	5	0.03					
8	UNNAMED CREEK AT MOUTH AT LAKE FOREST	5	0.60	2.00	6245	6745	7050	
9	INTERVENING AREA	5	0.76					
10	DOLLAR CREEK AT MOUTH	5	1.11	2.88	6340	7580	7925	
10A	DOLLAR CREEK NEAR TAHOE CITY	5	1.07	2.68	6440	7600	7925	10336684
11	INTERVENING AREA	5	0.10					
12	UNNAMED CREEK AT MOUTH NEAR CEDAR FLAT	5	0.06	0.57	6260	6605	6680	
13	INTERVENING AREA	5	1.72					
14	WATSON CREEK AT MOUTH	5	2.42	3.32	6440	7660	8615	
15	INTERVENING AREA	5	0.10					
16	UNNAMED CREEK AT MOUTH NEAR CARNELIAN BAY	5	0.77	1.94	6320	7160	7640	
17	INTERVENING AREA	5	0.50					
18	CARNELIAN CANYON CREEK AT MOUTH	5	2.94	2.80	6255	7010	8250	
19	INTERVENING AREA	5	1.41					
20	SNOW CREEK AT MOUTH	5	4.49	3.66	6235	6920	8440	
21	INTERVENING AREA	5	0.09					
22	GRIFF CREEK AT MOUTH	5	4.62	4.03	6270	8100	9200	
23	INTERVENING AREA	5	0.14					
24	BALDY CREEK AT MOUTH	5	0.63	1.67	6250	6885	7350	
25	INTERVENING AREA	5	1.77					
26	UNNAMED CREEK AT MOUTH NEAR CRYSTAL BAY	6	0.67	1.88	6380	8540	9000	
27	FIRST CREEK AT MOUTH	6	1.06	2.34	6350	8480	9270	
27A	FIRST CREEK NEAR CRYSTAL BAY	6	1.06	2.26	6450	8500	9270	10336688
28	INTERVENING AREA	6	0.47					
29	SECOND CREEK AT MOUTH	6	1.31	3.04	6415	8840	9610	
29A	SECOND CREEK NEAR CRYSTAL BAY	3	1.26	2.74	6555	8920	9610	10336690
30	INTERVENING AREA	6	0.96					
31	WOOD CREEK AT MOUTH NEAR CRYSTAL BAY	6	1.95	3.94	6385	8080	9610	10336694
31A	WOOD CREEK NEAR CRYSTAL BAY	3	1.70	2.58	6890	8440	9610	10336693
32	INTERVENING AREA	6	0.41					
33	THIRD CREEK AT MOUTH	6	6.06	7.05	6360	9170	10338	
33A	THIRD CREEK NEAR CRYSTAL BAY	6	6.05	6.92	6375	9175	10338	10336698
33B	THIRD CREEK AT INCLINE VILLAGE	3	4.39	4.53	7420	9330	10338	10336696
34	INCLINE CREEK AT MOUTH	6	6.76	4.66	6285	8400	9225	
34A	INCLINE CREEK NEAR CRYSTAL BAY	6	6.74	4.49	6330	8420	9225	10336700
35	INTERVENING AREA	6	0.20					
36	MILL CREEK AT MOUTH	6	1.95	2.63	6270	8080	8520	
37	INTERVENING AREA	6	0.25					
38	TUNNEL CREEK AT MOUTH	6	1.27	2.04	6400	7855	8703	
39	INTERVENING AREA	6	0.18					
40	UNNAMED CREEK AT MOUTH NEAR SAND HARBOR	6	1.03	1.96	6540	8040	8850	
41	INTERVENING AREA	6	2.02					
42	MARLETTE CREEK AT MOUTH	6	4.94	3.44	6305	8015	9010	
42A	MARLETTE CREEK NEAR CARSON CITY	6	2.86	1.73	7830	8690	9010	10336715
42B	MARLETTE LAKE NEAR CARSON CITY	6	2.86					10336710
43	INTERVENING AREA	6	0.80					
44	SECRET HARBOR CREEK AT MOUTH	6	1.94	2.45	6400	8080	8738	
45	INTERVENING AREA	6	0.08					
46	BLISS CREEK AT MOUTH	6	0.57	1.52	6360	7115	7810	
