Water-Data Report 2013

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 mi^2.

SURFACE-WATER RECORDS

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

REVISED RECORDS.--WDR US-2007: 2006 (monthly total evaporation), WDR US-2013: 2012 (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.

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 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, excluding extremes, represent total contents at 2400 hours. Maximum inflow of 266,000 ft^3/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, 3,539,315 acre-ft, June 25, 26, 2011, gage height, 900.11 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,111,472 acre-ft, Apr. 24, gage height, 871.79 ft; minimum, 1,633,489 acre-ft, Sept. 30, minimum gage height, 745.23 ft.

REVISIONS.--Revised monthly total evaporation figures, in acre-ft, for October 2011 to September 2012 are given below. These figures supersede those published in the report for 2012.

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Total evaporation, in acre-feet												
	4,767	1,918	2,136	1,699	1,678	2,062	3,824	8,356	9,559	10,545	9,942	7,218

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		

Suggested citation: U.S. Geological Survey, 2014, Water-resources data for the United States, Water Year 2013: U.S. Geological Survey Water-Data Report WDR-US-2013, site 11406800, accessed at http://wdr.water.usgs.gov/wy2013/pdfs/11406800.2013.pdf

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RESERVOIR STORAGE, ACRE FEET
WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013
DAILY OBSERVATION AT 2400 HOURS

