

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.

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, including extremes, 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 diagram showing diversions and storage from Feather River at Lake Oroville available from the California Water Science Center.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 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.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,135,624 acre-ft, Apr. 4, gage height, 836.46 ft; minimum, 1,566,357 acre-ft, Sept. 28, gage height, 737.79 ft.

REVISIONS.--Revised monthly total evaporation figures, in acre-ft, for October 2005 to September 2006 are given below. These figures supersede those published in the report for 2006.

| | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--|-------|-------|-----|-------|-------|-------|-------|-------|--------|--------|--------|-------|
| Total evaporation, in acre-feet | 5,806 | 2,604 | 963 | 1,094 | 1,941 | 2,011 | 3,063 | 7,343 | 10,155 | 13,760 | 10,816 | 9,389 |

**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 2006 TO SEPTEMBER 2007
DAILY OBSERVATION AT 2400 HOURS

| Day | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1 | 2,837,155 | 2,752,143 | 2,673,981 | 2,800,710 | 2,794,957 | 2,997,496 | 3,126,788 | 3,081,591 | 2,963,091 | 2,626,038 | 2,186,782 | 1,812,148 |
| 2 | 2,831,755 | 2,748,706 | 2,678,133 | 2,805,532 | 2,795,893 | 2,984,316 | 3,131,566 | 3,082,020 | 2,962,812 | 2,607,896 | 2,174,418 | 1,805,561 |
| 3 | 2,826,227 | 2,744,613 | 2,682,288 | 2,805,666 | 2,797,497 | 2,975,366 | 3,133,015 | 3,087,036 | 2,960,167 | 2,589,969 | 2,160,651 | 1,801,440 |
| 4 | 2,821,380 | 2,740,128 | 2,676,186 | 2,812,911 | 2,799,103 | 2,974,947 | 3,135,624 | 3,085,602 | 2,949,185 | 2,577,686 | 2,151,173 | 1,786,098 |
| 5 | 2,817,613 | 2,742,369 | 2,670,869 | 2,814,119 | 2,797,097 | 2,967,969 | 3,134,464 | 3,086,606 | 2,943,220 | 2,570,866 | 2,141,947 | 1,771,334 |
| 6 | 2,812,642 | 2,735,516 | 2,669,315 | 2,817,748 | 2,794,957 | 2,960,724 | 3,128,091 | 3,089,044 | 2,938,786 | 2,558,269 | 2,126,558 | 1,753,847 |
| 7 | 2,818,286 | 2,725,127 | 2,666,336 | 2,819,900 | 2,793,620 | 2,967,132 | 3,120,283 | 3,077,440 | 2,929,380 | 2,539,080 | 2,112,346 | 1,735,718 |
| 8 | 2,822,456 | 2,718,959 | 2,664,525 | 2,821,783 | 2,795,492 | 2,972,573 | 3,117,106 | 3,071,578 | 2,920,684 | 2,519,743 | 2,100,938 | 1,722,375 |
| 9 | 2,817,076 | 2,715,682 | 2,676,056 | 2,815,866 | 2,821,380 | 2,977,742 | 3,115,662 | 3,064,013 | 2,910,493 | 2,498,035 | 2,086,957 | 1,708,633 |
| 10 | 2,812,239 | 2,707,699 | 2,689,308 | 2,807,811 | 2,873,114 | 2,983,057 | 3,111,335 | 3,060,021 | 2,905,682 | 2,476,582 | 2,074,236 | 1,691,963 |
| 11 | 2,805,130 | 2,704,954 | 2,688,137 | 2,807,677 | 2,919,719 | 2,988,518 | 3,110,037 | 3,055,891 | 2,897,996 | 2,457,214 | 2,061,462 | 1,682,877 |
| 12 | 2,799,505 | 2,709,007 | 2,689,438 | 2,805,666 | 2,940,448 | 2,987,537 | 3,111,479 | 3,054,752 | 2,888,955 | 2,443,062 | 2,047,131 | 1,678,487 |
| 13 | 2,794,957 | 2,705,085 | 2,698,558 | 2,801,513 | 2,951,824 | 2,992,865 | 3,109,461 | 3,054,610 | 2,881,573 | 2,428,847 | 2,032,765 | 1,679,327 |
| 14 | 2,796,160 | 2,702,473 | 2,708,222 | 2,799,103 | 2,960,863 | 3,000,306 | 3,111,335 | 3,048,494 | 2,873,932 | 2,418,680 | 2,017,301 | 1,673,825 |
| 15 | 2,801,379 | 2,701,167 | 2,719,090 | 2,794,690 | 2,968,666 | 3,005,790 | 3,108,884 | 3,042,672 | 2,869,572 | 2,408,787 | 2,002,238 | 1,665,180 |
| 16 | 2,797,899 | 2,697,384 | 2,724,733 | 2,794,422 | 2,973,830 | 3,014,804 | 3,102,836 | 3,035,298 | 2,861,817 | 2,392,801 | 1,987,257 | 1,657,305 |