47	INTERVENING AREA	6	1.33					
48	SLAUGHTERHOUSE CANYON CREEK AT MOUTH	9	6.42	7.00	6270	7715	9214	
49	INTERVENING AREA	9	0.96					
50	GLENBROOK CREEK AT MOUTH	9	4.09	3.92	6280	7710	8810	10336730
51	INTERVENING AREA	9	0.97					
52	NORTH LOGAN HOUSE CREEK AT MOUTH	9	1.08	2.53	6510	7880	8560	
53	INTERVENING AREA	9	0.02					
54	LOGAN HOUSE CREEK AT MOUTH	9	2.18	3.30	6540	8240	8818	
55	INTERVENING AREA	9	0.65					
56	UNNAMED CREEK AT MOUTH NEAR LINCOLN PARK	9	0.58	1.32	6350	7580	7928	
57	INTERVENING AREA	9	0.32					
58	LINCOLN CREEK AT MOUTH	9	2.53	4.14	6360	8275	9150	
59	INTERVENING AREA	9	0.80					
60	UNNAMED CREEK AT MOUTH NEAR DISTRICT COURTHOUSE	9	2.62	3.75	6300	8010	8610	
61	INTERVENING AREA	9	0.21					
62	UNNAMED CREEK AT MOUTH NEAR ZEPHYR COVE	9	1.63	4.04	6280	8230	8863	
63	INTERVENING AREA	9	0.38					
64	MCFAUL CREEK AT MOUTH	12	3.64	5.05	6280	7680	8900	
65	INTERVENING AREA	12	0.32					
66	BURKE CREEK AT MOUTH	12	4.72	4.35	6240	7680	8450	
67	INTERVENING AREA	12	0.10					
68	EDGEWOOD CREEK AT MOUTH	12	6.59	5.53	6239	7830	9590	
68A	EDGEWOOD CREEK AT STATELINE	12	5.58	4.67	6370	8760	9590	10336760
69	INTERVENING AREA	12	2.91					
70	BIJOU CREEK AT MOUTH	12	1.97	3.33	6235	7040	8371	
71	INTERVENING AREA	12	0.97					
72	TROUT CREEK AT MOUTH	12	40.47	12.20	6225	7760	10881	
72A	TROUT CREEK AT SOUTH LAKE TAHOE	12	40.40	10.70	6245	7790	10881	10336790
72B	HEAVENLY VALLEY CREEK AT MOUTH	12	3.12	4.85	6265	8580	10067	
72C	TROUT CREEK NEAR TAHOE VALLEY	12	36.70	9.45	6265	7860	10881	10336780
72D	COLD CREEK AT MOUTH	12	12.70	7.95	6300	9100	10881	
72E	SAXON CREEK AT MOUTH	12	8.21	6.54	6300	8580	9520	
73	UPPER TRUCKEE RIVER AT MOUTH	12	56.64	21.45	6235	7920	10060	
73A	UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE	14	54.80	19.68	6240	8260	10060	10336610
73B	UPPER TRUCKEE RIVER NEAR MEYERS	14	33.10	11.35	6370	8325	10060	10336600
73C	ANGORA CREEK AT MOUTH	14	5.99	4.45	6270	7390	8895	
73D	ECHO CREEK AT MOUTH	14	5.47	5.60	6460	7830	9235	
73E	ECHO CREEK NEAR MEYERS	14	5.42	5.40	6520	7830	9235	
73F	ECHO LAKE NEAR PHILLIPS	14	4.84	4.06	7414	7950	9235	
	ECHO LAKE CONDUIT NR PHILLIPS (DIVERSION)	14						11434500
73G	GRASS LAKE CREEK AT MOUTH NEAR MEYERS	14	6.99	5.45	6980	8780	9600	10336593
74	INTERVENING AREA	11	4.06					
75	TAYLOR CREEK AT MOUTH	11	18.34	11.00	6320	7960	9856	
75A	TAYLOR CREEK NEAR CAMP RICHARDSON	11	16.70	9.27	6377	8110	9856	10336626
