

11406800 Lake Oroville near Oroville, CA

Sacramento River Basin

LOCATION.--Lat 39°32'06", long 121°28'25" referenced to North American Datum of 1927, in NE ¼ SW ¼ sec.1, T.19 N., R.4 E., Butte County, CA, Hydrologic Unit 18020123, near intake structure, at left end of Oroville Dam on Feather River, 1.0 mi downstream from North Fork Feather River, and 4.2 mi east of Oroville.

DRAINAGE AREA.--3,607 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--November 1967 to current year.

REVISED RECORDS.--WDR US-2007: 2006 (monthly total evaporation).

GAGE.--Water-stage recorder. Datum of gage is 0.47 ft above NGVD of 1929 (levels by California Department of Water Resources). Contents based on capacity table in use since Sept. 21, 1967.

COOPERATION.--Records, including total evaporation (not reviewed by the U.S. Geological Survey) and diversion to Edward Hyatt Powerplant (station 11406820), were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2100. Contents not rounded to U.S. Geological Survey standards. Records for Kelly Ridge Powerplant (station 11396329) were provided by South Feather Water and Power Agency, under general supervision of the U. S. Geological Survey, in connection with Federal Energy Regulatory Commission project no. 2088. The 2400 hour reservoir storage values for Oct. 1, 2008, to Jan. 29, 2009, were interpolated based on 0700-hour observations provided by California Department of Water Resources.

REMARKS.--Reservoir is formed by an earth-fill dam with concrete chute-type sidehill spillway completed May 13, 1968; storage began Nov. 14, 1967. Usable capacity, 2,685,385 acre-ft, between elevations 640.0 ft, minimum power pool, and 900.0 ft, normal maximum pool. Dead storage, 852,192 acre-ft. Total capacity at normal maximum pool, 3,537,577 acre-ft; temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft, Dec. 23, 1964. Water is released to Edward Hyatt Powerplant through penstock in left abutment of dam and to Palermo Canal (station 11406810) through concrete tunnel also in left abutment of dam. Three of the total of six turbines in the Edward Hyatt Powerplant are reversible and during periods of low power demand water is pumped at times from the river back into Lake Oroville. Records represent total contents at 2400 hours. Maximum inflow of 266,000 ft³/s during a 2-hour period Feb. 17, 1986. Prior to 2007, diversion through Kelly Ridge Powerplant was published with Miners Ranch Canal (station 11396310). See schematic diagrams showing diversions and storage from Feather River at Lake Oroville and South Fork Feather River Basin available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Prior to Oct. 1, 2008, maximum contents at 2400 hours, 3,536,000 acre-ft, June 4, 1973, gage height, 899.88 ft; minimum since initial storage began, 882,395 acre-ft, Sept. 7, 1977, gage height, 645.11 ft. Since Oct. 1, 2008, maximum contents, 2,288,872 acre-ft, May 25, 2009, gage height, 808.48 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,288,872 acre-ft, May 25, gage height, 808.48 ft; minimum, 965,180 acre-ft, estimated, Dec. 20, minimum gage height unknown.

Capacity table (gage height, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated Sept. 21, 1967)

Elevation	Contents	Elevation	Contents	Elevation	Contents	Elevation	Contents
640	852,192	710	1,332,547	780	1,974,240	850	2,808,349
650	911,975	720	1,413,685	790	2,080,969	860	2,944,741
660	974,560	730	1,498,175	800	2,191,742	870	3,085,747
670	1,040,003	740	1,586,086	810	2,306,597	880	3,231,454
680	1,108,406	750	1,677,554	820	2,425,571	890	3,382,038
690	1,179,915	760	1,772,690	830	2,548,850	900	3,537,577
700	1,254,634	770	1,871,511	840	2,676,446		

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RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2008 TO SEPTEMBER 2009
DAILY OBSERVATION AT 2400 HOURS

