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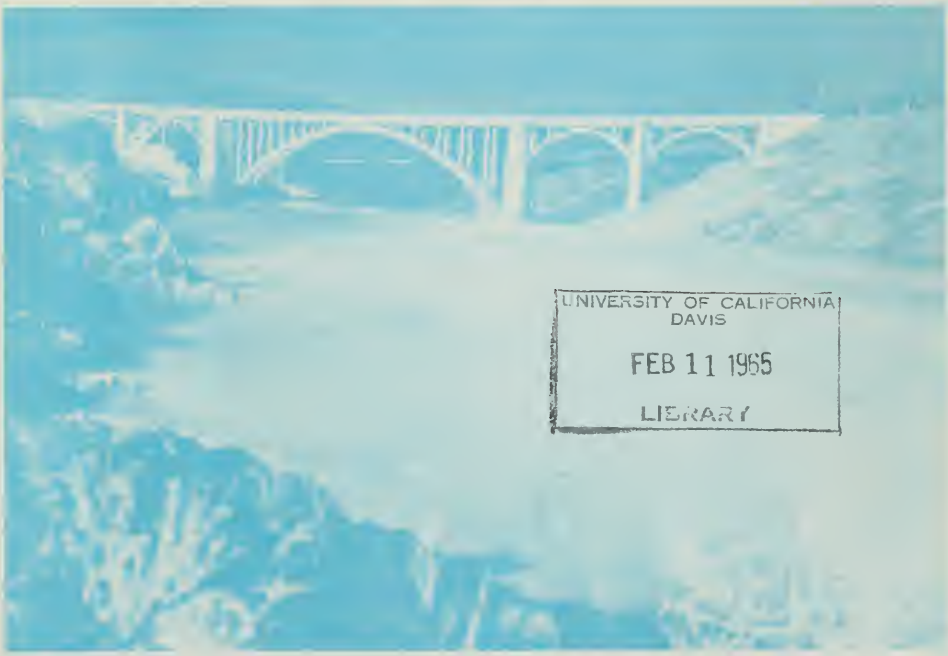
BULLETIN No. 69-63

CALIFORNIA HIGH WATER 1962-1963



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HUGO FISHER
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FOREWORD

This report, Bulletin 69-63, is the first of an annual series on the subject of high water in California.

This report was prepared, and it will be the purpose of subsequent reports of this series, to provide (in one report) information on precipitation, and peak flows and stages, resulting from the major storms of the water year. These reports will contain a summary of the water year events, a description of the general weather characteristics preceding and during the storm period, a discussion of the precipitation characteristics, a discussion of the resulting runoff, and a review of the flood damage. Tabulations of precipitation comparisons, peak flows and stages, and reservoir storage data are included in the appendixes.

Basic data for this report was supplied by many governmental and private agencies. Among these were the United States Weather Bureau, United States Geological Survey, United States Bureau of Reclamation, Corps of Engineers, Pacific Gas and Electric Company, East Bay Municipal Utility District, and numerous other public and private districts and agencies.

The data appearing in this report are considered to be quite accurate and reliable. It should be noted, however, that hydrologic data may be revised (usually the changes are minor) at a later date on the basis of subsequent studies and information. Therefore, all data should be considered to be preliminary and subject to revision.

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May 13, 1964

Honorable Edmund G. Brown, Governor
and Members of the Legislature of
the State of California

Gentlemen:

I have the honor to transmit herewith Bulletin No. 69-63, entitled "California High Water, 1962-1963." This report contains a summary of the 1963 water year events. It includes information on precipitation, peak flows and stages, and flood damage resulting from the major storms of the water year. The report is for the information of governmental and private agencies, and the public.

This is intended as the first of an annual series.

Sincerely yours,

William E. Warne

Director

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

EDMUND G. BROWN, Governor
HUGO FISHER, Administrator, The Resources Agency of California
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CALIFORNIA HIGH WATER

1962 - 1963

SUMMARY

It seems quite appropriate that this new series of reports should begin in a year of relatively high water and unusual hydrologic and meteorologic phenomenon. The 1962-63 water year qualified completely in this respect and was characterized by alternating periods of flood and potential drought.

The water year begins October 1. About this time of year, Californians expect to see the first fall showers -- which mark the end of the hot, dry summer and the beginning of the precipitation season. In 1962, the showers began on October 11, and for the portion of the State which they hit, it was more of a deluge. From October 11 through 13, rainfall of record-shattering intensity pelted a strip about 100 miles wide. This belt of heaviest concentration extended from the San Francisco Bay area northeastward through the basins of the Feather and Yuba Rivers in the Sierra Nevada. Many stations in these watersheds received more than 800 percent of their average October precipitation from this storm.

The unusual October storm was followed by record-breaking fog which covered most of the floor of the Central Valley during 54 days of the subsequent four-month period. However, during the end of November and in early December, another severe Pacific storm did hit the State of Oregon with the southern extremities of this storm causing heavy rainfall in the North Coastal area. Generally speaking, the highest flows of the season for this

area were recorded on streams of the Klamath Basin and northward. Except for the North Coastal area, the months of November, December, and most of January, were alarmingly dry and set new records for consecutive days without rain (for that time of year). This dry period was brought to a violent end in late January by another storm of flood-producing intensity. This storm, in itself, was quite unusual; it was an extremely warm type with precipitation falling as rain as high as 9,000 feet. There was negligible snowpack at the time and the large amounts of precipitation falling on bare or frozen ground brought immediate and dramatic results. Streamflow on all Central Valley streams was high, and the peak flow on the Yuba River at Narrows Dam exceeded the all-time record. This January-February storm was quite general with heavy runoff in all but the southern portion of the State.

By mid-March it had indeed been an unusual season -- essentially dry, but punctuated by two violent, flood-producing storms. Nature continued on in her own unpredictable way. It began to rain and snow in mid-March and precipitation fell in light to moderate amounts almost daily through April in all but the southeast desert region. These were the storms that everyone wanted and California needed. Resultant streamflow was good, but not dangerous, and generally adequate water supplies for the season were assured.

Meteorology of the October 1962 Storm

Early-season rain storms have occurred in September and October in the past, but the October 1962 storm set new records for intense and concentrated rainfall. The weather map on October 9th showed a front, oriented WSW-ENE across the extreme northern part of California. This front intensified and moved southward on the following day to a stationary position along the line San Francisco-Sacramento. To the south of the front and above the sloping frontal surface, strong southwesterly winds aloft brought a warm, moist air mass which produced heavy rains due to both orographic and frontal lifting.

On this front there were two occluding frontal waves which gave substantial precipitation amounts in Northern and Central California. These waves passed, in sequence, through California in the afternoon of October 11th and in the evening of October 12th (Columbus Day).

The first wave developed near 40°N 150°W (1200 miles WNW of San Francisco) about 0400 PST on October 10th. The wave occluded rapidly eastward from its point of genesis until its passage as an occluded front through Northern California in the afternoon of October 11th. The second wave of the October storm originated as a perturbation on the polar front by the typhoon FREDA which was filling and becoming an extratropical low pressure center.* This wave, formed by FREDA, appeared west of the international date line in the Pacific Ocean on October 5th. The wave moved northeastward

*Typhoons or hurricanes, on moving into mid-latitudes, usually draw fronts into their circulations and then assume characteristics of an extratropical low pressure center (the conventional mid-latitude storm with their warm and cold fronts).

from its inception point for several days, then curved to move towards the southeast. Finally, before reaching the California coast during the afternoon of October 12th, the main LOW center recurved to move towards the northeast along the Oregon coast. Associated with this LOW was a very strong pressure gradient which resulted in strong winds; these winds of almost tornado intensity blew down large quantities of timber in Northern California and, especially extensively, in Oregon.

During the period of these two occluding waves, the freezing level over the central Sierra remained at 10,000 feet through the evening of October 12th when it lowered to 8,000 feet. Although the storm of October 12th involved an old typhoon with strong winds, the air mass was not unusually warm; the upper air temperatures did not exceed the high values experienced in the December 1955 storm. In the final phases of the October storm, when the front pushed southward into the San Joaquin Valley on the morning of October 14th, the freezing level lowered in the Sierra to 5,000 feet.

The normal storm track for October in the North Pacific originates at 40° to 45°N near the date line and extends ENE and NE into the Gulf of Alaska. The October 1962 storm track was well to the south of this normal track -- about 15 degrees of latitude.

Another important feature of this October storm was that the frontal zone, along which the waves moved, remained almost stationary across Northern California. The orientation of the front was approximately SW-NE during the period before and after the first wave moved through California. The second wave, moving across California as an occluded front, had an

orientation NNE-SSW, and this front moved south of the Sacramento-Oakland line on the evening of October 12th. However, the front moved northward within six hours. Thus, the nearly stationary position of the front kept the rainfall continuous over a band about 100 miles wide across Northern California.

Mass rainfall curves for a number of stations are shown on Plates Nos. 6 to 11. The period covered by the mass curves extends from October 7th through October 14th. The onset of rains in the northern part of the State appeared earlier due to the weather front which was located over that area. At many stations the lull or decrease of the rate of rainfall between the waves of October 11th and October 12th can be seen by the change in slope of the curves. At other stations, notably in the Sierra, there is little or no break in the slope of the curves. Many of the recording rain gages experienced mechanical difficulties, or overflow of the collecting cans, so that detailed data is missing in the heavy rainfall areas. The rate of rainfall associated with the wave of October 12th was very intense, and the radar observations gave the strongest echoes that have been experienced by the WSR-57 (STORMFINDER) radar at Sacramento since its installation in 1960.

A general isohyetal map of the northern and central portion of the State for the October storm is shown on Plate No. 2. This map shows the heavy rainfall area to lie in a 100-mile wide swath through the San Francisco Bay Area and the Feather-Yuba River Basins. Storm amounts include 15 inches in the East Bay Area, 20 inches in the Santa Cruz Mountains, and 25 inches in the Feather and Yuba River Basins. A more detailed isohyetal map for the Feather-Yuba-Bear-American River Basins is shown on Plate No. 3. Rainfall amounts tapered off sharply south of Sacramento in the Central Valley and south of the American River Basin in the Sierra Nevada.

The following table lists the maximum 1, 6, and 12 hourly rainfall amounts at representative stations:

TABLE I

MAXIMUM RATES OF RAINFALL IN THE OCTOBER STORM

Area	Station	Maximum Rainfall		
		1 Hour	6 Hours	12 Hours
North Coast	Miranda Spengler Rch	.54	2.01	2.66
	Willits Howard RS	.77	2.69	3.84
	Hoopa	.57	2.04	2.92
	Crescent City Maintenance Station	.57	.83	1.19
Clear Lake	The Geysers	1.05	3.74	5.42
	Hopland 8 NE	.61	2.49	3.82
	Lakeport SCS	.54	1.75	2.82
	Clearlake Highlands	.32	1.32	2.41
San Francisco Bay Area	Mt. Tamalpais 2 SW	.57	2.07	3.77
	Oakland WB AP	.56	2.42	3.75
	Brentwood 6 SW	.42	1.65	2.63
	SE Farallon	.35	.96	1.60
Northern Sacramento Valley	Vollmers	1.55	4.91	6.30
	Coffee Creek RS	.51	1.98	3.31
	Redding 1 SE	.95	2.03	2.19
	Volta PH	.67	1.36	1.56
Feather-Yuba River Basins	Brush Creek*	.89	4.35	7.7
	Sierraville RS	.36	1.69	2.97
	Portola	.30	1.56	2.67
American River Basin	Blue Canyon WB AP	.63	2.62	4.36
	Soda Springs 1 E	.48	1.82	3.25
	Mt. Danaher	.50	2.35	3.21

* USFS recording rain gage data through 2300, October 11th; subsequent data from DWR radio rain gage supplemented by radar observations.

A comparison of 1-, 2-, 3-, and 4-day rainfall amounts at selected stations during this storm with other major storms is given in Table A-1 in Appendix A.

Meteorology of the January-February 1963 Storm

During most of January 1963 the mid-tropospheric flow pattern consisted of a large ridge of high pressure near 135°W longitude (700 miles west of San Francisco) and a deep trough of low pressure over the United States east of the Great Basin. This flow pattern prevailed until the last three days of the month, and accounted for the pronounced outbreaks of cold, arctic air during January over the most of the United States, even into California. On January 28, the ridge of high pressure weakened at mid-latitudes to permit a Pacific storm system to finally break into California. The first storm system consisted of an occluded front which moved inland over California on the morning of January 30. Rain in advance of this front, however, began earlier on the evening of January 29. The trailing end of this front extended into the eastern Pacific Ocean in the latitude band 25° to 30°N. A broad area of low pressure to the north of this front remained as a feature of the weather map for the next few days. A new wave development on the trailing front occurred on January 30, grew in size and intensity, and moved eastward toward the California Coast on the morning of January 31. This second system was more intense than the first and brought heavier rains to Northern and Central California. The occluded front of this storm moved inland in the North Coast area about 1000 PST on January 31 and 24 hours later was located in Utah with the trailing end of the front crossing the northern San Joaquin Valley. On February 1 this portion of the front weakened as pressures began to rise over California. Further storm developments in the Pacific were forced to take a more northerly track into Oregon, Washington, and British Columbia.

The storms of January 29-February 1 were warm rainstorms with the freezing level in the central Sierra Nevada near the 5,000-foot level on January 29 and rising to 9,000 feet on January 31 when the heavier rain fell. This factor made the runoff contribution from the mountains high. There was no snow on the ground below elevation 7,000 feet, and the ground in the mid-elevation range (5,000-7,000 feet) was largely frozen.

Mass rainfall curves for key stations in various sections in Northern and Central California are shown on Plates Nos. 12 to 17. The onset of rains from the first occluded front occurs at most stations in the afternoon and evening of January 29. There was some tapering off of the rate of rainfall between this and the second system in all areas except at stations in the Sierra. The rainfall associated with the second front can be seen from the steepness of the mass curves on January 31. Some of the maximum rates of rainfall observed in this storm are given in the table on the following page.

The areal distribution of the storm precipitation is shown on the isohyetal map of Plate No. 4. The areas of maximum amount include the Clear Lake area with 15 inches, the Santa Cruz and Santa Lucia Mountains with 20 inches, the Sierra Nevada with 20 inches extending from the Feather River Basin in the north to the Kings River Basin in the south. A more detailed isohyetal map for the Feather-Yuba-Bear-American River Basins is shown on Plate No. 5. The heavy rainfall in the Yuba and American River Basins resulted in new record peak inflows at Harry L. Englebright (Narrows) and Folsom Reservoirs.

A comparison of rainfall amounts for 1, 2, 3, and 4 days at selected stations in this storm (January 29-February 3) with other major

storms is given in Table A-1 of Appendix A. New record amounts were set at a number of stations. These are indicated in the table with an asterisk.