75B	GLEN ALPINE CREEK NEAR MEYERS	11	10.80	6.26	6530	8140	9856	10336615
76	TALLAC CREEK AT MOUTH	11	4.50	3.66	6235	8120	9735	
77	INTERVENING AREA	11	0.08					
78	CASCADE CREEK AT MOUTH	11	4.71	4.73	6450	7690	9735	
79	INTERVENING AREA	11	1.08					
80	EAGLE CREEK AT MOUTH	11	6.66	5.82	6650	8670	9974	
80A	EAGLE CREEK NEAR CAMP RICHARDSON	11	6.38	5.47	6860	8700	9974	10336630
81	INTERVENING AREA	11	2.28					
82	RUBICON CREEK AT MOUTH	8	2.89	2.40	6235	8460	9269	
83	INTERVENING AREA	8	0.04					
84	LAKE TAHOE TRIBUTARY AT MOUTH AT PARADISE FLAT	8	0.64	2.05	6235	8280	9180	
85	INTERVENING AREA	8	0.46					
86	LONELY GULCH CREEK AT MOUTH	8	1.08	2.18	6270	7670	9183	
87	INTERVENING AREA	8	0.01					
88	LAKE TAHOE TRIBUTARY AT MOUTH NEAR MEEKS BAY	8	0.87					
88A	LAKE TAHOE TRIBUTARY NEAR MEEKS BAY	7	0.64	1.35	6400	7560	8200	10336635
89	INTERVENING AREA	8	0.30					
90	MEEKS CREEK AT MOUTH	8	8.16	7.20	6232	7810	9310	
90A	MEEKS CREEK AT MEEKS BAY	8	8.08	6.96	6235	7810	9310	10336640
91	INTERVENING AREA	8	0.23					
92	UNNAMED CREEK AT MOUTH NEAR MEEKS BAY	8	0.28	1.45	6280	6710	7037	
93	INTERVENING AREA	8	0.12					
94	GENERAL CREEK AT MOUTH	8	7.56	9.17	6280	7680	8721	
95	INTERVENING AREA	8	1.38					
96	MCKINNEY CREEK AT MOUTH	7	5.29	4.50	6260	7055	8650	
97	INTERVENING AREA	7	0.10					
98	QUAIL CREEK AT MOUTH	7	0.95	1.85	6240	7440	8110	10336650
99	INTERVENING AREA	7	0.14					
100	HOMEWOOD CANYON CREEK AT MOUTH	7	0.84	2.10	6320	7960	8416	
101	INTERVENING AREA	7	0.44					
102	MADDEN CREEK AT MOUTH	7	2.07	3.07	6400	8075	8740	10336658
102A	MADDEN CREEK NEAR HOMEWOOD	7	1.40	2.30	6900	8140	8740	10336655
103	INTERVENING AREA	7	0.82					
104	BLACKWOOD CREEK AT MOUTH	7	11.18	6.20	6260	7140	8878	
104A	BLACKWOOD CREEK NEAR TAHOE CITY	7	11.18	6.12	6270	7140	8878	10336660
105	INTERVENING AREA	7	1.78					
106	WARD CREEK AT MOUTH	4	9.74	5.90	6290	7040	8878	
106A	WARD CREEK AT HIGHWAY 89 NEAR TAHOE PINES	4	9.70	5.65	6315	7070	8878	10336676
106B	WARD CREEK LOOP ROAD TRIBUTARY NEAR TAHOE PINES	4	0.48	1.20	6750	7440	8269	10336673
106C	WARD CREEK TRIBUTARY NEAR TAHOE PINES	4	0.91	1.57	6780	7920	8637	10336672
106D	WARD CREEK NEAR TAHOE PINES	4	2.03	1.82	6790	7760	8878	10336670
107	INTERVENING AREA	4	1.67					
108	LAKE TAHOE (SURFACE AREA ONLY)	4	192.14					
109	LAKE TAHOE AT TAHOE CITY (AT LAKE OUTLET)	4	505.69					
	INTERVENING AREA (NOT TRIBUTARY TO LAKE)	4	1.01					
110	TRUCKEE RIVER AT TAHOE CITY	4	506.70					10337500