[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	e1,096,981	e1,029,202	e1,002,148	e978,980	1,022,507	1,384,750	1,991,257	2,051,863	2,281,788	2,034,369	1,541,694	1,376,848
2	e1,096,634	e1,032,061	e1,001,496	e976,608	1,024,691	1,462,020	2,000,440	2,070,223	2,273,674	2,015,387	1,532,748	1,373,273
3	e1,096,079	e1,032,926	e1,002,344	e975,391	1,024,757	1,531,347	2,006,154	2,093,392	2,264,775	1,996,215	1,517,220	1,367,035
4	e1,094,415	e1,033,259	e1,001,822	e974,943	1,026,481	1,574,013	2,013,580	2,109,928	2,256,820	1,980,216	1,502,401	1,364,367
5	e1,091,851	e1,032,394	e1,000,715	e972,192	1,029,733	1,603,188	2,020,706	2,154,068	2,248,884	1,962,224	1,493,695	1,362,509
6	e1,088,602	e1,030,664	e999,802	e972,256	1,033,393	1,625,430	2,026,248	2,174,866	2,242,000	1,944,661	1,489,828	1,362,671
7	e1,087,428	e1,030,597	e995,509	e971,744	1,036,060	1,644,024	2,032,123	2,191,404	2,236,715	1,924,332	1,486,653	1,361,056
8	e1,087,980	e1,031,528	e992,979	e970,020	1,037,530	1,659,895	2,036,618	2,207,054	2,228,160	1,906,403	1,481,517	1,357,912
9	e1,087,290	e1,032,127	e989,872	e970,595	1,039,938	1,674,290	2,040,689	2,223,300	2,224,010	1,885,758	1,481,688	1,355,095
10	e1,084,464	e1,033,459	e986,836	e972,511	1,043,084	1,686,712	2,043,908	2,239,366	2,218,329	1,869,601	1,474,514	1,351,721
11	e1,084,671	e1,036,127	e984,126	e974,175	1,043,956	1,697,882	2,043,049	2,249,229	2,212,612	1,858,947	1,466,177	1,347,230
12	e1,085,635	e1,035,660	e980,586	e975,903	1,046,708	1,708,820	2,045,841	2,256,360	2,202,267	1,842,055	1,460,749	1,347,872
13	e1,085,360	e1,031,262	e978,980	e976,800	1,049,600	1,718,860	2,044,230	2,260,969	2,196,403	1,824,187	1,453,056	1,350,597
14	e1,084,533	e1,026,547	e977,505	e976,608	1,052,701	1,728,845	2,042,835	2,262,237	2,192,609	1,802,420	1,447,327	1,352,443
15	e1,083,363	e1,022,044	e974,559	e975,135	1,059,800	1,740,308	2,046,485	2,263,736	2,186,218	1,781,522	1,449,768	1,352,443
16	e1,085,015	e1,017,424	e971,936	e973,663	1,069,591	1,756,157	2,051,971	2,268,239	2,187,232	1,758,953	1,450,442	1,349,956
17	e1,086,807	e1,011,900	e969,510	e973,023	1,079,102	1,773,271	2,059,086	2,266,044	2,183,404	1,742,032	1,443,291	1,347,391
18	e1,087,083	e1,009,471	e967,088	e971,808	1,086,187	1,785,902	2,065,893	2,273,674	2,175,763	1,727,988	1,437,085	1,343,228
19	e1,087,773	e1,007,506	e965,370	e970,212	1,090,606	1,803,793	2,076,623	2,276,685	2,167,918	1,716,394	1,431,066	1,346,189
20	e1,083,088	e1,005,282	e965,180	e970,212	1,093,513	1,819,739	2,084,451	2,283,297	2,160,538	1,702,402	1,425,062	1,349,795
21	e1,077,592	e1,004,367	e965,943	e969,956	1,098,369	1,836,482	2,088,591	2,285,851	2,154,402	1,685,589	1,417,251	1,344,748
22	e1,072,116	e1,003,583	e967,725	e972,639	1,117,525	1,854,338	2,086,738	2,284,458	2,144,056	1,677,274	1,416,837	1,344,508
23	e1,066,321	e1,002,148	e969,191	e977,120	1,188,928	1,869,399	2,084,887	2,286,897	2,132,415	1,660,081	1,416,754	1,342,349
24	e1,060,545	e1,000,845	e974,495	e987,546	1,253,334	1,882,721	2,080,317	2,288,059	2,124,130	1,643,380	1,416,008	1,338,677
25	e1,058,377	e999,998	e980,201	e996,549	1,288,290	1,895,704	2,075,645	2,286,316	2,115,974	1,638,330	1,406,909	1,335,092
26	e1,056,145	e999,281	e982,580	e1,001,757	1,319,628	1,908,957	2,078,687	2,280,975	2,106,088	1,626,525	1,399,333	1,334,137
27	e1,051,622	e999,216	e983,160	e1,006,262	1,343,228	1,922,688	2,074,018	2,277,844	2,097,654	1,607,438	1,395,636	1,335,331
28	e1,044,358	e999,346	e982,516	e1,010,324	1,360,491	1,937,214	2,069,681	2,277,381	2,086,085	1,590,214	1,392,192	1,333,421
29	e1,037,530	e999,216	e982,194	e1,014,397	---	1,952,650	2,063,082	2,280,047	2,070,656	1,576,422	1,393,667	1,338,517
30	e1,031,063	e1,000,910	e981,422	1,017,622	---	1,966,188	2,055,850	2,282,484	2,054,664	1,563,425	1,394,405	1,336,924
31	e1,026,680	---	e980,393	1,020,326	---	1,978,957	---	2,282,484	---	1,553,064	1,383,771	---
Max	1,096,981	1,036,127	1,002,344	1,020,326	1,360,491	1,978,957	2,088,591	2,288,059	2,281,788	2,034,369	1,541,694	1,376,848
Min	1,026,680	999,216	965,180	969,956	1,022,507	1,384,750	1,991,257	2,051,863	2,054,664	1,553,064	1,383,771	1,333,421
Gage height, in feet, at end of month	---	---	---	667.04	713.49	780.45	787.68	807.93	787.57	736.29	716.36	710.55
Change in contents, in acre-feet	-70,579	-25,770	-20,517	+39,933	+340,165	+618,466	+76,893	+226,634	-227,820	-501,600	-169,293	-46,847
Total evaporation, in acre-feet	3,319	969	364	834	703	2,271	3,929	5,754	6,604	7,780	6,334	5,141
Diversion, in acre-feet, to Edward Hyatt Powerplant	90,730	95,810	121,300	80,990	42,680	27,000	250,900	259,400	344,700	617,900	299,200	147,900
Diversion, in acre-feet, through Kelly Ridge Powerplant	3,580	5,210	12,780	6,610	9,670	13,960	13,870	14,270	10,630	13,950	14,130	7,360

	Calendar Year 2008	Water Year 2009
Change in contents, in acre-feet	-246,440	+239,665
Annual diversion, in acre-feet	1,957,000	2,389,000
Diversion, in acre-feet, through Kelly Ridge Powerplant	132,500	126,000

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