TABLE II

MAXIMUM RATES OF RAINFALL IN THE JANUARY-FEBRUARY STORM

Area	Station	Maximum Rainfall		
		1 Hour	6 Hours	12 Hours
North Coast	Miranda Spengler Rch	.39	1.98	3.01
	Willits Howard RS	.60	2.43	3.86
	Happy Camp RS	.25	1.16	1.78
	Hoopa	.40	1.91	2.70
Clear Lake	Mahnke	.56	3.21	4.56
	Hopland 8 NE	.42	1.93	3.07
	Lakeport SCS	.31	1.30	1.96
	Clearlake Highlands	.34	1.32	2.03
San Francisco Bay	Mt. Tamalpais 2 SW	.42	1.32	2.24
	Brentwood 6 SW	.38	1.86	2.61
	SE Farallon	.30	.91	1.56
	Oakland WB AP	.21	.65	1.06
Northern Sacramento Valley	Coffee Creek RS	.27	1.31	2.35
	Vollmers	.32	1.57	2.68
	Redding 1 SE	.34	1.58	2.43
	Volta PH	.22	1.05	1.67
Feather-Yuba River Basins	Brush Creek RS	.76	3.57	5.85
	Sierraville RS	.31	1.61	2.84
	Portola	.20	.83	1.62
	Oroville RS	.21	.91	1.49
American River Basin	Blue Canyon WB AP	.56	2.97	5.50
	Soda Springs 1E	.63	2.78	5.45
	Georgetown	.55	2.54	3.92
	Mt. Danaher	.40	1.70	3.25

The antecedent soil moisture at the beginning of the storm was moderately wet. The last significant rainfall over Northern and Central California had occurred on December 18. The city office of the U. S. Weather Bureau in Sacramento had a period of 41 days without rain, the second longest period on record without rain for the mid-winter months. Nevertheless, some moisture was still contained in the soils from the early October storm and the December storms. The intensity of rains in the January-February storm rapidly fulfilled the remaining soil moisture deficiency, so that runoff increased significantly. Also, at elevations below 7,000 feet in the mountains, frozen bare ground served to minimize infiltration losses. For the Feather River Basin above Oroville (drainage area 3,611 square miles), the overall runoff factor for the storm was about 37 percent in contrast to the 18 percent in the October 1962 storm.

Runoff

Much of California north of the Tehachapi Mountains experienced periods of high flood flows on many of its streams during the year 1962-1963. Following is a brief discussion of each basin in California where moderate to high runoff occurred.

North Coastal Area

The October Storm in the North Coastal Area produced low peak flows in the Smith, Klamath, Trinity, and Eel River Basins. Further south in the Russian River Basin the peak flows were in the low to moderate range. The hydrograph of the Russian River and Coyote Reservoir Operations, shown on Plate No. 18, gives an example of the Russian River Basin.

The Russian River near Guerneville peaked at 30,800 cfs, compared to 63,100 cfs in 1960, and the maximum recorded peak of 90,100 cfs in 1955.

The November-December Storm centered in Oregon with the southernmost portion of the storm causing the highest peak flows for the season in the Smith, Klamath, and Mad River Basins. The Smith River at Crescent City had a peak stage of 113,000 cfs, as compared to 74,300 cfs in 1960, and the maximum recorded peak in 1955 of 165,000 cfs. The Klamath River at Somesbar had a peak flow of 85,300 cfs, as compared to 70,700 cfs in 1960, and the maximum recorded peak flow of 202,000 cfs in 1955. The Klamath River at Klamath had a peak flow of 176,000 cfs, as compared to 194,900 cfs in 1960, and the maximum recorded peak flow of 425,000 cfs in 1955. The Mad River near Arcata had a peak flow of 28,900 cfs, as compared to 48,000 cfs in 1960, and the maximum recorded peak of 77,800 cfs in 1955. The

recorded flows south of the Mad River Basin for this storm fall within the range of low flood flows.

The hydrographs of the Smith, Klamath, and Trinity Rivers, shown on Plates Nos. 26 and 27, illustrate the flows in the northern basins of the North Coastal Area.

The January-February Storm caused low to moderate peak flows in the northerly basins and high peak flows in the central and southerly basins.

The hydrographs of the Smith, Trinity, Klamath, Eel, and Russian Rivers, and Trinity Reservoir Operation, shown on Plates Nos. 28, 29, 30, and 31, are typical examples of the flood flows of this storm for the North Coastal Area.

The Eel River at Scotia had a peak flow of 252,000 cfs, as compared to 343,000 cfs in 1960, and the maximum recorded peak of 541,000 cfs in 1955. The Russian River near Guerneville had a peak flow of 71,800 cfs, as compared to 63,100 cfs in 1960, and the maximum recorded flow of 90,100 cfs in 1955. There was one new peak flow of record at Dry Creek near Cloverdale, tributary to the Russian River, of 17,700 cfs, bettering the peak of 17,600 cfs recorded at this station in 1955.

San Francisco Bay Area

The October Storm resulted in high flood flows in the East Bay Area. The southerly and northerly portions of this area had generally low to moderate flood flows, with very low flows in the streams of the Livermore- Pleasanton Area.

The hydrographs of Walnut and San Lorenzo Creeks, shown on Plates Nos. 19 and 20, are examples of high flood flows in the East Bay Area; and

hydrographs of the Napa River and Alameda Creek (also shown on Plates Nos. 19 and 20), illustrate the moderate and low flows of the northerly and southerly portions, respectively.

The Napa River near Napa peaked at 6,580 cfs, as compared to the maximum recorded peak flow of 12,300 cfs in 1960. Two maximum peak flows of record were established in the East Bay Area. San Ramon Creek at San Ramon crested at 1,600 cfs, as compared to 1,490 cfs recorded in 1958, and San Lorenzo Creek at Hayward peaked at 7,460 cfs well over the peak flow of 5,100 cfs recorded in 1958. In the southerly portion, one moderate peak flow of 6,700 cfs was recorded on the Guadalupe River at San Jose, as compared to the maximum recorded peak flow of 9,150 cfs in 1958.

January-February Storm - The runoff for this area can be classified as moderate to high flood flows. In the North Bay Area, the Napa River near Napa had a maximum peak flow of record of 19,000 cfs, surpassing the previous peak of 12,300 cfs in 1960. Redwood Creek near Napa, tributary to the Napa River, had a maximum peak flow of record of 1,350 cfs, as compared to 1,070 cfs in 1960.

The East Bay Area had a record peak flow on San Ramon Creek at Walnut Creek of 8,110 cfs, as compared to the previous peak flow of 6,890 cfs recorded in 1955.

In the southern portion of this area, Arroyo Valle at Pleasanton had a peak flow of 8,000 cfs, as compared to the maximum peak flow of record of 11,300 cfs in 1958. Alameda Creek at Union City peaked at 1,750 cfs, in contrast to the maximum recorded peak flow of 260 cfs in 1960. Patterson Creek at Union City crested at 10,700 cfs, as compared to the

previous maximum peak flow of 3,700 cfs in 1959. However, the three stream gaging stations mentioned above have only been in operation since 1958.

Central Coastal Area

October Storm - The streams in the Santa Cruz Area and westerly portion of the area between Big Sur and San Simeon adjacent to the coast, had low peak flows during the October storm. The remainder of the basins in the Central Coastal Area had no peak flows with the exception of Arroyo Seco Creek in the Salinas River Basin, which experienced a low peak flow.

A hydrograph of the San Lorenzo River, shown on Plate No. 20, is an example of the low flows occurring in the Central Coastal Area during the October storm. The San Lorenzo River at Big Trees had a peak flow of 7,410 cfs, in contrast to the maximum peak flow recorded in 1955 of 30,400 cfs. The Nacimiento River near Bryson, located just upstream from Nacimiento Reservoir, had a peak flow of 2,740 cfs, as compared to the maximum peak flow of record of 30,300 cfs in 1955.

January-February Storm - Peak flows in the streams of this area varied from low to high. The northerly basins experienced mostly moderate peak flows, with the mountain region west of the Salinas River Basin having high peak flows and the remainder of the basins having peak flows in the low range.

The hydrographs, shown on Plates Nos. 33 and 34, depict the variety of flows in the Central Coastal Area. In the north, the San Lorenzo River at Big Trees peaked at 13,000 cfs, as compared to the maximum recorded peak of 30,400 cfs in 1955, and the Pajaro River at Chittenden peaked at 11,400 cfs, in contrast to the maximum recorded peak in 1955 of

24,000 cfs. In the westerly portion of the central region, the Nacimiento River near Bryson had a peak of 22,700 cfs, as compared to the maximum recorded peak in 1955 of 30,300 cfs. The Salinas River, sometimes referred to as the upside-down river, had a peak of 12,400 cfs near Bradley, and downstream at Spreckels had a peak of 7,840 cfs, as compared to the maximum recorded peak in 1958 of 28,400 cfs, and in 1938 of 75,000 cfs, respectively.

Central Valley Area

The October Storm runoff produced moderate to high peak flood flows in the major basins north of the Cosumnes River. The southerly portion of the Central Valley Area experienced either low or no October peak flows. Hydrographs and reservoir operations on Plates Nos. 21, 22, and 23, illustrate the flows from the major basins in the Sacramento Valley. Plots of the gage heights on the Sacramento and tributary river systems are shown on Plates Nos. 24 and 25.

In the northerly area of the Central Valley, Shasta Dam had a peak inflow of approximately 65,000 cfs. The majority of the runoff inflow volume of this storm was impounded in Shasta Reservoir increasing the storage over 300,000 acre-feet. The maximum peak discharge return to the Sacramento River at Keswick Dam was 9,000 cfs. This low flow combined with the low flows from the west side and high flows from the east side produced a peak flow of 68,800 cfs at Ord Ferry, well within the general flood control objective of 130,000 cfs at the upper end of the Sacramento River Flood Control Project. An example of flood flows on the east side was a peak flow of 24,800 cfs on Cow Creek near Millville, as compared to the maximum peak of record of 45,200 cfs in 1951. On the west side Cottonwood

Creek near Cottonwood had a peak flow of 6,500 cfs, as compared to the maximum peak flow of record of 52,300 cfs in 1941. Stony Creek near Hamilton City had a peak flow of 1,040 cfs, in contrast to the maximum peak flow of record of 39,900 cfs in 1958.

Further south on the east side, the Feather and Yuba River Basins had high peak flood flows. Three streams in this area had new peak flows of record. They were: Spanish Creek tributary to the North Fork Feather River, South Honcut Creek tributary to the Feather River, and Deer Creek tributary to the Yuba River. The Feather River at Oroville had a peak flow of 136,000 cfs, as compared to the maximum observed peak in 1907 of 230,000 cfs (stage from high water mark), and the Yuba River at Englebright Dam had a peak flow of 91,000 cfs, as compared to the maximum recorded peak flow of 148,000 cfs in 1955. In the American River Basin, Folsom Dam had a peak inflow of 89,945 cfs. During the storm period 200,000 acre-feet of flood water was stored in the reservoir with a peak discharge to the American River at Nimbus Afterbay Dam of 5,000 cfs.

The remaining significant inflow to the Sacramento River Flood Control Project on the west side was Cache Creek at Yolo with 8,210 cfs, as compared to the maximum recorded peak of 41,400 cfs in 1958. Lake Berryessa on Putah Creek had a peak inflow of approximately 45,000 cfs. The very low maximum discharge of 53 cfs to Putah Creek from the reservoir resulted in an increase in storage of over 75,000 acre-feet.

The peak flood flow of the project at the latitude of Sacramento was about 201,500 cfs. The total volume of flow past this location for the month of October approximated 2,394,000 acre-feet.

In the Sacramento River Flood Control Project, overflow occurred at Colusa, Tisdale, and Fremont Weirs. The overflows were as follows:

TABLE III

Sacramento River Flood Control Project
WEIR OVERFLOWS

OCTOBER STORM

Weir	Beginning of Overflow		Length of Overflow Period	Peak Stage and Discharge	
	Date	Time			
Moulton				No Flow	
Colusa	10/13/62	0900	57 Hours	64.85 ft.	19,500 cfs
Tisdale	10/13/62	1400	105 Hours	48.30 ft.	11,000 cfs
Fremont	10/13/62	2300	192 Hours	38.34 ft.	159,000 cfs
Sacramento				No gates opened	

The January-February Storm runoff in the Central Valley Area ranged from moderate to extremely high to record shattering. Reservoir operations and hydrographs on Plates Nos. 35 to 44 show the flows from the major basins in the Central Valley Area.

Plots of the gage heights on the Sacramento and tributary river systems are shown on Plates Nos. 45 and 46.

In the north, Shasta Dam had a peak inflow of 72,000 cfs from the Sacramento River, McCloud River, Squaw Creek, and the Pit River. The majority of the storm inflow was contained in Shasta Reservoir with a gain in storage of about 383,000 acre-feet. Keswick Afterbay Dam, regulator of Shasta discharges to the Sacramento River, had a peak discharge of

11,700 cfs. Downstream from Keswick on the west side, Cottonwood Creek near Cottonwood had a moderately high peak flow of 23,100 cfs, and Stony Creek near Hamilton City had the moderate peak flow of 9,300 cfs. On the east side, Cow Creek near Millville had a peak flow of 16,800 cfs, as compared to the maximum peak of record of 45,200 cfs in 1951.

Further south on the west side, Cache Creek at Yolo had a peak flow of 24,000 cfs, as compared to the maximum recorded peak of 41,400 cfs in 1958. Putah Creek inflow to Lake Berryessa was 86,000 cfs, surpassing the maximum recorded peak inflow of 85,300 cfs in 1958. The discharge to Putah Creek was maintained at 10 cfs, thus again adding significantly to the storage of the reservoir -- this time by 195,000 acre-feet for the storm period.

The Feather, Yuba, and American River Basins had the record-breaking flood flows. In the Feather Basin, Spanish Creek above Blackhawk Creek at Keddie had a peak flow of 15,000 cfs, bettering the maximum recorded peak of 13,200 cfs in October 1962. The Middle Fork Feather River near Merrimac had a peak flow of 65,400 cfs, topping the maximum peak of record in 1955 of 62,000 cfs. The Feather River at Oroville peaked at 191,000 cfs, as compared to the 1955 peak of 203,000 cfs, and the maximum observed peak flow of 230,000 cfs in 1907 (stage from high water mark).

In the Yuba River Basin, the North Yuba River below Bullards Bar Dam peaked at a stage of 42.0 feet (discharge to be determined later), surpassing the previous maximum record stage of 39.0 feet (discharge of 70,000 cfs) in 1955. The Yuba River at Englebright Dam had a new maximum peak flow of record of 149,000 cfs, as compared to the previous maximum of record of 148,000 cfs in 1955.

In the American River Basin, tributary streams to the American River had several crest stages far surpassing previous record peak stages but discharges were not yet determined at the time of publication of this report. An example is the Rubicon River near Georgetown which crested at 25.6 feet, in contrast to the maximum record peak stage of 21.50 feet in 1955. The American's flood waters were second in volume only to the legendary flood of 1862. Folsom Dam had a peak inflow of 240,200 cfs, and during the storm stored approximately 370,000 acre-feet at the apex of the storm. This peak inflow surpassed the maximum peak flow in 1955 by 22,000 cfs. The peak discharge of Folsom Dam was 110,125 cfs which continued for 12 hours. This flow coupled with 69,000 cfs in the Sacramento River past Verona, required the opening of 45 of the 48 gates of the Sacramento Weir. The operation of the Sacramento Weir was smooth and efficient even though it was the first time the gates had been opened since 1955.

At the latitude of Sacramento, the peak flood flow was 289,700 cfs. The total volume of flow past this location for the month of February was about 4,556,000 acre-feet. The project passed the greatest peak flows in its history without a major levee break.