[1] Lower channel elevation is at a point 10 percent of the distance along the channel from site to the crest of the divide; upper channel elevation is at a point 85 percent of the distance



LOCATION MAP

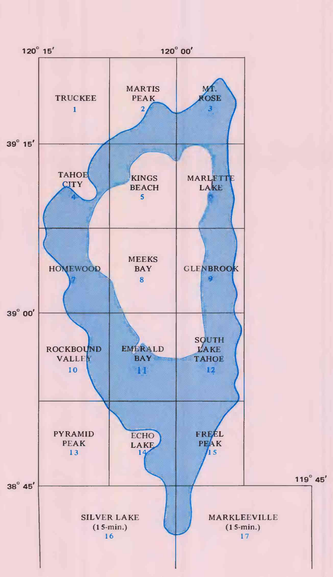
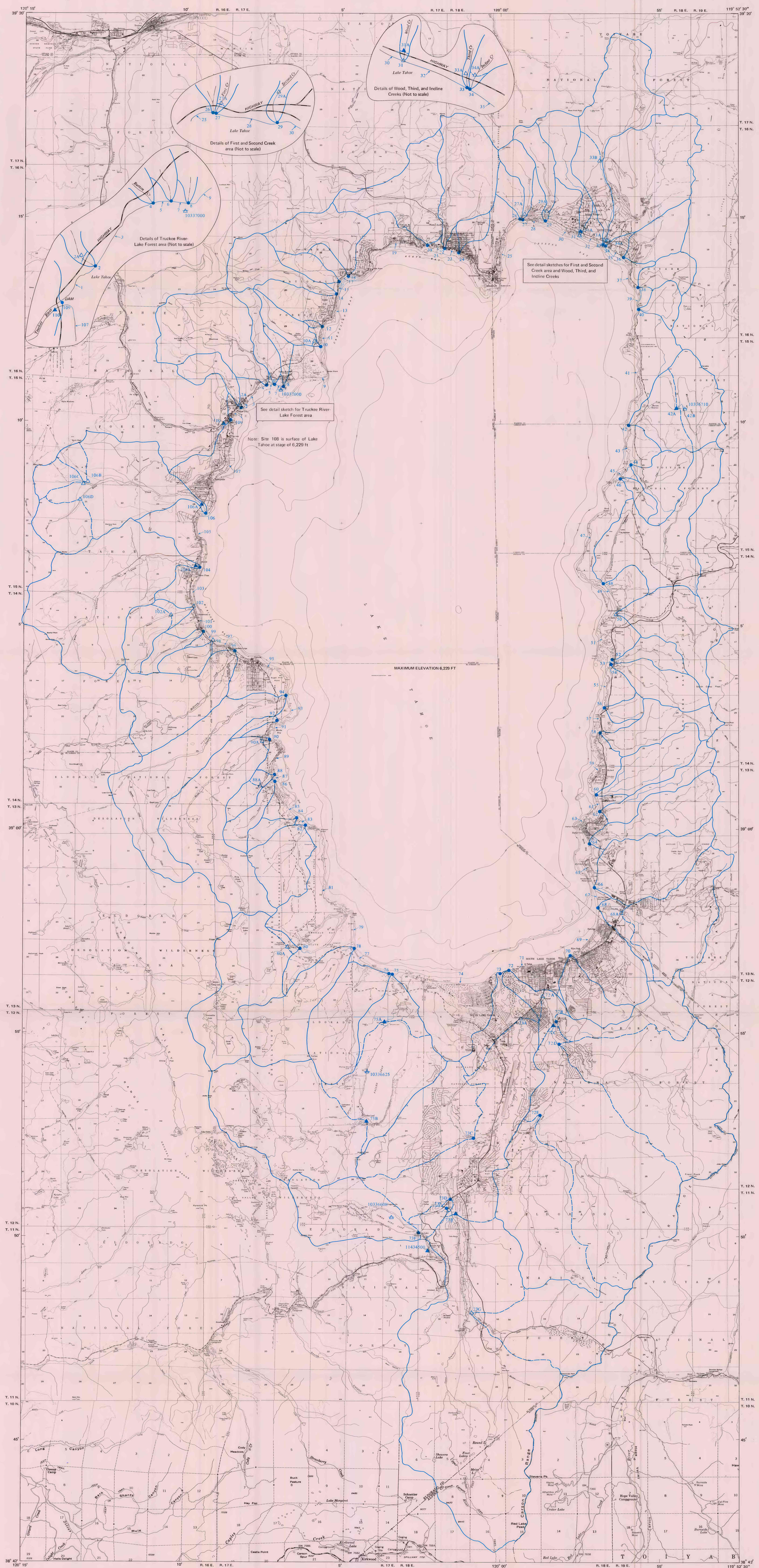


FIGURE 2. – *Index to Geological Survey topographic maps of the Lake Tahoe basin, numbered here to aid in locating basins listed in table 2. Maps are 7½-minute quadrangles unless otherwise indicated.*

English units are used in this report. For readers who prefer to use metric units, the conversion factors are listed below:

Multiply English Unit	*By*	*To obtain metric unit*
acre-feet (acre-ft)	1.233×10^{-3}	cubic hectometers (hm^3)
feet (ft)	3.048×10^{-1}	meters (m)
inches (in.)	25.40	millimeters (mm)
miles (mi)	1.609	kilometers (km)
square miles (mi^2)	2.590	square kilometers (km^2)



Base from U.S. Geological Survey Truckee, Martis Peak, Mt. Rose, Tahoe City, Kings Beach, Marlette Lake, Homewood, Meeks Bay, Glenbrook, Rockbound Valley, Emerald Bay, South Lake Tahoe, Pyramid Peak, Echo Lake, and Freel Peak 1:24 000, 1969 and Silver Lake and Markleeville 1:62 500, 1956

EXPLANATION

- ●72 Point of inflow of tributary stream (point of inflow directly into Lake Tahoe is indicated by site number shown offshore on the lake surface)
- 74 Intervening area tributary to Lake Tahoe, lying between the mouths of streams. Number is offshore
- ▲110 Stream-gaging station; see table 1 for station number. Open triangle indicates discontinued station
- 10336625 Lake-stage station
- Boundary of stream basin tributary to Lake Tahoe
- Boundary of subbasin for which drainage area is listed
- ●72B Point of outflow of subbasin

FIGURE 1. – *Map showing hydrologic basins contributing to outflow from Lake Tahoe, California-Nevada*

Interior – Geological Survey, Reston, Va. – 1978 – W77316

HYDROLOGIC BASINS CONTRIBUTING TO OUTFLOW FROM LAKE TAHOE, CALIFORNIA-NEVADA

By
L. N. Jorgensen, A. L. Seacer, and S. J. Kaus

1978

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