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1,973,297	1,823,857	1,935,520	2,528,515	2,699,048	2,852,839	2,988,357	3,031,319	2,802,468	2,541,732	2,130,520	1,777,324
2	1,964,012	1,821,595	2,082,168	2,532,962	2,704,717	2,857,815	2,993,834	3,024,725	2,793,743	2,527,473	2,117,173	1,772,457
3	1,954,342	1,818,052	2,132,242	2,537,414	2,711,573	2,863,884	2,997,492	3,019,692	2,783,970	2,514,033	2,108,022	1,762,852
4	1,942,429	1,816,091	2,159,069	2,540,311	2,717,654	2,869,032	3,002,840	3,014,807	2,778,745	2,501,524	2,099,994	1,750,688
5	1,931,274	1,811,965	2,200,214	2,547,534	2,724,401	2,872,587	3,010,589	3,008,801	2,775,522	2,487,578	2,084,684	1,737,530
6	1,921,794	1,807,846	2,227,136	2,554,772	2,730,502	2,879,556	3,019,764	3,004,209	2,772,023	2,476,145	2,070,813	1,725,969
7	1,913,372	1,804,911	2,247,278	2,557,747	2,736,086	2,882,026	3,028,816	2,999,622	2,766,036	2,464,749	2,056,422	1,715,853
8	1,903,956	1,800,706	2,262,929	2,560,095	2,742,154	2,886,959	3,035,762	2,992,656	2,761,515	2,452,046	2,044,034	1,706,062
9	1,894,879	1,796,294	2,276,918	2,564,334	2,747,632	2,888,203	3,040,866	2,982,061	2,758,192	2,439,755	2,031,486	1,703,845
10	1,886,643	1,792,876	2,283,761	2,568,397	2,753,118	2,889,037	3,046,884	2,972,929	2,752,886	2,427,143	2,022,187	1,698,735
11	1,877,223	1,792,586	2,292,713	2,573,066	2,758,478	2,888,366	3,053,764	2,964,114	2,747,324	2,413,773	2,010,159	1,695,642
12	1,869,929	1,787,222	2,301,689	2,580,524	2,763,471	2,887,147	3,061,367	2,955,179	2,741,374	2,397,956	1,997,972	1,693,210
13	1,864,666	1,784,304	2,310,573	2,586,982	2,767,837	2,882,786	3,068,984	2,946,956	2,736,749	2,383,047	1,985,417	1,691,719
14	1,859,011	1,779,854	2,315,134	2,592,098	2,772,606	2,880,477	3,076,042	2,939,581	2,730,552	2,367,489	1,971,977	1,691,823
15	1,857,074	1,775,606	2,320,629	2,595,717	2,778,180	2,879,798	3,081,393	2,933,076	2,725,416	2,358,524	1,959,436	1,690,052
16	1,853,637	1,771,948	2,321,786	2,601,374	2,784,162	2,880,754	3,086,607	2,925,976	2,719,105	2,348,314	1,947,263	1,683,694
17	1,850,705	1,777,887	2,339,194	2,607,168	2,789,218	2,883,213	3,090,535	2,918,613	2,712,412	2,338,898	1,933,804	1,678,660
18	1,847,947	1,781,118	2,350,410	2,612,588	2,794,815	2,879,977	3,094,324	2,911,675	2,706,119	2,331,510	1,920,515	1,674,474
19	1,844,768	1,779,101	2,355,014	2,617,504	2,801,893	2,881,270	3,096,318	2,904,199	2,701,008	2,315,922	1,907,905	1,670,423
20	1,842,489	1,782,333	2,361,288	2,622,427	2,807,508	2,895,151	3,101,847	2,897,089	2,694,210	2,301,457	1,895,051	1,665,425
21	1,839,815	1,790,687	2,371,980	2,627,741	2,813,668	2,908,804	3,108,104	2,891,153	2,683,784	2,285,893	1,882,158	1,661,642
22	1,838,834	1,797,931	2,395,284	2,633,355	2,819,660	2,916,989	3,109,755	2,883,722	2,668,976	2,276,469	1,870,830	1,657,310
23	1,837,953	1,800,586	2,427,459	2,637,875	2,824,089	2,925,465	3,110,685	2,875,622	2,651,900	2,263,206	1,859,811	1,653,724
24	1,837,271	1,797,757	2,449,447	2,645,616	2,828,659	2,933,406	3,106,717	2,868,083	2,635,927	2,246,552	1,849,339	1,645,813
25	1,838,379	1,791,999	2,465,688	2,651,440	2,835,134	2,937,622	3,100,450	2,859,199	2,623,476	2,230,668	1,839,805	1,642,471
26	1,837,398	1,786,352	2,480,528	2,657,659	2,838,109	2,943,528	3,089,599	2,844,105	2,611,703	2,215,319	1,828,622	1,640,142
27	1,834,828	1,780,329	2,490,903	2,664,665	2,842,440	2,949,445	3,076,578	2,832,439	2,599,459	2,198,008	1,818,834	1,637,083
28	1,834,346	1,775,485	2,499,259	2,671,295	2,848,265	2,956,495	3,064,452	2,826,731	2,585,987	2,183,266	1,808,175	1,636,867
29	1,832,374	1,780,448	2,509,000	2,678,326	---	2,961,095	3,051,645	2,822,024	2,571,555	2,168,259	1,797,562	1,636,652
30	1,828,917	1,861,272	2,519,016	2,684,975	---	2,969,605	3,039,342	2,816,480	2,556,927	2,155,776	1,787,384	1,633,506
31	1,826,950	---	2,524,946	2,692,026	---	2,981,628	---	2,810,810	---	2,143,455	1,782,495	---
Max	1,973,297	1,861,272	2,524,946	2,692,026	2,848,265	2,981,628	3,110,685	3,031,319	2,802,468	2,541,732	2,130,520	1,777,324
Min	1,826,950	1,771,948	1,935,520	2,528,515	2,699,048	2,852,839	2,988,357	2,810,810	2,556,927	2,143,455	1,782,495	1,633,506
Gage height, in feet, at end of month												
	765.54	768.98	828.09	841.20	852.96	862.65	866.75	850.18	830.64	795.69	761.01	745.23
Change in contents, in acre-feet												
	-149,474	+34,322	+663,674	+167,080	+156,239	+133,363	+57,714	-228,532	-253,883	-413,472	-360,960	-148,989
Total evaporation, in acre-feet												
	4,115	1,444	979	1,285	2,227	3,370	5,891	7,747	8,338	9,833	7,248	5,309
Diversion, in acre-feet, to Edward Hyatt Powerplant												
	262,000	232,300	153,200	125,400	71,910	174,300	163,400	183,300	337,400	491,100	434,700	208,100
Diversion, in acre-feet, through Kelly Ridge Powerplant												
	7,570	10,200	14,560	14,480	6,720	10,350	8,370	6,020	2,270	4,080	11,330	12,800