In the Sacramento River Flood Control Project overflow occurred at all the weirs and overflows were as follows:

TABLE IV

Sacramento River Flood Control Project
WEIR OVERFLOWS

JANUARY-FEBRUARY STORM

Weir	Beginning of Overflow		Length of Overflow Period	Peak Stage and Discharge	
	Date	Time			
Moulton	2/1/63	1640	41 Hours	79.33 ft.	6,600 cfs
Colusa	1/31/63	2150	117 Hours	66.09 ft.	35,800 cfs
Tisdale	2/1/63	0030	478 Hours	48.87 ft.	12,600 cfs
Fremont	2/1/63	0530	415 Hours	38.45 ft.	163,000 cfs
Sacramento	2/1/63	2038*	138 Hours**	31.83 ft.	85,000 cfs

*45 of 48 gates opened; operation completed at 2350, 2/1/63.
**Closure operations began at 1350, 2/5/63, and completed at 1435, 2/7/63.

Continuing down the east side of the Central Valley Area, the Cosumnes River Basin had extremely high peak flood flows. The Cosumnes River at Michigan Bar peaked at 39,400 cfs, second of record only to the maximum recorded peak flow in 1950 of 42,000 cfs. The remainder of the major basins on the east side from the Mokelumne River down to the Kern River had high peak flood flows. The reservoirs in these basins impounded the greater part of the rainfall-runoff before the waters reached the valley floor below. These basins had experienced several years of drought conditions and the charging of the reservoir capacity was welcomed by water conservationists.

Peak flows on the San Joaquin River and its tributaries were in the low range. This was due to the low storage status of the reservoirs in these basins and operation of these reservoirs to impound the majority of the storm runoff. An example of this situation was the San Joaquin near Vernalis which peaked at 12,400 cfs, in contrast to the maximum recorded peak flow in 1950 of 79,000 cfs.

April Storms - During this period a series of rainstorms and resultant runoff contributed greatly to reservoir storage facilities in the Central Valley. In the early spring, as previously stated, reservoir storage in the southern Sierra was quite low and it appeared that the area had the dismal prospect of a third consecutive year of drought conditions. However, the storms beginning in mid-March and continuing through April had the further advantage of a low freezing level. Significant snow deposition occurred down to relatively low elevations and immediate storm runoff was generally moderate. During the snowmelt runoff period most Central Valley reservoirs filled, with some spilling, thus completely reversing the earlier water supply outlook.

The storage at Shasta Reservoir increased approximately 1,000,000 acre-feet during this period. In early May the reservoir was full to capacity and the spillway flowed for the first time since 1958. On the west side, Lake Berryessa filled and the reservoir's gloryhole-type spillway flowed for the first time since completion of construction in 1958.

Folsom Reservoir filled to capacity in early June and the rest of the reservoirs on the east side of the Central Valley Area filled or greatly increased conservation storage. At the south end of the area, Isabella Reservoir in the Kern River Basin with a storage capacity of

570,000 acre-feet, filled to 370,000 acre-feet in June which was the highest recorded storage since its completion of construction in 1953.

The immediate runoff from the storms in April was of most significance on the Sacramento River. Moderate to high flood flows occurred during this period in the Sacramento River Flood Control Project.

In the middle of the month of April the highest discharge of the season of 45,000 cfs was released from Keswick Dam, afterbay of Shasta Dam. Subsequently, further down the Sacramento River, the gaging station at Ord Ferry recorded a flow of approximately 100,000 cfs. This flow was within the general flood control objective of 130,000 cfs at the upper end of the Sacramento River Flood Control Project.

Past the latitude of Sacramento the total volume of flow for the month of April was about 5,100,000 acre-feet.

All of the project weirs overflowed except the Sacramento Weir. The overflows were as follows:

TABLE V

Sacramento River Flood Control Project
WEIR OVERFLOWS

APRIL STORMS

Weir	Beginning of Overflow		Length of Overflow Period	Peak Stage and Discharge	
	Date	Time			
Moulton	4/12/63	1000	158 Hours	80.26 ft.	11,000 cfs
Colusa	4/7/63	1245	408 Hours	66.77 ft.	46,000 cfs
Tisdale	4/7/63	1330	424 Hours	48.72 ft.	11,800 cfs
Fremont	4/7/63	1600	487 Hours	36.56 ft.	68,000 cfs
Sacramento				No gates opened	

Lahontan Area

October Storm - The streams in the northern portion of this area generally experienced from low to high peak flood flows during the October storm. An example of high peak flows was the peak flow of 3,100 cfs on the Susan River at Susanville, as compared to the maximum record peak flow of 3,540 cfs in 1955. Further south, the Truckee River at Farad had a peak flow of 3,340 cfs, in contrast to the maximum record peak flow of 17,500 cfs in 1950.

January-February Storm - This storm produced high to extremely high peak flood flows on the streams in the northern portion of the Lahontan area. Two new maximum record stream peak flood flows were established in the Susanville area.

Willow Creek near Susanville had a peak flow of 816 cfs, surpassing the previous maximum peak flow in 1955 of 712 cfs, and the Susan River at Susanville peaked at 3,900 cfs, bettering the 1955 peak flow of 3,540 cfs. The Truckee River at Farad had a peak flow of 11,860 cfs, as compared to the maximum peak flow of 17,500 cfs in 1950.

Feather River at Hansels' Bridge in early March 1963 as a comparison to cover photo taken approximately the same location. (DWR Photo)

October 1962 Aerial view of Feather River at Shanghai Bend looking north -- Yuba City at left and Marysville in center of photo. (DWR Photo)

February 1962 Aerial view of Fremont Pool where water enters the Yolo Bypass. (DWR Photo)
(Looking north into Sutter Bypass)

February 1963 Aerial view of Colusa Weir flow into the upper reaches of the Sutter Bypass -- Note: Sutter Buttes in background. (DWR Photo)

February 2, 1963 Aerial view of the American River at "H" Street Bridge in Sacramento (DWR Photo)

February 1, 1963 View of Sacramento River at Sacramento Weir, when 45 of the 48 gates were opened. (DWR Photo)

Aerial view of Humphreys Basin area of the San Joaquin River Watershed in April.

(Courtesy of Southern California Edison Co., photograph by Symons Flying Service)

The 33 applications requested a total of $908,659.74. Based upon an engineering field review of each application, the department recommended the amount of $661,836.52 as eligible for assistance under Public Law 875.

In the North Coastal Area high velocity winds felled more than a score of age old redwood trees across Highway 101 between Eureka and Crescent City temporarily closing the road. Heavy runoff caused damage to levees on Coffee and Swift Creeks in Trinity County. Excessive spilling from the reservoir damaged Ruth Dam's spillway chute, a property of Humboldt Bay Municipal Water District. The Van Duzen River at the Humboldt-Trinity county line changed course and eroded away approximately 25 acres of valley land.

In the Bay Area, damage to highways and roads was extensive. Alameda and Contra Costa counties caught the impact of the storm in this area. The heavy rainfall and resultant heavy runoff caused severe erosion and mud slides in and above the cities of San Leandro, Hayward, Berkeley, Oakland, Pleasanton, Walnut Creek, and Martinez. Debris from this erosion blocked water courses and culverts causing overflows which in turn resulted in damage to stream banks, levees, channels, storm drains, roads, culverts and other property.

The entire city of Oakland was isolated from the east as rain water flooded most main thoroughfares and closed the Broadway low-level tunnel into Contra Costa County. Oakland's Lake Merritt overflowed its banks and flooded adjacent streets.

Evacuation was the order of the day in many communities. Families were urged to vacate their homes in Linda Mar on the San Mateo County coast and in a low-lying section of San Bruno as flood waters began lapping at their doors. Low-lying areas in Marin County were under several feet of

water and Highway No. 1 northbound from Stinson Beach was closed as were several stretches of Highway No. 12.

Flooding in several locations in the city of Half Moon Bay caused damage to channels, and from silt and debris deposition. Flooding of the city's sewage treatment plant caused the plant to be inoperative. In the city of Pacifica, heavy storm water runoff caused deposition of silt and debris in channels and storm drains. Resultant flooding resulted in damage to the banks and channel lining on several streams in the area.

In the Central Valley Area, major rail lines and highways were closed. Numerous mud slides blocked the Western Pacific Railroad's Feather River route east of Oroville, delaying several passenger trains.

Sonora and Tioga passes were closed as were stretches of Highway 40-A beyond Oroville, Highway 99-W at Redding and Highway 99-E from Roseville to Wheatland.

In the north portion of the Central Valley Area, property damage was staggering and millions of dollars in crop damage were reported from agricultural areas. In Chico, the $10,000,000 rice crop, which must be harvested in dry weather, was under water. Beans and walnuts "worth a fortune" were also damaged by the rain, as were other major crops.

The North Fork Pit River flooded a large portion of Alturas causing a variety of damage to the community. High flood stage and velocities on Rattlesnake Creek damaged the Hot Spring Valley Irrigation works and facilities on this watercourse. The high stage of Ash and Dry Creeks inundated a significant portion of the town of Adin in Modoc County and damaged public facilities, principally two county bridges.

In Sierra County, heavy flow and resultant high velocities threatened the stability of the community water supply diversion dam located on Fletcher Creek, about 1/4 mile northwest of Calpine.

Occupants of two trailer courts and the whole town of Tobin, 40 miles northeast of Oroville on the North Fork of the Feather River, were evacuated after the torrential rains flooded the area. About 320 persons fled to safety. In the Oroville area hundreds of cattle were marooned and some were washed away into the river.

In the Sacramento River Flood Control Project, farmers in the bypass areas were alerted by the department that the weirs were forecast to overflow and inundate the bypass floodways. They were able to remove machinery, equipment and livestock from these floodways with time to spare.

In the Sacramento River Flood Control Project, damage to the system was of a minor nature. The more serious problems were encountered in Maintenance Area Nos. 3, 7, 8, and 13, and the upper end of Yankee Slough. A conduit separation within Maintenance Area No. 3 levee along the Feather River allowed levee material to be piped during high stage of this watercourse. An emergency sandbag dike and appropriate pipe repairs were made to remedy this condition.

Saturation and piping of levee material at three sections of a Maintenance Area No. 7 levee along the Feather River resulted in excessive slump displacement. Required material was replaced in the slumped areas to correct this condition.

Along the Yuba River approximately two miles of new levee in Maintenance Area No. 8 suffered slope erosion as a result of impinging

precipitation during the storm. Overtopping and resultant erosion occurred along a section of a Maintenance Area No. 13 levee along Cottonwood Creek. Employment of emergency measures was required to protect the levee and maintain travel on adjacent U. S. Highway 99-E during flood stage of the watercourse.

A high flood stage and debris accumulation at Brewer Road Bridge crossing of Yankee Slough in Reclamation District No. 1001 caused the right bank levee failure. Approximately one square mile of walnut orchards was inundated between Yankee Slough and Bear River Drive. The bridge was subsequently dynamited by U. S. Air Force personnel from Beale Air Force Base to remove the debris jam and allow flood waters to pass.

In the Sacramento River Delta, Little Holland Tract flooded about 6 a.m. on October 15; Prospect Island overflowed about 12 noon on October 15; and Liberty Island was inundated between 4 and 5 a.m. on October 16.

Mountain slides closed State Highway 89 along the west shore of Lake Tahoe and it remained closed until after the storm when repairs could be made.

January-February Storm

California, north of the Tehachapi Mountains, was hit hard by this storm. In Northern California hundreds of families were evacuated when swollen rivers menaced homes. Twenty-three major U. S. and California highways were closed by snow slides and floods. All major roads leading from Northern California to Nevada were closed. Also closed to travel were the Western Pacific and Southern Pacific Trans-Sierra Railroads.

Major disaster areas of this storm are shown on Plate No. 47. There were 12 applications requesting $929,280 in assistance under Public Law 875. The department investigated these applications for federal financial assistance relating to flood control, drainage and irrigation facilities and other works, in the disaster designated counties.

Based upon an engineering field review of each application, the department recommended the amount of $634,706 for assistance under Public Law 875. The above-mentioned total monies requested by public agencies and total monies approved by the department very closely approximate the October program.

In the North Coastal Area, excessive runoff and the consequent high stage and velocity of the Scott River resulted in damage to the Scott Valley Irrigation District's pumping plant diversion dam. The dam was overtopped and the right abutment and adjacent bank land was severely damaged. The district's pumping plant, farm lands, and a gravel plant downstream were seriously jeopardized by the high waters, and erosion established a new channel and washed away several acres of land immediately below the dam.

Excessive spilling from Ruth Dam Reservoir damaged the dam's spillway chute and training levee along the left bank of the chute section. Similar damage had occurred during the October storm.

The Eel River flooded over its banks and inundated large areas of the lower river valley in the vicinity of Loleta. Considerable land and farm buildings were inundated. The Eel also flowed across the state highway to Ferndale and closed off other roads in this vicinity for a short duration.

Many roads and highways were closed due to the storm in Mendocino and Sonoma counties and many communities had power outages and telephone service disruptions.

Flood-hardened veterans along the Russian River said this storm was worse than '58, but not nearly as severe as '55. The town of Guernevil was flooded on the fringes, inundating resort areas, homes, and business establishments. The lowlands of Geyserville were flooded, mostly in low orchards, but shallow flooding took place in parts of the residential section of the community.

In Healdsburg the troubles came from the west -- the Dry Creek runoff -- rather than the Russian River. The western portion of the city was flooded by Dry Creek. Also flooded were the Santa Rosa lowlands.

In Napa an estimated 200 families were evacuated from the downtown section when the Napa River spilled over its banks. Water poured through many homes and businesses in the area. Along the Napa River, water rose at Calistoga to within a foot of the 1955 flood level backing up sewage drains in some areas.

Further south in Santa Clara County, it was reported that flooding took place in or near the cities of Morgan Hill, Gilroy, Agness, and Alviso. In Alviso water was eight feet deep at points and a high tide on nearby San Francisco Bay threatened to increase the water level. This necessitated evacuating 100-150 people from the town. Several isolated cases of flooding in low-lying lands were observed along Highway 101 south of San Jose and many roads and highways were closed during the storm. The storm caused severe damage to the banks and levees of various streams and channels in Santa Clara County. It also caused the deposit of large quantities of silt and other debris in many channels.

In Santa Cruz County, Soquel Creek caused major flooding in the town of Soquel. Along the San Lorenzo River local flooding and evacuation

was reported at Felton Grove near Felton and Gold Gulch at the confluence of Zayante Creek.

In the Central Valley Area, high flows in a number of creeks in Tehama County, mainly Thomes, Mill, Cottonwood, and Deer Creeks, caused excessive erosion and destruction of levees. Erosion of natural stream channels, and deposition of sediment caused meandering of the stream channels within the flood plain.

Stony Creek broke through its levee in Colusa County during the height of the storm. The flood waters flowed across an open field, a county highway, and back into the creek channel in Glenn County. The flood waters cut a 100-foot wide channel in the topsoil along its path for a distance of about two miles.

Roads and highways were closed in Lake County due to the storm, and flooding caused damage to levees and flood control facilities on Middle Creek and Clover Creek Bypass within the Lake County Flood Control and Water Conservation District.