| 17 | 2,795,893 | 2,697,253 | 2,727,229 | 2,797,364 | 2,980,678 | 3,024,686 | 3,094,642 | 3,026,665 | 2,848,519 | 2,375,695 | 1,974,136 | 1,647,522 |
| 18 | 2,790,147 | 2,702,734 | 2,726,966 | 2,800,442 | 2,988,939 | 3,036,715 | 3,092,918 | 3,016,637 | 2,835,264 | 2,361,405 | 1,963,685 | 1,636,404 |
| 19 | 2,784,944 | 2,705,216 | 2,726,441 | 2,794,556 | 2,993,706 | 3,043,807 | 3,088,757 | 3,008,745 | 2,822,995 | 2,347,530 | 1,954,208 | 1,626,252 |
| 20 | 2,783,477 | 2,701,167 | 2,726,966 | 2,798,568 | 2,996,934 | 3,052,760 | 3,082,450 | 3,003,820 | 2,812,374 | 2,336,778 | 1,938,247 | 1,612,785 |
| 21 | 2,786,277 | 2,695,950 | 2,729,858 | 2,800,173 | 3,001,008 | 3,062,016 | 3,086,606 | 2,998,620 | 2,799,906 | 2,329,236 | 1,926,904 | 1,596,332 |
| 22 | 2,790,548 | 2,693,864 | 2,732,489 | 2,799,371 | 3,007,760 | 3,070,721 | 3,092,201 | 2,995,110 | 2,788,145 | 2,318,894 | 1,919,198 | 1,587,253 |
| 23 | 2,783,210 | 2,700,123 | 2,742,238 | 2,797,498 | 3,012,267 | 3,077,726 | 3,091,770 | 2,989,780 | 2,773,625 | 2,305,077 | 1,906,608 | 1,586,894 |
| 24 | 2,774,290 | 2,700,123 | 2,744,217 | 2,797,097 | 3,019,460 | 3,085,172 | 3,092,631 | 2,986,557 | 2,757,702 | 2,290,502 | 1,893,875 | 1,582,503 |
| 25 | 2,769,107 | 2,700,123 | 2,749,103 | 2,795,091 | 3,028,786 | 3,093,780 | 3,091,914 | 2,981,657 | 2,742,369 | 2,277,498 | 1,886,265 | 1,577,585 |
| 26 | 2,765,655 | 2,703,125 | 2,752,276 | 2,795,625 | 3,026,665 | 3,103,412 | 3,088,757 | 2,979,559 | 2,727,097 | 2,264,314 | 1,882,114 | 1,572,409 |
| 27 | 2,762,605 | 2,689,178 | 2,767,115 | 2,800,174 | 3,021,860 | 3,113,642 | 3,082,450 | 2,976,205 | 2,706,522 | 2,248,886 | 1,870,503 | 1,569,381 |
| 28 | 2,765,257 | 2,692,823 | 2,776,951 | 2,802,986 | 3,009,168 | 3,115,518 | 3,079,730 | 2,972,294 | 2,685,406 | 2,231,817 | 1,855,539 | 1,566,357 |
| 29 | 2,770,435 | 2,688,657 | 2,780,146 | 2,797,230 | --- | 3,111,767 | 3,083,883 | 2,966,714 | 2,664,266 | 2,217,909 | 1,845,644 | 1,568,491 |
| 30 | 2,762,869 | 2,679,820 | 2,786,144 | 2,794,957 | --- | 3,118,116 | 3,077,726 | 2,967,272 | 2,643,495 | 2,204,628 | 1,833,900 | 1,568,136 |
| 31 | 2,759,424 | --- | 2,792,685 | 2,794,422 | --- | 3,123,462 | --- | 2,965,041 | --- | 2,194,225 | 1,823,199 | --- |
| Max | 2,837,155 | 2,752,143 | 2,792,685 | 2,821,783 | 3,028,786 | 3,123,462 | 3,135,624 | 3,089,044 | 2,963,091 | 2,626,038 | 2,186,782 | 1,812,148 |
| Min | 2,759,424 | 2,679,820 | 2,664,525 | 2,794,422 | 2,793,620 | 2,960,724 | 3,077,726 | 2,965,041 | 2,643,495 | 2,194,225 | 1,823,199 | 1,566,357 |
| Gage height, in feet, at end of month | 846.33 | 840.26 | 848.83 | 848.96 | 864.61 | 872.62 | 869.44 | 861.46 | 837.45 | 800.22 | 765.16 | 737.99 |
| Change in contents, in acre-feet | -73,545 | -79,604 | +112,865 | +1,737 | +214,746 | +114,294 | -45,736 | -112,685 | -321,546 | -449,270 | -371,026 | -255,063 |
| Total evaporation, in acre-feet | 5,972 | 1,711 | 1,406 | 2,171 | 1,283 | 4,147 | 4,516 | 7,850 | 8,838 | 9,100 | 8,407 | 5,287 |
| Diversion, in acre-feet, to Edward Hyatt Powerplant | 225,400 | 267,700 | 201,200 | 179,700 | 162,100 | 223,400 | 253,700 | 270,500 | 400,200 | 549,400 | 469,300 | 326,900 |
| Diversion, in acre-feet, through Kelly Ridge Powerplant | 55 | 15,100 | 15,710 | 15,100 | 13,450 | 10,790 | 10,660 | 13,090 | 11,510 | 13,630 | 14,200 | 7,800 |

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| | Calendar Year 2006 | Water Year 2007 |
|--|--------------------|-----------------|
| Change in contents, in acre-ft | -131,999 | -1,264,833 |
| Annual diversion, in acre-ft | 5,451,000 | 3,530,000 |
| Diversion, in acre-feet, through Kelly Ridge Powerplant | 155,700 | 141,100 |