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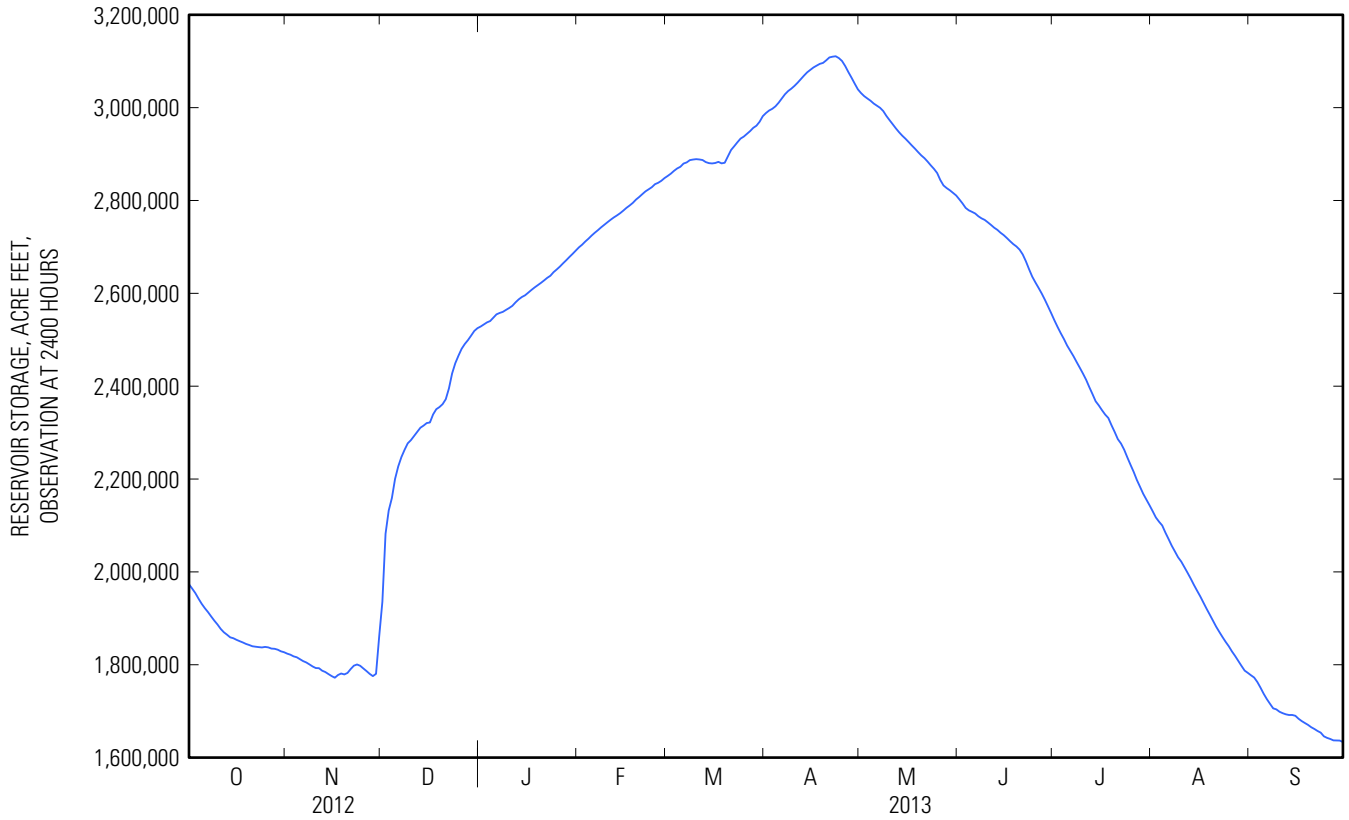
	Calendar Year 2012	Water Year 2013
Change in contents, in acre-feet	-20,047	-342,918
Annual diversion, in acre-feet, through Edward Hyatt Powerplant	2,648,000	2,837,000
Diversion, in acre-feet, through Kelly Ridge Powerplant	119,900	108,700