Flooding in Plumas County caused extensive damage in the vicinity of Chester, Portola, and Quincy, and damaged the water supply system of the town of Johnsville. Flood waters deposited large amounts of sand, gravel, and debris in the channels of Johnson Creek and the North Fork of the Feather River which so restricted the channels as to cause extensive flooding of private and public property in the Chester area.

The Yuba and American River Basins caught the brunt of this storm. Damage to roads and highways was extensive, and numerous communities and resorts were flooded causing widespread damage. The storm runoff from the Sierra slopes, which produces rivers with the highest fall and shortest

reach of any in the world, brought down tremendous quantities of debris resulting in damage to roads, highways, public and private property, and to numerous stream gaging stations. Debris choked Folsom Lake with logs and brush dislodged by the fast rising tributaries. The debris trapped in the lake cost $50,000 to be removed.

Flooding damaged the water supply and distribution system of the Washington County Water District to the extent that it was completely out of operation for about three months.

Daguerre Point Dam, property of the California Debris Commission, located on the Yuba River approximately nine miles upstream from Marysville was severely damaged. The function of the dam is to remove debris from the Yuba River so that the Sacramento River Flood Control Project channels are not effected by this material.

Construction is now under way to repair the dam. The total cost of repairs will be approximately $1,350,000 of which the State will pay 50 percent and the U. S. Federal Government will make up the other half.

The majority of damage to the Sacramento River Flood Control Project consisted of erosion of levees and banks sloughing off into the channels. Several boils developed and were promptly controlled. One instance of the more serious caving bank-type of damage occurred on the left bank Feather River located about 2 1/2 miles downstream from Nicolaus in Reclamation District No. 1001. The district forces placed canvas over the damaged reach which kept the erosion from worsening. Another serious condition developed in Maintenance Area No. 10 on the right bank American River. The waterward slope of the levee eroded, leaving a vertical face of five feet for a

istance of 350 feet. The department's maintenance personnel placed canvas nd sandbags on this caved portion of the levee.

In the Sacramento River Delta, Little Holland Tract went under on he evening of February 1; Prospect Island overflowed about midnight on ebruary 1; and Liberty Island flooded in the early morning of February 2.

In the northern portion of the Lahontan area the damages along he main rivers were found to be minimal, generally speaking, as compared to he problem created by the smaller creeks, which left normal channels and pread out over considerable areas.

Cold Stream and Weber Creek overflowed their banks and flooded the own of Sierraville causing considerable damage to State Highway No. 89 and o private property.

In the Donner Lake area there was considerable flooding at the orthwest corner of Donner Lake caused by water originating in Negro Canyon. heet flooding deposited considerable silt and debris.

The main water supply line crossing over the Truckee River was ashed out leaving a major portion of the town of Truckee without fire rotection or domestic water supply.

In Alpine County along the West Fork Carson River between Woodfords nd Paynesville, floods caused damage to diversion facilities which supply rrigation and domestic water.

In Antelope Valley, Slinkard and Rodreques Creeks blocked State ign Route No. 395 and covered agricultural lands with silt. The greatest amages were at the town of Walker. Mill and Little Lost Canyon Creeks pread out through the portion of town above the state highway and then ollowed the highway northward to join the river.

- Sheet flooding, which deposited silt, was widespread throughout the town of Bridgeport in Mono County. The flood water was largely runoff from the Bridgeport Meadows.

In Los Angeles and Orange Counties, high waves during the storm of February 1963 caused damage along the coast line. Public facilities in Redondo Beach King Harbor received the most severe damage in this area. High waves coupled with intense rainfall, caused breaches in revetted rock slopes, undercutting of concrete quay walls, and deposition of debris on the city-owned harbor facilities.

February 1963 Daguerre Point Dam on Yuba River (DWR Photo)

February 1963 View of sack ring control of sand boils in Reclamation District 784 left bank of Feather River. (DWR Photo)

February 1963 Yuba River near Hampshire Rocks (Photograph courtesy of Sacramento Bee)

January 31, 1963

South Fork of the Yuba River gnawing at U. S. Highway 40 one mile west of Cisco Grove. The roadway collapsed shortly after the picture was taken and blocked the highway completely.

(Photograph courtesy of Sacramento Bee)

February 2, 1963 High water north end of Coloma, El Dorado County, damaged the highway surface of State Route 49. (Photograph courtesy of Sacramento Bee)

February 2, 1963 Debris piled up against the bridge over the North Fork of the American River near Auburn, Placer County. (Photograph courtesy of Sacramento Bee)

February 3, 1963

Debris choked Folsom Lake with logs and brush dislodged by the fast rising tributaries. The aerial scene is looking north with the debris in the Goose Flat area of lake. Rattlesnake Bar area at top of photo.

(Photograph courtesy of Sacramento Bee)

February 1963 View of temporary repairs to damaged right bank levee on American River at 2 mile marker in Maintenance Area 10. (DWR Photo)

APPENDIX A

PRECIPITATION

TABLE A-1

PRECIPITATION COMPARISON, STORMS OF
DECEMBER 1955, FEBRUARY 1958, FEBRUARY 1960,
OCTOBER 1962, JANUARY-FEBRUARY 1963

APPENDIX A

TABLE A-1

PRECIPITATION COMPARISON, STORMS OF
DECEMBER 1955, FEBRUARY 1958, FEBRUARY 1960, OCTOBER 1962, JANUARY-FEBRUARY 1963

Station	One Day					Two Days					Three Days					Four Days				
	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963
North Coast																				
Alderpoint	5.06	3.59	3.66	3.83	3.70	6.96	4.20	6.46	6.30	6.40	7.76	4.84	8.85	8.45	7.68	9.51	6.58	9.65	10.95*	8.16
Cummings	-	4.26	6.00	4.03	5.08	-	5.56	10.42	7.64	7.65	-	6.85	12.84	11.01	9.83	-	8.75	14.00	13.28	10.59
Clear Lake																				
Hobergs	12.72	5.70	4.95	8.32	6.12	18.77	8.20	6.96	13.66	11.81	20.03	8.45	7.56	15.10	15.50	26.49	9.62	8.08	15.55	15.68
Middletown	9.22	-	-	6.80	5.12	13.55	-	-	9.88	9.21	14.48	-	7.12	11.62	12.68	20.13	-	8.91	11.73	12.80
Northern Sacramento Valley																				
Red Bluff WB AP	.96	2.14	1.28	1.90	1.23	1.79	2.66	1.47	3.16*	2.41	2.45	3.42	1.59	3.42	3.46*	2.73	3.42	1.81	3.51*	3.49
Shasta Dam	8.24	4.34	3.18	3.54	2.64	12.28	5.03	4.26	6.22	5.01	16.23	5.91	5.04	7.59	6.27	22.15	8.08	5.66	10.27	6.56
Feather River Basin																				
Brush Creek RS	8.68	3.39	8.55	11.40*	4.99	11.93	4.57	10.29	18.75*	9.78	13.64	5.60	11.03	23.70*	12.55	18.08	6.05	11.88	25.99*	12.95
Oroville Bridge	2.20	1.79	1.22	4.63*	1.70	4.30	2.37	1.68	8.53*	3.10	4.84	2.55	1.82	11.93*	3.80	6.13	3.13	2.48	11.93*	3.95
Portola	4.18	1.26	1.64	3.89	1.76	5.12	1.96	2.57	6.34*	3.45	5.59	2.01	3.07	8.55*	4.71	6.69	2.01	3.17	9.30*	4.79
Quincy RS	4.62	3.54	3.22	6.10*	3.47	8.59	4.43	4.68	11.27*	6.34	9.20	4.57	5.53	15.97*	7.79	12.70	4.67	6.00	17.05*	8.33
Susanville AP	3.36	1.19	1.68	4.70*	2.34	3.68	1.81	2.53	8.34*	3.59	4.26	1.81	2.58	10.12*	4.07	5.76	1.81	2.58	11.31*	4.08
Yuba River Basin																				
Camptonville RS	8.85	3.20	8.90	6.94	5.91	13.18	3.64	10.90	13.32*	9.98	16.38	4.26	12.25	18.47*	12.07	17.11	5.56	12.97	20.83*	-
Downieville RS	5.83	5.32	6.50	8.52	9.28*	10.80	6.46	8.33	15.81*	14.43	14.22	6.96	9.39	21.32*	16.82	17.50	7.04	10.38	23.77*	18.44
Lake Spaulding	8.84	2.81	7.10	7.67	6.70	16.63	5.50	9.41	15.03	11.98	18.64	5.78	11.32	18.37	16.61	20.96	5.85	12.26	21.24*	17.13
Strawberry Valley	9.50	4.40	7.38	11.32	11.75*	17.00	6.63	12.90	20.56*	17.14	19.55	6.82	14.91	24.27*	20.96	24.30	6.85	15.64	26.74*	21.59
American River Basin																				
Blue Canyon WB AP	7.44	3.54	5.50	7.37	8.70*	13.36	5.11	10.41	13.81	13.96*	18.55	5.12	12.06	19.55*	16.01	20.66	5.47	12.55	22.02*	17.38
Georgetown RS	6.56	2.89	6.66	7.00*	6.85	12.01	3.19	9.56	11.82	10.54	15.79	4.17	10.86	15.74	12.97	16.20	4.54	11.16	17.87*	13.36
Pacific House	5.34	2.58	4.33	4.51	7.95*	10.66	2.84	8.20	7.28	10.87*	14.74	4.25	10.12	9.19	13.01	15.08	4.38	10.17	12.04	13.71

TABLE A-1 (Continued)

Station	One Day					Two Days					Three Days					Four Days				
	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963	Dec. 1955	Feb. 1958	Feb. 1960	Oct. 1962	Jan-Feb 1963
Mokelumne River Basin																				
Salt Springs PH	6.18	2.05	3.90	2.63	5.39	10.39	3.15	6.11	4.01	10.56*	13.72	3.35	6.74	5.32	14.90*	14.02	3.70	7.14	5.96	15.26*
Sacramento Valley Floor																				
Sacramento WB City	2.41	1.91	.86	3.63*	1.70	3.81	2.93	1.25	5.80*	3.09	4.11	2.93	1.45	6.69*	3.60	5.16	2.93	1.45	6.85*	3.65
Marysville	2.27	1.75	.69	4.24*	2.03	4.10	2.02	.90	7.29*	3.38	4.31	2.25	.95	9.26*	3.58	5.45	2.25	1.50	9.31*	3.69
Santa Cruz Area																				
Ben Lomond	10.42	3.90	2.95	11.15*	9.72	15.28	7.22	4.27	13.05	16.62*	16.97	7.22	5.35	13.55	19.17*	19.02	7.22	5.35	14.47	19.52*

Dates of storm periods used
Dec. 15-31, 1955
Feb. 1-28, 1958
Feb. 6-10, 1960
Oct. 9-14, 1962
Jan. 29 - Feb. 2, 1963

*New record established for the five listed storms in either the October 1962 or the January-February 1963 storm

APPENDIX B

RUNOFF

TABLE B-1	PEAK FLOWS AND STAGES
TABLE B-2	RESERVOIR OPERATIONS DURING PERIOD OF OCTOBER 1962
TABLE B-3	RESERVOIR OPERATIONS DURING PERIOD OF FEBRUARY 1963

TABLE B-1

PEAK FLOWS AND STAGES
(Preliminary Data, Subject to Revision)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
North Coastal Area										
Middle Fork Smith River at Gasquet	130	1911-18 1958-	USGS	12/22/55	11.5[h,b]	26,000	10/12 2/1	2000 0100	6.37 8.35	5,240 10,700
Smith River near Crescent City	613	1931-	USGS	12/22/55	41.20	165,000	Oct. - No peak over base flow 12/2 2/1	 1300 0300	 34.10 23.22	 113,000 46,100
Shasta River near Yreka	796	*1933-	USGS	12/22/55	9.43	6,090	10/13 2/3	0800 1530	5.85 6.18	1,590 1,820
Scott River near Fort Jones	662	1941-	USGS	12/22/55	21.40	38,500	10/13 2/3	1030 2000	10.92 12.88	8,460 11,200
Klamath River near Seiad Valley	6,980	1912-25 1951-	USGS	12/22/55	29.2[h]	122,000[c]	10/13 2/3	1000-1200 2100-2400	10.86 13.18	16,500 24,000
South Fork Salmon R. nr. Forks of Salmon	252	1957-	USGS	12/22/55	18.86[h]	24,200	10/12 1/31	1800 2400	11.93 10.15	9,380 6,440
North Fork Salmon R. nr. Forks of Salmon	205	1958-	USGS	2/8/60	12.80[h,1]	7,880	10/12 2/3	1900 1000	11.47 12.40	5,820 7,220
Salmon River at Somesbar	746	*1911-	USGS	12/22/55	28.80	84,000	10/12 2/3	2100 1300	11.32 11.37	19,600 19,800
Klamath River at Somesbar	8,480	1927-	USGS	12/22/55	59.4[h]	202,000[c]	10/12 12/2 2/3	2100 1800 1700	22.90 34.80 27.61	47,700 85,300 62,000
Red Cap near Orleans	56	1958-	USGS	2/8/60	9.12	3,240	10/12 2/1	1700 0100	8.15 7.69	2,180 1,740
Bluff Creek near Weitchpec	75	1958-	USGS	12/22/55	13.7	20,200	10/12 2/1	About 2400 0100	7.62 8.07	2,580 3,000
Trinity River at Lewiston	726	1911-	USGS	12/22/55	27.3	71,600	10/12 1/31	1930 1830	5.24 6.33	552 1,810
Trinity River near Burnt Ranch	1,438	1931-40 1956-	USGS	12/22/55	43.2[h]	172,000	10/12 1/31	2200 0200	11.44 12.90	11,400 14,500
New River at Denny	173	1927-28 1959-	USGS	2/8/60	11.65	9,460	10/12 1/31	1900 2400	8.58 8.58	4,570 4,570
South Fork Trinity R. at Forest Glen	208	1959-	USGS	12/22/55	25.26[h]	42,400	10/12 1/31	1900 1800	14.25 17.82	8,650 16,600

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
North Coastal Area (Continued)										
South Fork Trinity River near Hyampom	342	1956-	USGS	12/22/55	22.2[h]	39,400	10/12 1/31	2100 1800	12.10 16.40	9,450 23,200
Hayfork Creek near Hayfork	87	1956-	USGS	2/8/60	11.67	4,210	10/12 1/31	2000 1600	8.90 10.81	2,320 3,610
Hayfork Creek near Hyampom	379	1953-	USGS	12/22/55	18.00	25,300	10/12 1/31	Unknown 2000	8.93 12.37	3,920 10,300
South Fork Trinity River near Salyer	899	1911-13 1950-	USGS	12/22/55	39.4[h]	65,100	10/13 2/1	0300 0400	18.78 27.05	15,200 30,300
Willow Creek at Willow Creek	43	1959-	USGS	2/9/60	9.68	4,940	10/12 2/1	1600 1200	7.14 6.78	1,730 1,370
Trinity River near Hoopa	2,848	*1911-	USGS	12/22/55	36.90	190,000	10/13 12/3 2/1	0300 0200 0300	16.43 18.46 20.53	32,900 42,800 54,700
Klamath River near Klamath	12,100	*1910-	USGS	12/22/55	49.7[h]	425,000[c]	10/13 12/3 2/1	0600 0200 1400	20.28 28.38 24.46	94,500 176,000 136,000
Redwood Creek at Orick	278	1911-13 1953-	USGS	1/18/53 12/22/55	23.95[h] 23.95	50,000 50,000	10/12 2/1	2400 0400	13.58 12.71	9,820 7,940
Little River at Crannel	44	1955-	USGS	3/11/57	9.96	9,300	10/9 2/1	0800 0300	6.66 3.88	3,980 1,250
North Fork Mad River near Korbel	40	1957-	USGS	2/8/60	16.17	7,170[b]	10/9 2/1	0800 1300	11.03 7.40	5,500 1,500
Mad River near Forest Glenn	144	1953-	USGS	12/22/55	24.5[h]	39,200	10/12 2/1	2400 1800	8.49 8.74	5,200 5,550
Mad River near Arcata	485	1910-13 1961-	USGS	12/22/55	27.30[b]	77,800	10/12 12/2 1/31	2200 2100 2400	12.40 12.98 9.71	26,000 28,900 15,000
Jacoby Creek near Freshwater	6	1954-	USGS	12/30/54	7.20	1,670	10/12 1/31	1600 1400	2.98 1.89	278 68
Elk Creek near Falk	44	1957-	USGS	2/14/59	27.62	3,220	10/12 1/31	2100 1900	17.41 9.73	1,370 480
South Fork Van Duzen R. near Bridgeville	36	*1951-	USGS	12/22/55	11.91[b,h]	8,990	10/12 1/31	1700 1400	11.52 12.22	4,420 5,140
Van Duzen River near Bridgeville	216	1950-	USGS	12/22/55	21.3[h]	43,500	10/12 1/31	1700 1800	14.33 15.60	19,400 23,100
Eel R. below Scott Dam nr. Potter Valley	290	1922-	USGS	12/11/37	22.9[h]	41,100[c]	10/14 1/31	1900 2100	6.72 19.45	1,460 29,700

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
North Coastal Area (Continued)										
Eel R. at Van Arsdale Dam nr. Potter Valley	349	1909-	USGS	12/22/55	31.4[h]	43,600	10/12 1/31	2000 2100	9.97 24.10	2,940 27,900
Outlet Creek nr. Longvale	161	1956-	USGS	2/8/60	20.27	26,500	10/12 1/31	1700 1600	12.35 17.03	10,400 19,100
Eel River above Dos Rios	705	1950-	USGS	12/22/55	45.4[h]	123,000[c]	10/12 1/31	1900 2300	19.87 32.40	18,600 59,800
Black Butte River near Covelo	162	*1951-	USGS	12/21/55	35.3[h,b]	25,000	10/12 1/31	1800 1700	14.48 17.77	9,020 14,900
M. F. Eel River below Black Butte River nr. Covelo	367	1951-	USGS	12/21/55	25.0[h]	39,100	10/12 1/31	1900 1700	15.55 20.24	32,400 60,500
Eel River below Dos Rios	1,484	1911-13 1951-	USGS	12/22/55	49.86	283,000[c]	10/12 12/2 1/31	2200 2200 2000	24.15 24.18 36.60	63,500 63,700 159,000
North Fork Eel River near Mina	250	1953-	USGS	12/22/55	24.00	58,400	10/12 1/31	1900 1600	16.63 19.25	15,900 26,600
Eel River at Alderpoint	2,079	1955-	USGS	12/22/55	72.5[h]	376,000[c]	10/13 12/3 1/31	0100 0200 2400	29.80 30.66 52.60	74,800 77,800 195,000
South Fork Eel R. nr. Branscomb	44	1946-	USGS	12/22/55	16.20	20,100	10/12 1/31	1800 2400	7.87 8.03	3,910 4,090
Ten Mile Creek nr. Laytonville	50	1957-	USGS	12/22/55	22.9[h]	16,300	10/12 1/31	1700 1400	12.23 16.63	5,130 9,530
South Fork Eel R. near Miranda	537	1939-	USGS	12/22/55	42.7[h]	173,000	10/13 12/3 1/31	0200 0100 2200	18.00 19.05 25.20	33,500 37,200 64,500
Bull Creek nr. Weott	28	1960-	USGS	2/10/61	16.88	3,400	10/12 1/31	1700 1200	15.50 16.12	3,100 3,300
Larabee Creek near Holmes	84	1959-	USGS	2/8/60	12.40	10,000	Oct.-record missing 1/31	 1600	10.70[h] 10.28	6,760 6,050
Eel River at Scotia	3,113	*1910-	USGS	12/22/55	61.90	541,000	10/13 12/3 2/1	0700 1000 0700	32.48 32.89 47.00	128,000 123,000 252,000
Mattole River nr. Petrolia	242	*1911-	USGS	12/22/55	29.60	90,400	10/12 1/31	1900 1700	14.57 18.32	16,600 28,000
Noyo River nr. Fort Bragg	105	1951-	USGS	12/22/55	25.64	22,000	10/12 1/31	2400 2100	9.96 15.83	2,280 5,050

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
North Coastal Area (Continued)										
Rancheria Creek near Boonville	66	1959-	USGS	2/8/60	15.30	9,990	10/12 1/31	1800 1400	9.32 18.30	3,690 13,900**
Navarro River near Navarro	304	1950-	USGS	12/22/55	40.60	64,500	10/12 1/31	2200 2100	17.78 34.34	8,980 33,100
South Fork Gualala R. nr. Annapolis	161	1950-	USGS	12/22/55	24.57	55,000	10/12 1/31	2000 1800	12.13 16.86	11,800 23,000
East Fork Russian River nr. Calpella	93	1941-	USGS	12/21/55	15.06[b]	13,300[c]	10/12 1/31	1700 1600	8.10 12.49	3,580 7,940
Russian River near Ukiah	100	*1911	USGS	12/21/55	18.0	18,900	10/12 1/31	1700 1700	10.74 15.43	5,940 11,800
Russian River near Hopland	362	1939-	USGS	12/22/55	27.00	45,000[c]	10/12 1/31	2100 2200	14.26 19.24	9,970 21,200
Feliz Creek near Hopland	31	1958-	USGS	12/23/55	13.60[h]	2,710	10/12 1/31	1600 1300	11.80 13.43	2,190 2,910**
Russian River near Cloverdale	502	1951-	USGS	12/22/55	30.9[h]	53,000[c]	10/12 1/31	1900 1900	15.47 21.75	11,100 25,200
Big Sulphur Creek near Cloverdale	82	1957-	USGS	12/22/55	22.2[h]	20,000	10/12 1/31	0900 1500	11.30 13.65	5,930 8,680
Russian River near Healdsburg	791	*1939-	USGS	2/28/40	30.0	67,000	10/13 2/1	0200 0100	13.88 20.05	21,500 41,600
Dry Creek near Cloverdale	88	1941-	USGS	12/22/55	17.80	17,600	10/12 1/31	1600 1500	10.13 17.91	5,480 17,700**
Dry Creek near Geyserville	162	1959-	USGS	2/8/60	14.33[1]	20,400	10/12 1/31	1800 1600	9.60 16.50	9,800 25,800**
Santa Rosa Creek near Santa Rosa	13	1959-	USGS	2/8/60	13.35[h]	3,200	10/12 1/31	1700 1000	9.45 9.53	1,220 1,250
Russian River near Guerneville	1,342	*1939-	USGS	12/23/55	49.7[h]	90,100[c]	10/13 2/1	0500 0800	28.56 43.70	30,800 71,800
Austin Creek near Cazadero	63	1959-	USGS	2/8/60	18.75	13,000	10/12 1/31	1700 1800	10.70 18.35	4,400 12,600
Walker Creek near Tomales	37	1959-	USGS	1/31/61	18.18	3,430	10/13 1/31	1600 2000	15.23 17.89	2,330 3,210

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
San Francisco Bay Area										
Corte Madera Creek at Ross	18	1951-	USGS	12/22/55	17.45	3,620	10/13 1/30	1530 1300	10.40 15.38	1,160 2,500
Novato Creek near Novato	17.5	1946-	USGS	2/24/58	8.24	1,190	10/13 1/30	1500 1130	3.70 5.78	345 800
Petaluma River at Petaluma	31	1948-	USGS	12/22/55 12/26/55 1/14/56	13.55 13.53 13.53	1,860 1,860 1,860	10/13 1/31	1700 1900	7.01 10.76	587 1,320
Sonoma Creek at Boyes Hot Springs	62	1955-	USGS	12/22/55	17.10	8,880	10/13 1/31	1600 1700	10.85 12.17	3,800 4,710
Napa River near St. Helena	81	*1929-	USGS	12/22/55	16.17	12,600	10/13 1/31	1630 1730	8.55 15.30	4,160 12,800**
Dry Creek near Napa	17	1951-	USGS	2/24/58	8.11	3,460	10/13 1/31	1530 1700	5.30 6.96	930 2,300
Napa River near Napa	218	*1929-	USGS	2/8/60	23.10	12,300	10/13 1/31	About 2000 2230	17.75 27.60	6,580 19,000**
Redwood Creek near Napa	10	1958-	USGS	2/8/60	8.60	1,070	10/13 1/31	1600 1500	6.14 9.90	583 1,350**
San Ramon Creek at San Ramon	6	1952-	USGS	4/2/58	15.3	1,490	10/13 1/31	1500 1900	16.98 12.30	1,600** 1,290
San Ramon Creek at Walnut Creek	51	1952-	USGS	12/23/55	14.55	6,890	10/13 1/31	1500 2100	9.02 14.52	4,510 8,110**
Walnut Creek at Walnut Creek	79	1952-	USGS	4/2/58	20.2	12,200	10/13 1/31	1430 2000	13.68 12.55	11,400 9,600
San Lorenzo Creek at Hayward	38	*1939-	USGS	4/2/58	17.45	5,100	10/13 1/31	About 1700 2100	19.73 14.37	7,460** 3,600
Arroyo Valle near Livermore	147	*1912-	USGS	12/23/55	13.93[h]	18,200	10/13 2/1	1800 0200	2.19 9.35	0.9 9,020
Arroyo Valle at Pleasanton	171	1957-	USGS	4/3/58	25.36	11,300	10/13 2/1	1630 0400	6.58 23.90	47 8,000
Alameda Creek near Niles	633	1891-	USGS	12/23/55	14.9	29,000[c]	10/13 2/1	1600 0700	5.86 11.15	1,810 13,400
Alameda Creek at Union City	654	1958-	USGS	2/9/60	11.42	260	10/13 2/1	0900 About 1000	12.53 19.25	348** 1,750**

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
San Francisco Bay Area (Continued)										
Patterson Creek at Union City		1958	USGS	2/16/59	13.55	3,700	10/13 2/1	0930 1000	11.98 20.4	2,000 10,700**
Alamitos Creek nr. New Almaden	31.9	1958-	USGS	4/2/58	9.67	4,300	10/13 1/31	1930 1200	7.90 8.44	2,280 2,500
Los Gatos Creek at Los Gatos	39	*1929-	USGS	2/27/40	14.71[b]	7,110	10/13 2/2	1530 1400	6.73 7.77	770 1,680
Guadalupe River at San Jose	146	1929-	USGS	4/2/58	16.55	9,150[c]	10/13 1/31	1730 1400	10.85 10.79	6,700 6,300
Saratoga Creek at Saratoga	9	1933-	USGS	2/22/55	6.40	2,730	10/13 1/31	1530 2000	4.78 5.68	696 1,180
Matadero Creek at Palo Alto	7	1952-	USGS	12/22/55 12/23/55	9.60 9.88	854 -	10/13 1/31	1600 1900	1.58 3.97	92 630
San Francisquito Creek at Stanford University	38	*1930	USGS	12/22/55	13.60	5,560	10/13 1/31	1130 2300	5.38 10.07	1,130 3,800
Pescadero Creek near Pescadero	46	1951-	USGS	12/23/55	21.27	9,420	10/13 1/31	1730 2400	16.38 18.80	4,750 6,700
Central Coastal Area										
San Lorenzo River at Big Trees	111	1936-	USGS	12/23/55	22.55	30,400	10/13 1/31	1730 About 1200	12.10 15.80	7,410 13,000
Branciforte Creek at Santa Cruz	17	*1940-	USGS	12/22/55	22.04	8,100	10/13 1/31	1800 1200	7.20 13.35	305 2,850
Soquel Creek at Soquel	40	1951-	USGS	12/23/55	22.33	15,800	10/13 1/31	1800 1700	13.34 16.27	5,120 7,900
Llagas Creek nr. Morgan Hill	20	1951-	USGS	4/2/58	8.45	3,190[c]	10/13 2/1	1600 1200	1.22 4.57	8.4 870
Bodfish Creek near Gilroy	7	1959-	USGS	2/1/59	6.35	585	10/13 1/31	1800 1200	4.38 8.25	154 1,240**
Tres Pinos Creek near Tres Pinos	206	1939-	USGS	4/4/41	7.75	8,060	No October peak 1/31	1100	4.25	35
San Benito River near Hollister	586	1949-	USGS	4/3/58	16.3	11,600	No October peak 2/10	2000	4.02	311
Pajaro River at Chittenden	1,186	1939-	USGS	12/24/55	32.46	24,000	No October peak 2/1	0800	20.74	11,400

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Coastal Area (Continued)										
Corralitos Creek near Corralitos	11	1957-	USGS	4/2/58	7.55	1,970	10/13 1/31	1700 1100	6.13 7.62	1,050 1,920
Corralitos Creek at Freedom	28	1956-	USGS	12/22/55	15.6[h]	3,620	10/13 1/31	1800 1400	7.70 11.80	1,350 2,600
Salinas River near Pozo	74	1942-	USGS	1/21/43	13.35	7,210	No October peak 2/10	1800	5.67	541
Salinas River nr. Santa Margarita	114	1942-	USGS	4/3/58	8.68	4,720[c]	No October peak 2/9	2000	1.21	31
Jack Creek nr. Templeton	25	1949-	USGS	1/25/56	9.56	5,040	No October peak 1/31	1200	6.86	1,790
Salinas River at Paso Robles	389	1939-	USGS	3/9/43	16.2	14,200[c]	No October peak 2/1	1100	11.09	2,600
Estrella Creek near Estrella	922	1954-	USGS	4/6/58	7.20	8,850	No October peak 2/9	1900	3.48	780
Nacimiento River near Bryson	140	1955-	USGS	12/23/55	24.63	30,300	10/14 1/31	0300 1400	9.05 21.04	2,740 22,700
San Antonio River at Pleyto	284	*1922-	USGS	4/3/58	6.44	19,100	10/16 1/31	0230 1900	3.28 6.35	950 10,000
Salinas River near Bradley	2,535	1948-	USGS	4/3/58	12.53	28,400[c]	No October peak 2/1	0300	9.87	12,400
Arroyo Seco near Soledad	244	1901-	USGS	4/3/58	14.40	28,300	10/14 1/31	0200 1500	9.10 15.55	2,540 22,800
Salinas River near Spreckels	4,156	*1900-	USGS	2/12/38	25.0	75,000[c]	No October peak 2/1	0700	15.22	7,840
Big Sur River near Big Sur	47	1950-	USGS	4/2/58	11.56	5,680	10/13 2/1	2100 0100	7.43 11.22	2,040 5,390
Arroyo De La Cruz near San Simeon	41	1950-	USGS	12/23/55	12.40	17,700	10/13 1/31	2400 1000	5.52 11.41	1,250 13,700
Arroyo Grande at Arroyo Grande	102	1939-	USGS	1/15/52	11.97	5,370	No October peak 2/10	2245	2.53	108
Sisquoc River near Garey	472	1940-	USGS	1/23/43	8.46[b]	13,000	No October peak 2/10	1500	4.43	141
Santa Maria River at Guadalupe	1,742	1940-	USGS	1/16/52	8.18	32,800	No October peak No January-February flow			

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Coastal Area (Continued)										
Santa Ynez River below Gibraltar Dam nr. Santa Barbara	216	1920-	USGS	3/2/38	-	35,500[c]	No October peak 2/9	1730	4.93	12
Santa Cruz Creek near Santa Ynez	74	1941-	USGS	4/3/58	10.27	3,580	No October peak 2/9	2330	5.29	398
San Jose Creek near Goleta	6	1941-	USGS	1/21/43 4/4/41	12.74 -	- 1,960	No October peak 1/31 2/9	2200 1630	1.92 3.94	59 390
Atascadero Creek near Goleta	18	1941-	USGS	1/15/52	10.85	4,500	No October peak 1/31 2/9	1800 About 1700	5.79 8.78	31 732
Carpinteria Creek near Carpinteria	13	1941-	USGS	1/15/52	9.75	2,440	No October peak 2/9	2000	4.55	110
Santa Rosa Creek near Cambria	12	1957-	USGS		15.2	-	No October peak 1/31	0830	6.73	1,330
Central Valley Area										
Sacramento River at Delta	427	1944-	USGS USBR	12/22/55	19.50	37,000	10/12 1/31	1800 1700	16.10 12.55	26,300 14,800
N.F. Pit River near Alturas	209	1929-32 1957-	USGS	2/24/58	9.85	2,140	10/14 2/1	0100 0700	11.07 6.70	2,420** 1,400
Pit River nr. Bieber	2,970	*1904-	USGS	3/19/07	16.7	33,800	10/15 2/3	0230 2100-2200	11.02 8.65	12,500 5,970
Pit River below Pit No. 4 Dam	4,860	1922-	USGS	12/12/37	17.9	30,200	10/13 2/2	1000 0900	14.59 11.01	16,800 7,680
Pit River near Montgomery Creek	5,170	1944-	USGS	12/23/55	14.12	37,100	10/15 2/3	1900 -	9.67 10.2	19,500 18,700
Squaw Creek above Shasta Lake	65	1944-	USGS USBR	12/21/55	21.90	17,800	10/11 1/31	1800 2000	11.27 15.60	1,880 5,890
McCloud River above Shasta Lake	606	1945-	USGS USBR	12/22/55	28.20	45,200	10/12 1/31	2000 2400	20.24 18.00	14,900 9,700
Sacramento River at Keswick	6,710	1938-	USGS DWR	2/23/40	47.2[b]	186,000	10/12 1/31	1630 1500	13.89 14.09	10,700 11,700
Clear Creek at French Gulch	115	1950-	USGS	12/22/55	13.49	7,050	10/12 1/31	1730 1900	8.53 8.64	2,320 2,400

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Clear Creek near Igo	228	1940-	USGS	12/21/55	13.75	24,500	10/13 1/31	0830 1445	7.54 7.72	5,960 6,030
Cow Creek near Millville	427	1949-	USGS	12/27/51	21.55	45,200	10/12 1/31	0100 1430	16.98 13.91	24,300 16,800
Cottonwood Creek near Cottonwood	945	1940-	USGS	3/1/41	15.4	52,300	10/12 1/31	- 2030	7.32 12.28	6,500 23,100
Battle Creek below Coleman Fish Hatchery near Cottonwood			USGS				10/12 1/31	1800 1400	11.31 3.72	8,800 4,880
Paynes Creek nr. Red Bluff	93	1949-	USGS	12/1/60	10.56	8,780	10/12 1/30	2100 1700	7.53 7.65	3,130 3,300
Red Bank Creek near Red Bluff	-	1948-	DWR USBR	2/21/56	-	5,610	10/12 1/31	1930 1300	6.32 8.70	1,000 4,000
Sacramento River near Red Bluff	9,300	1892-	USGS	2/28/40	38.9	291,000	10/13 2/1	0400 0200	12.25 17.16	47,200 76,700
Sacramento River at Red Bluff	-	-	DWR	-	-	-	10/13 2/1 4/14	0600 0200 1800	16.2 20.5 20.65	49,500 71,600 72,400
Antelope Creek near Red Bluff	124	1940-	USGS USCE	2/22/56	12.43	11,500	10/12 1/31	1930 1400	13.96 9.67	10,500 3,740
Elder Creek near Paskenta	96	1948-	USGS	2/24/58	13.90	11,700	10/12 1/31	- 1400	7.00 10.20	1,330 4,890
Elder Creek at Gerber	142	1949-	USGS USBR	2/19/58	14.40	11,000	10/12 1/31	2400 1600	7.42 10.60	1,310 6,200
Mill Creek near Los Molinos	134	*1909-	USGS	12/11/37	23.4[h]	23,000	10/12 1/31	1700 2000	15.45 11.19	15,400 9,040
Thomes Creek at Paskenta	188	1920-	USGS DWR	12/21/55	13.89	23,500	10/12 1/31	2000 1730	8.50 12.63	5,060 19,200
Deer Creek near Vina	200	*1911-	USGS DWR	12/10/37	19.2	23,800	10/12 1/31	2000 2230	11.38 11.03	10,200 9,470
Sacramento River at Vina Bridge	-	1945-	DWR USBR	2/25/58	89.42	147,000	10/12 2/1	2400 0900	81.77 85.21	79,650 107,300
Sacramento River at Hamilton City	-	1945-	DWR USBR	12/11/37 2/28/40	150.7 150.5	350,000[c]	10/13 2/1	0600 1500	140.75 143.86	69,500 94,500
Big Chico Creek near Chico	68	1930	USGS	12/10/37	16.6	8,260	10/13 1/31	1630 1000	10.77 12.21	4,200 5,540

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Stony Creek near Fruto	598	1901-1912 1960-	USGS	2/2/09	16.3[b]	36,000	10/12 1/31	2300 2100	7.09 11.64	3,350 16,000
Stony Creek near Hamilton City	764	1941-	USGS	2/25/58	18.31	39,900[c]	10/13 2/1	1400 2000	7.34 12.32	1,040 9,300
Sacramento River at Ord Ferry	-	*1921	DWR	2/28/40	121.7	370,000[c]	10/13 2/1 4/15	1200 2200 1300	110.96 114.47 114.9	68,800 98,800 106,000
Sacramento River at Butte City	-	*1921	USGS DWR	2/7/42	96.87	170,000[c]	10/13 2/2	- -	87.80 91.30	64,000 100,000
Moulton Weir Spill to Butte Basin	-	*1935-	DWR	2/20/58 2/26/58	83.66 83.66	36,000[d] 36,000[d]	October - no flow 2/2	1100	79.33	6,600[d]
Colusa Weir Spill to Butte Basin	-	*1935-	DWR	2/8/42	70.40	86,000[d]	10/14 2/2	0930 1530	64.85 66.09	19,500[d] 35,800[d]
Sacramento River at Colusa	-	1940	USGS DWR	2/8/42	69.20	49,000[c]	10/14 2/2 4/16	1600 1800 1000	63.02 64.68 65.22	34,700 38,100 39,300
Colusa Basin Drain at Highway 20	-	1924-	DWR	2/21/58	51.93	25,400[e]	October - no record 2/1	1900	47.84	2,600
Butte Creek near Chico	148	1930-	USGS	12/22/55	13.35	18,700[c]	10/13 1/31	1830 1900	10.34 11.67	10,900 14,200
Butte Slough to Sutter Bypass at Mawson Bridge	-	*1934-	DWR	3/1/40	68.9	210,000	10/15 2/3	1300 1300	55.38 57.09	18,500 29,500
Sutter Bypass at Longbridge	-	1914	DWR	3/1/40	57.7	210,000	10/15 2/3	1700 1500	46.92 47.88	19,500 27,500
Tisdale Weir Spill to Sutter Bypass	-	1940	DWR	3/1/40	53.35	25,700[d]	10/14 2/2	2130 2230	48.30 48.87	11,000[d] 12,600[d]
Sacramento River at Knights Landing	-	1940-	USGS DWR	12/8/42 12/3/60	41.83 30.31	- 30,000[c]	10/14 2/2	2400 0900	39.35 39.45	18,100 18,200
Indian Creek near Crescent Mills	739	*1906-	USGS	12/24/55	17.80	31,500	10/14 2/1	1100 1200	16.54 18.35	18,800 24,900
Spanish Creek above Blackhawk Creek at Keddie	184	1933-	USGS	12/23/55	12.47	13,100[c]	10/13 2/1	2100 0100	12.50 13.37	13,200** 15,000**
North Fork Feather River nr. Prattville	493	1905-	USGS	3/19/07	16.2	10,000[c]	10/13 1/31	1800 1600	2.75 2.07	49 20

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
North Fork Feather River at Big Bar	1,953	*1910-	USGS	12/23/55	35.60	72,400[c]	10/13 1/31	1800 1730	27.00 31.72	38,000 54,900
West Branch Feather River near Yankee Hill	149	1930-	USGS	12/11/37	30.3	21,400[c]	10/13 1/31	1600 1800	23.40 30.15	14,200 21,300
Big Grizzly Creek near Portola	45	*1925-	USGS	3/26/28	9.54	2,680	10/13 2/1	2100 0100	7.48 8.03	832 -
Middle Fork Feather River near Clio	686	1925-	USGS	12/23/55	15.77	14,400	10/13 2/1	2200 0100	12.65 16.19	6,520 14,500**
Middle Fork Feather River below Sloat	819	1940-	USGS	12/23/55	19.25	31,200	No October record 2/1	- -	20.76	34,800**
Middle Fork Feather River near Merrimac	1,068	1951-	USGS	12/23/55	21.2	62,000	10/13 2/1	1830 0230	17.00 21.65	35,500 65,400**
South Fork Feather River at Enterprise	132	1911-	USGS	12/22/55	21.60	19,200	10/13 1/31	1700 2100	16.15 16.60	9,830 10,500
Feather River at Bidwell Bar	1,347	*1911-	USGS	12/23/55	25.5	104,000	10/13 1/31	1900 2400	19.31 24.30	53,900 93,600
Feather River at Oroville	3,615	1902-	USGS DWR	3/19/07	28.2[b]	230,000[c]	10/13 1/31	1900 2100	60.13 65.37	136,000 191,000
Feather River near Gridley	-	*1929-	DWR	12/23/55	102.25	-	10/14 2/1	0210 0520	100.23 101.01	135,000[e] 151,000[e]
South Honcut Creek nr. Bangor	30	1950-	USGS	12/23/55	11.15	6,340	10/13 1/30	1700 2200	12.40 7.85	8,280** 2,100
North Yuba River below Goodyears Bar	245	*1930-	USGS	12/23/55	19.30	26,800	10/13 2/1	2100 -	15.85 23.8**	17,600 t
North Yuba River below Bullards Bar Dam	482	1940-	USGS	12/23/55	39.0	70,000	10/13 1/31	2200 -	28.41 42.0**	39,500 t
Middle Yuba River above Oregon Creek	162	1941-	USGS	12/22/55	17.25	26,400[c]	10/13 1/31	2300 2400	13.53 18.55	14,600 31,600**
Oregon Creek near North San Juan	34	1911-	USGS	12/22/55	11.9	5,390	10/13 1/31	1830 2300	9.59 10.44	3,050 3,990
South Yuba River near Cisco	52	1942-	USGS	11/20/50	15.82	11,700	10/13 1/31	1000 -	12.00 19.6	6,330 18,400**

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Yuba River at Englebright Dam	1,104	1941-	USGS PGE	12/23/55	17.73	148,000[c,f]	10/13 2/1	2000 0430	13.27 17.85	91,000 149,000**
Deer Creek near Smartville	85	1935-	USGS	3/9/43 12/23/55	13.62 13.60	11,300 11,300	10/13 1/31	1800 2000	13.77 10.10	13,000** 6,160
Yuba River near Marysville	1,335	*1943-	USGS	12/23/55	82.5[h]	mean daily 136,000 [c]	10/13 2/1	- -	84.68 88.9	77,700 96,000
Feather River at Yuba City	-	1944-	DWR	12/24/55	82.42	-	10/14 2/1	0800 1410	73.55 74.2	- -
Bear River near Auburn	140	1940-	USGS	12/22/55	16.56[b]	19,700[c]	10/13 1/31	2300 2400	13.15 16.15	12,100 19,300
Bear River nr. Wheatland	295	1928-	USGS	12/22/55	19.30	33,000[c]	10/13 2/1	2200 0430	16.85 13.95	27,700 22,000
Feather River at Nicolaus	5,920	1943-	USGS DWR	12/23/55	51.60	357,000[c]	10/14 2/1	0900 1630	50.15 50.05	264,000 260,000
Sacramento River at Fremont Weir (West End)	-	*1935-	DWR	12/23/55	39.72	293,800[d]	10/14 2/2	2200-2300 0610	38.34 38.45	159,000[d] 163,000[d]
Sacramento River at Verona	-	1929-	USGS DWR	3/1/40	41.20	79,200[c]	2/1 4/16	2300 0600	38.14 35.6	69,400 62,700
North Fork American River at North Fork Dam	343	1941	USGS	12/23/55	10.22	49,100[c]	10/13 1/31	2400 2400	8.18 11.30	31,000 39,700**
Rubicon River near Georgetown	198	*1909-	USGS	12/23/55	21.5	51,000	10/13 1/31 or 2/1	2300 -	12.70 25.6**	12,100 t
Middle Fork American River near Auburn	619	1911-	USGS	12/23/55	33.9	79,000[c]	10/14 1/31 or 2/1	0215 -	22.69 43.1**	36,400 t
South Fork American River near Kyburz	196	1907, 1922-	USGS	11/21/50	9.40	14,500[c]	10/14 2/1	0100 0230	5.33 9.50 I.G. 11.2 O.G.	2,420 15,300**
South Fork American River near Camino	497	1922-	USGS PGE	12/23/55	32.6	49,800	10/14 2/1	0400 0200	11.52 26.56 I.G. 29.2 O.G.	6,120 36,000
South Fork American River near Lotus	678	1951-	USGS	12/23/55	21.37	71,800[c]	10/13 2/1	2300 0600	11.91 19.85	14,700 60,400

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
American River at Fair Oaks	1,889	1904-	USGS	11/21/50	31.85	180,000	10/13 2/2	2100 0600	3.87 21.44	5,140[c] 101,000[c]
Sacramento River at Sacramento	-	1948-	USGS DWR	11/21/50	30.14[b]	104,000[c]	10/15 2/1 4/9	0200 2130 2000	24.64 28.52 24.23	76,600 90,800 73,500
Sacramento River at Walnut Grove	-	1929-	DWR	11/21/50	13.0	-	10/15 Jan.-Feb. - no record	1800	9.98	-
Adobe Creek near Kelseyville	6	1954-	USGS	12/21/55	8.72	1,250	10/12 1/31	1600 1400	9.18 9.22	1,430** 1,450**
Kelsey Creek near Kelseyville	37	1946-	USGS	12/21/55	12.80	8,800	10/12 1/31	1600 1400	11.63 12.80	4,600 6,300
Cache Creek near Lower Lake	528	1944-	USGS	2/24/58	9.40	8,000[c]	No October peak 2/4	1000	8.38	5,660[c]
North Fork Cache Creek near Lower Lake	198	1930-	USGS	12/11/37	13.98[h]	20,300	10/12 1/31	2200 1900	8.50 11.44	5,900 13,400
Cache Creek near Capay	1,052	1942-	USGS	2/24/58	20.90	51,600[c]	10/13 2/1	0100 0200	10.51 16.35	8,470 26,300
Cache Creek at Yolo	1,137	1903-	USGS	2/25/58	33.11	41,400[c,g]	10/13 2/1	0730 0700	14.34 26.92	8,210 24,000
Yolo Bypass near Woodland	-	1940	USGS DWR	2/8/42	32.00	272,000	10/15 2/2	0200 0900	30.80 30.62	- -
Dry Creek near Middletown	8	1959-	USGS	2/8/60	9.90	3,470	10/12 1/31	0600 1000	8.80 9.54	2,200 3,010
Putah Creek near Winters	577	1930-	USGS DWR	2/27/40	30.5	81,000	10/13 1/31	1600 1300	6.72 8.77	355 1,060
Putah Creek near Davis	636	1948-	USGS USBR DWR	12/22/55	24.36	46,600[c]	10/13 1/31	2300 1700	5.83 10.54	1,520 7,000
Yolo Bypass at Lisbon (Old Station)	-	1914-	DWR	12/24/55	23.4	304,800				
Yolo Bypass near Lisbon (New Station)	-	1959-	DWR	-	-	-	10/15 2/2 4/17	2400 1800 2400	20.91 22.60 18.00	128,000 204,000 65,000
Sacramento River near Rio Vista	-	1906-	USCE	12/25/55	10.2	-	10/15 2/4 4/1	1700 1140 0400	8.5 9.1 7.6	- - -

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Cosumnes River, North Fork near El Dorado	202	*1911-	USGS	12/23/55	14.8	15,800	10/14 2/1	0200 0530	7.71 13.45	2,110 12,700
Cosumnes River, North Fork near Somerset	108	1957-	USGS	4/3/58	10.85	3,400	10/14 2/1	- 0230	8.4 16.07**	1,380 t
Cosumnes River, South Fork near River Pines	64.3	1957-	USGS	4/3/58	9.90	4,740	10/14 2/1	0100 0600	5.80 10.90	2,050 5,540**
Cosumnes River at Michigan Bar	537	1907-	USGS DWR	12/23/55	14.59	42,000	10/14 2/1	0300 0900	8.21 14.11	11,100 39,400
Cosumnes River at McConnell	730	1943-	USGS USBR DWR	12/23/55	46.26	54,000	10/14 2/1	2000 2200	41.28 45.52	8,760 26,200
Dry Creek near Galt	325	*1926-	USGS USBR DWR	4/3/58	15.28	24,000	10/14 2/1	1330 1600	12.02 13.96	1,720 9,800
Cole Creek near Mokelumne Peak	23	*1927-	USGS	11/18/50	9.69	5,500	10/14 2/1	0130 0200	4.31 9.88	640 5,730**
Mokelumne River South Fork near West Point	74	1933-	USGS	12/23/55	14.8	6,920	10/14 2/1	0100 0030	5.10 10.78	610 4,490
Mokelumne River nr. Mokelumne Hill	538	1927-	USGS	12/3/50	18.5	33,700[c]	10/14 2/1	0400 0300	5.34 16.10	2,160 25,700
Mokelumne River nr. Lancha Plana	584	1926-	USGS DWR	11/21/50	20.1	26,700[c]	10/13 2/1	1930 1530	3.10 8.28	405 4,930
Mokelumne River at Woodbridge	644	1924-	USGS DWR	11/22/50	29.58	27,000[c]	2/4	2100	22.56	5,340
Bear Creek near Lockeford	48	*1930-	USGS DWR	4/3/58	15.13	2,930	10/14 2/1	0430 0330	3.95 12.51	14 1,050
Calaveras River South Fork near San Andreas	118	1950-	USGS	12/23/55	10.29	17,600	10/14 1/31	0530 2100	2.55 9.20	302 12,600
Calaveras River at Jenny Lind	395	1907-	USGS DWR	1/31/11	21.0	50,000	10/18 2/1	2400 0900	2.63 11.11	214 6,910
Cosgrove Creek at Valley Springs	20.6	1929-	USGS	12/23/55	8.96	3,240	10/14 2/1	0330 0530	3.11 5.74	49 987
Calaveras River at Bellota	-	1958-	DWR	4/2/58	19.3	1,570[c]	10/20 2/1	2040 1320	1.98 9.38	20 510

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Mormon Slough at Bellota	-	1948-	DWR	4/2/58	20.65	15,400[c]	10/20 2/1	2400 1350	5.08 10.71	112 6,230
Calaveras River near Stockton	-	1958-	DWR	4/4/58	9.20	632[c]	No October flow 2/1	2150	9.18	369[e]
Stockton Diverting Canal at Stockton	-	1944-	DWR	4/4/58[e]	17.18[e]	11,400[e]	10/22 2/1	0910 1720	5.47 14.81	56 7,280
Duck Creek near Stockton	-	1950-	DWR	12/24/55	5.75[e]	400	10/17 2/2	2220 0300	5.10 7.72	28 86
French Camp Slough near French Camp		*1950-	DWR	12/9/50	6.31	3,400	10/12 2/2	1350 1150	8.52 6.53	104 1,010
Stanislaus River South Fork near Long Barn	67	1937-	USGA	11/21/50	9.3	4,900[c]	10/13 2/1	2200 1200	0.90 6.23	3.8 1,560
Stanislaus River below Melones Powerhouse	898	1931-	USGS	12/23/55 17.18[e]	29.0	62,800[c]	10/13 2/1	All day 1600	4.98 15.70	680 s
Stanislaus River at Ripon	-	1940-	USGS DWR	12/24/55	63.25	62,500[c]	10/15 2/3	1600 1100	38.86 55.33	370 7,160
Tuolumne River South Fork near Oakland Recreation Camp	88	1923-	USGS	12/23/55	10.9[h]	11,900	10/14 2/1	0600 0230	2.45 9.60	82 8,000
Tuolumne River Middle Fork at Oakland Recreation Camp	71	1916-	USGS	12/23/55	11.1[h]	4,920	10/14 2/1	0330 1100	2.03 8.56	38 2,300
Tuolumne River at Modesto	-	*1878-	USGS DWR	12/9/50	69.19	57,000[c]	10/15 2/3	2100 1000	42.22 50.69	1,090 6,910
Orestimba Creek near Newman	135	1932-	USGS DWR	4/2/58	6.57	10,200	No October flow 2/1	0100	9.72**	t.
Merced River at Pohono Bridge	321	1916-	USGS	12/23/55	21.52[h]	23,400	10/14 2/1	1500 0930	2.44 14.25	124 14,900
Merced River South Fork near El Portal	239	1950-	USGS	12/23/55	18.70	46,500	10/14 2/1	2000 0400	5.89 15.22	244 23,000
Merced River at Bagby	912	1922-	USGS	12/23/55	26.80	92,500	10/15 2/1	0600 0400	1.76 19.17	375 50,200

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Merced River nr. Stevinson	1,274	1940-	USGS USBR DWR	12/5/50	74.79	13,600[c]	10/14 2/2	1200 1600	56.97 58.48	212 564
Merced River Slough near Newman	-	1941-	USGS USBR DWR	4/3/58	10.86	7,770	No October flow No Jan.-Feb. flow			
Chowchilla River at Buchanan Dam Site	238	*1921	USGS DWR	12/23/55	16.50	30,000	No October flow 2/1	0700	11.68	9,740
Fresno River near Knowles	132	*1911	USGS	12/23/55	11.52	13,300	10/14 2/1	2100 0600	1.59 7.36	82 5,180
Fresno River near Daulton	259	1941-	USGS USBR	12/23/55	11.64	17,500	10/15 2/1	1200 0900	0.97 7.23	45 6,290
Willow Creek at Mouth nr. Auberry	130	1952-	USGS	12/23/55	28.5[h]	12,000[c]	10/14 2/1	1230 0230	5.45 19.06	41 7,450
San Joaquin River above Big Creek	1,050	1922-	USGS	12/23/55	24.75	63,000[c]	10/14 2/1	0530 0200	5.72 14.10	105 7,120
San Joaquin River below Kerchoff Powerhouse	1,480	*1910-	USGS	12/23/55	51.0[h]	92,200[c]	No October peak[c] 2/1	0500	32.20	30,300[c]
San Joaquin River below Friant	1,675	*1907-	USGS	12/11/37	23.80[b]	77,200[c]	10/14 1/30	0300 0900	2.28 2.08	111 70
San Joaquin River at Fremont Ford Bridge	8,090	1937-	USGS USBR DWR	4/6/58	71.14[b]	5,910[c]	10/14 2/4	1500 1800	54.59 61.50	62 2,100
San Joaquin River near Newman	9,990	1912-	USGS DWR	3/7/38	65.81	33,000[c]	10/14 2/16	2000 0700	48.87 56.85	284 4,410
San Joaquin River near Vernalis	14,010	*1922-	USGS	12/9/50	32.81	79,000[c]	No October peak 2/4	2000	23.27	12,400
Salt Slough near Los Banos	-	1940-	USGS USBR	6/4/52	9.82	1,400	10/13 2/14	0700 2100	2.61 4.55	37 244
Los Gatos Creek above Nunez Canyon near Coalinga	96	1949-	USGS	4/3/58	6.51	2,560	No October flow 2/9	1900	5.18	570
Kings River below North Fork	1,350	1951-	USGS	12/23/55	23.08	85,200	10/14 2/1	0100 0330	3.84 16.34	850 40,900

TABLE B-1 (Continued)

Stream and Station	Drainage Area in Sq. Mi.	Period of Record	Source of Record (a)	Previous Maximum of Record			1962 - 1963			
				Date	Stage in ft.	Dischg. in cfs	Date	Time	Stage in ft.	Dischg. in cfs
Central Valley Area (Continued)										
Kaweah River at Three Rivers	418	1958-	USGS DWR	12/23/55	17.9[h]	-	10/14 2/1	1600 0400	3.95 13.68	260 30,900
Tule River nr. Springville	229	1957-	USGS	12/23/55	13.7[h]	About 31,000	10/15 1/31	0200 1800	3.27 10.80	36 13,500
Tule River below Success Dam	393	1953-	USGS	12/23/55	21.65[b]	27,000	No October peak 1/31	1600	9.25	2,980
Kern River at Kernville	1,026	1905-1912 1953-	USGS	12/23/55	16.8[h]	29,400	10/15 2/1	0300 1030	4.15 16.76	217 32,800**
Eastern Slopes Sierra										
Willow Creek nr. Susanville	92.5	1950-	USGS	12/23/55	5.36	712	10/14 2/1	1400 1600	4.74 5.59	464 816**
Susan River at Susanville	192	1917-21 1950-	USGS	12/23/55	6.62	3,540	10/12 1/31	2200 2300	6.40 6.78	3,100 3,900**
Truckee River at Farad	932	1899-	USGS	11/21/50	14.5[h]	17,500			6.22 11.61	3,340 11,860
Little Truckee River nr. Hobert Mills	36.6	1946-	USGS	11/20/50	7.53	7,010		(Approx)	4.3 7.76	(Approx) 850 6,680
West Fork Carson River at Woodfords	66	*1900-	USGS	12/23/55	8.86	4,810		(Approx)	3.90 9.0	294 4,700
East Fork Carson River below Markleeville Creek near Markleeville	299	1960-	USGS	-	-	-			2.02 8.21	647 15,100
West Walker River below Little Walker River nr. Coleville	182	1938-	USGS	11/20/50	8.10	6,220			1.61 5.86	142 2,880
East Walker River near Bridgeport	362	1921-	USGS	1/22/43	4.95	1,240	No October peak		2.92	662

LEGEND

(a) USGS - United States Geological Survey
USBR - United States Bureau of Reclamation
DWR - Department of Water Resources
PGE - Pacific Gas and Electric Company
b - Site and datum then in use
c - Affected by storage and/or diversion
d - Discharge over weir
e - Estimated
f - Includes flow through powerhouse
g - Includes flow bypassing station
h - From flood marks
k - From graph based on observer's readings
l - Crest stage gage
r - DWR radio and telephone telemark log
s - Discharge not determined; affected by backwater from Tulloch Reservoir
t - Discharge to be determined later
* - Incomplete record
** - Maximum of Record

APPENDIX B

TABLE B-2

RESERVOIR OPERATIONS
DURING PERIOD OCTOBER 1962

Watershed	Reservoir	Crest Elevation Feet	Capacity Acre-Feet	Water In Storage, Acre-Feet									
				10	11	12	13	14	15	16	17	18	19
Trinity	Trinity	2,395	2,500,000	1,805,503	1,820,843	1,857,528	1,872,174	1,878,980	1,883,288	1,886,346	1,888,577	1,890,533	1,892,629
Mad	Ruth	2,686	51,800	49,800	51,100	55,150	56,500	54,900	Missing	53,050	52,400	51,900	51,550
E. F. Russian	Coyote	784	122,500	61,690	62,860	66,260	67,350	68,600	69,380	69,930	70,490	71,020	Missing
San Pablo Creek	San Pablo	330	43,193	19,614	19,745	20,383	22,707	27,776	28,254	28,280	28,286	28,280	28,260
San Leandro Creek	Upper San Leandro	475	41,436	21,878	21,966	22,452	24,577	31,268	31,474	31,493	31,474	31,468	31,411
	Chabot	245	12,600	7,193	7,207	7,273	7,728	9,199	9,279	9,302	9,305	9,311	9,315
Salinas	Nacimento	825	350,000	97,598	96,999	96,400	96,040	99,095	100,198	100,188	99,991	99,692	99,185
Santa Ynez	Cachuma	766	204,900	189,594	189,507	189,420	189,332	189,332	189,274	189,216	189,158	189,099	189,041
Sacramento	Shasta	1,078	4,500,000	2,892,300	2,922,200	2,993,700	3,040,300	3,074,000	3,104,500	3,133,600	3,157,300	3,176,300	3,186,700
Stony Creek	East Park	1,202	51,000	2,590	2,520	2,900	5,380	6,600	6,730	6,830	6,920	6,990	7,040
	Stony Gorge	847	50,055	4,640	4,670	5,960	11,850	13,820	14,980	15,690	16,460	16,840	17,150
Cache Creek	Clear Lake	1,328	420,000	80,400	89,600	114,000	120,000	122,520	123,360	123,360	123,360	123,360	123,360
Putah Creek	Berryessa	456	1,600,000	1,078,722	1,081,167	1,117,356	1,146,195	1,153,574	1,154,585	1,154,585	1,154,921	1,155,258	1,155,427
American	Folsom	480	1,000,000	436,600	436,500	456,800	562,500	646,600	655,700	656,000	653,300	651,700	649,600
Cosumnes	Sly Park	3,482	41,033	26,352	26,407	26,498	27,140	27,212	27,186	27,201	27,201	27,186	27,130
Mokelumne	Pardee	575	210,000	159,900	159,900	160,100	160,300	162,000	163,500	163,800	164,000	164,200	164,200
	Salt Springs	3,960	139,400	83,003	82,285	81,846	81,309	81,846	83,700	83,290	83,003	82,616	82,462
Stanislaus	Beardsley	3,405	97,500	82,153	81,416	80,748	79,884	79,481	78,760	78,101	77,248	76,529	75,748
	Melones	723	112,500	10,722	10,807	10,356	9,951	9,951	11,845	10,680	9,528	8,510	7,646

TABLE B-2 (Continued)

Watershed	Reservoir	Crest Elevation Feet	Capacity Acre-Feet	Water In Storage, Acre-Feet									
				10	11	12	13	14	15	16	17	18	19
Stanislaus (Continued)	Tulloch	515	68,400	13,628	13,206	13,171	13,663	14,239	14,829	16,524	17,970	19,096	20,138
	Donnells	4,921	64,500	53,504	54,057	54,334	54,651	55,168	55,567	55,807	56,289	55,968	56,128
Tuolumne	Cherry Valley	4,715	268,000	176,632	175,867	174,949	174,184	175,408	175,561	174,643	173,878	172,960	172,042
	Don Pedro	609	289,000	78,380	77,820	77,660	77,990	79,660	80,140	80,860	81,800	82,620	83,200
	Hetch-Hetchy	3,812	360,000	265,192	263,784	262,400	260,980	259,930	259,055	257,830	256,264	254,698	253,312
Merced	Lake McClure	710	289,000	37,984	37,984	37,984	37,829	38,216	38,680	39,990	39,145	39,300	39,385
San Joaquin	Crane Valley	3,380	45,410	24,046	23,926	23,799	23,671	23,978	23,909	23,612	23,317	23,024	22,733
	T. A. Edison	7,650	125,100	105,000	104,822	104,644	104,412	104,358	104,180	103,966	103,789	103,664	103,362
	Florence Lake	7,329	64,406	7,870	6,347	6,061	5,181	4,241	3,273	2,360	1,524	778	367
	Huntington Lake	6,954	88,834	86,233	86,204	86,120	86,035	86,204	86,204	85,444	84,364	83,234	81,780
	Shaver Lake	5,371	135,283	71,455	70,666	69,881	69,960	70,263	69,658	69,436	69,642	69,817	70,024
	Millerton Lake	581	520,500	146,800	146,700	147,700	147,900	148,600	148,400	149,300	150,000	151,400	153,000
	Redinger	1,414	35,000	24,145	24,385	23,905	23,495	22,589	23,062	23,671	23,923	24,105	24,264
	Mammoth Pool	3,361	123,000	36,037	35,549	35,055	35,259	36,129	35,899	35,520	35,089	34,684	34,270
Kings	Pine Flat	970	1,000,000	248,443	249,206	250,170	250,768	251,849	252,875	253,790	254,678	255,623	256,687
Kaweah	Terminus	750	150,000	2,880	2,874	2,873	2,871	2,963	3,184	3,219	3,223	3,230	3,230
Tule	Success	692	80,000	8,048	8,001	7,960	7,939	7,934	7,924	7,903	7,893	7,878	7,867
Kern	Isabella	2,633	570,000	91,095	90,535	89,987	89,521	88,978	88,630	88,203	87,815	87,427	87,039

APPENDIX B

TABLE B-3

RESERVOIR OPERATIONS
DURING PERIOD FEBRUARY 1963

Watershed	Reservoir	Crest Elevation Feet	Capacity Acre-Feet	Water In Storage, Acre-Feet												
				29	30	31	1	2	3	4	5	6	7	8	9	10
Trinity	Trinity	2,395	2,500,000	2,154,571	2,157,597	2,179,893	2,208,281	2,226,232	2,262,051	2,284,892	2,303,962	2,319,538	2,330,297	2,340,936	2,350,167	2,361,374
Mad River	Ruth	2,686	51,800	36,700	37,100	40,100	56,500	-	55,150	54,400	54,000	53,500	53,150	52,800	52,600	52,500
E. F. Russian	Coyote	784	122,500	70,750	74,480	83,050	86,250	82,080	75,690	70,340	64,880	60,880	61,130	-	-	63,440
San Pablo Creek	San Pablo	330	43,193	20,282	20,511	22,981	26,260	26,841	26,885	26,842	26,729	26,610	26,390	26,124	25,791	26,192
San Leandro Creek	Upper San Leandro	475	41,436	27,046	27,114	28,584	31,884	32,606	32,826	32,942	33,014	33,066	33,099	33,112	33,125	33,492
	Chabot	245	12,600	9,723	9,760	9,875	10,343	10,497	10,542	10,559	10,525	10,501	10,494	10,480	10,477	10,549
Salinas	Naciemento	925	350,000	83,450	84,700	110,400	159,000	174,300	177,900	179,700	180,800	181,870	182,600	183,000	183,350	195,190
Santa Ynez	Cachuma	766	204,900	183,750	183,750	183,836	183,836	183,836	183,807	183,750	183,693	183,636	183,608	183,551	183,608	184,957
Sacramento	Shasta	1,078	4,500,000	3,109,900	3,115,900	3,191,600	3,255,200	3,294,200	3,357,200	3,406,200	3,443,600	3,466,700	3,479,700	3,488,400	3,491,700	3,492,700
Stony Creek	East Park	1,202	51,000	24,690	25,090	29,120	40,360	43,050	44,280	45,010	45,520	45,950	46,410	46,810	47,270	48,520
	Stony Gorge	847	50,055	30,770	30,980	35,000	47,670	46,870	45,400	46,190	47,330	47,870	47,880	48,290	48,660	50,830
Cache Creek	Clear Lake	1,328	420,000	167,460	176,700	204,000	242,700	251,300	256,890	257,750	259,040	260,760	262,050	264,630	268,500	274,090
Putah Creek	Berryessa	456	1,600,000	1,202,402	1,240,473	1,335,057	1,363,439	1,372,115	1,376,814	1,379,717	1,382,080	1,384,079	1,385,533	1,387,168	1,391,894	1,397,354
American	Folsom	480	1,000,000	443,500	450,400	612,100	814,100	730,700	686,000	630,800	585,800	580,500	580,500	578,400	575,400	571,200
Cosumnes	Sly Park	3,482	41,033	27,988	28,637	30,647	31,760	32,913	33,594	34,231	34,674	35,053	35,250	35,501	35,766	36,054
Mokelumne	Pardee	575	210,000	171,132	172,305	186,844	209,611	207,365	200,725	194,446	191,251	191,463	191,617	191,575	191,517	191,463
	Salt Springs	3,960	139,400	18,892	18,618	18,814	27,035	59,780	67,264	71,001	74,598	77,434	79,400	81,078	82,462	84,166
Calaveras	Hogan	654	76,000	-	-	1,660	18,500	14,300	7,400	3,200	1,010	-	-	-	-	-
Stanislaus	Beardsley	3,405	97,800	60,953	61,013	61,854	72,528	76,790	77,904	78,364	78,299	78,299	78,233	78,233	78,167	78,167
	Melones	723	112,600	28,500	28,900	33,288	87,713	100,910	96,830	94,985	95,153	95,823	95,823	95,320	94,818	94,985
	Tulloch	515	67,000	52,667	52,667	52,874	57,380	65,845	66,469	66,968	66,968	66,968	66,968	66,968	66,968	66,843
	Donnells	4,921	64,300	25,782	25,750	27,067	45,782	52,561	54,175	55,048	55,928	56,008	55,767	55,447	55,128	54,810
Tuolumne	Cherry Valley	4,715	268,000	76,824	75,708	80,172	109,218	121,684	125,272	128,514	130,644	132,348	133,910	135,188	136,466	137,886

TABLE B-3 (Continued)

Watershed	Reservoir	Crest Elevation Feet	Capacity Acre-Feet	Water In Storage, Acre-Feet												
				29	30	31	1	2	3	4	5	6	7	8	9	10
Tuolumne (Continued)	Don Pedro	609	289,000	101,200	106,120	144,140	217,260	221,550	216,170	209,040	201,200	195,400	195,140	192,850	190,500	190,230
	Hetch-Hetchy	3,812	360,000	114,986	114,050	116,858	143,500	158,240	161,680	163,752	164,936	165,380	165,972	166,120	166,120	166,008
	Lake Eleanor			7,196	7,194	11,807	24,000	28,755	27,403	26,823	25,960	24,937	23,821	22,704	21,495	20,322
Merced	Lake McClure	710	289,000	45,760	48,091	83,587	159,805	178,000	185,800	191,200	195,210	196,260	198,360	197,940	197,730	201,300
Bear Creek	Bear	434	7,700	-	0	80	1,204	93	2	0	-					
Burns Creek	Burns	319	6,800	-	4	6	14	12	9	-						
Mariposa Creek	Mariposa	455	15,000	-	24	977	4,475	4,697	3,272	-						
Owens Creek	Owens	422	3,600	-	0	0	97	58	1	1						
San Joaquin	Crane Valley	3,380	45,410	20,975	22,109	25,701	31,291	32,578	32,931	33,042	33,112	33,133	33,112	33,346	33,295	33,488
	T. A. Edison	7,650	125,100	58,851	59,157	59,434	59,831	59,949	59,979	59,713	59,390	59,070	58,749	58,414	58,093	57,761
	Florence Lake	7,329	64,406	210	370	1,387	3,509	4,300	4,778	5,269	5,138	4,979	4,569	4,133	3,641	3,118
	Huntington Lake	6,954	88,834	51,689	51,334	55,006	58,524	58,476	58,012	57,988	57,976	58,381	58,750	59,133	59,578	59,939
	Shaver Lake	5,371	135,283	48,943	50,846	54,872	58,048	58,816	59,230	59,334	58,920	58,432	57,930	57,372	57,020	56,609
	Millerton Lake	581	520,500	245,700	249,500	270,700	295,200	301,400	306,500	311,300	314,600	323,500	329,200	334,900	341,000	348,700
	Redinger	1,414	35,000	25,575	25,182	25,920	25,598	25,579	24,875	24,131	23,636	23,381	23,036	22,698	22,693	23,618
	Mammoth Pool	3,361	123,000	19,188	22,270	49,316	90,061	96,718	98,423	98,851	98,413	97,505	96,345	95,030	93,598	92,523
Big Dry Creek	Big Dry Creek	435	16,250	-	-	-	470	480	485	440	420	402	400	397	390	390
Kings	Pine Flat	970	1,000,000	284,309	291,816	346,311	412,304	427,742	436,518	442,214	446,992	451,334	455,040	458,722	462,966	470,333
Kaweah	Terminus	750	150,000	3,238	4,460	21,673	50,886	52,770	49,536	44,810	38,612	32,053	25,873	19,488	12,973	8,579
Tule	Success	692	80,000	7,739	8,178	13,370	23,945	25,297	25,169	24,688	24,034	23,171	22,185	21,164	20,217	19,966
Kern	Isabella	2,633	570,000	82,263	82,886	97,585	127,803	139,518	144,847	148,359	150,972	153,046	154,752	156,287	157,765	159,911

STATE OF CALIFORNIA
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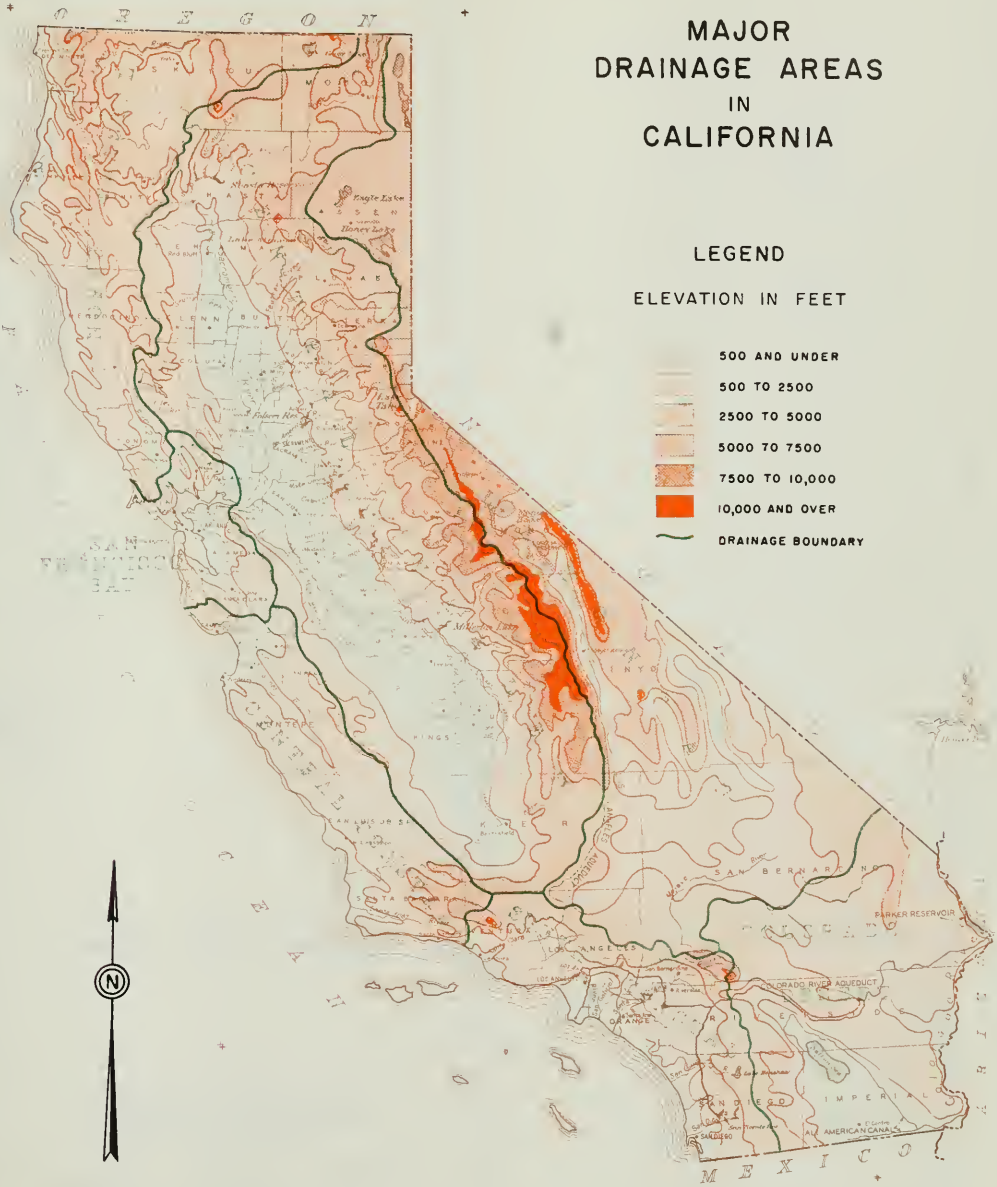
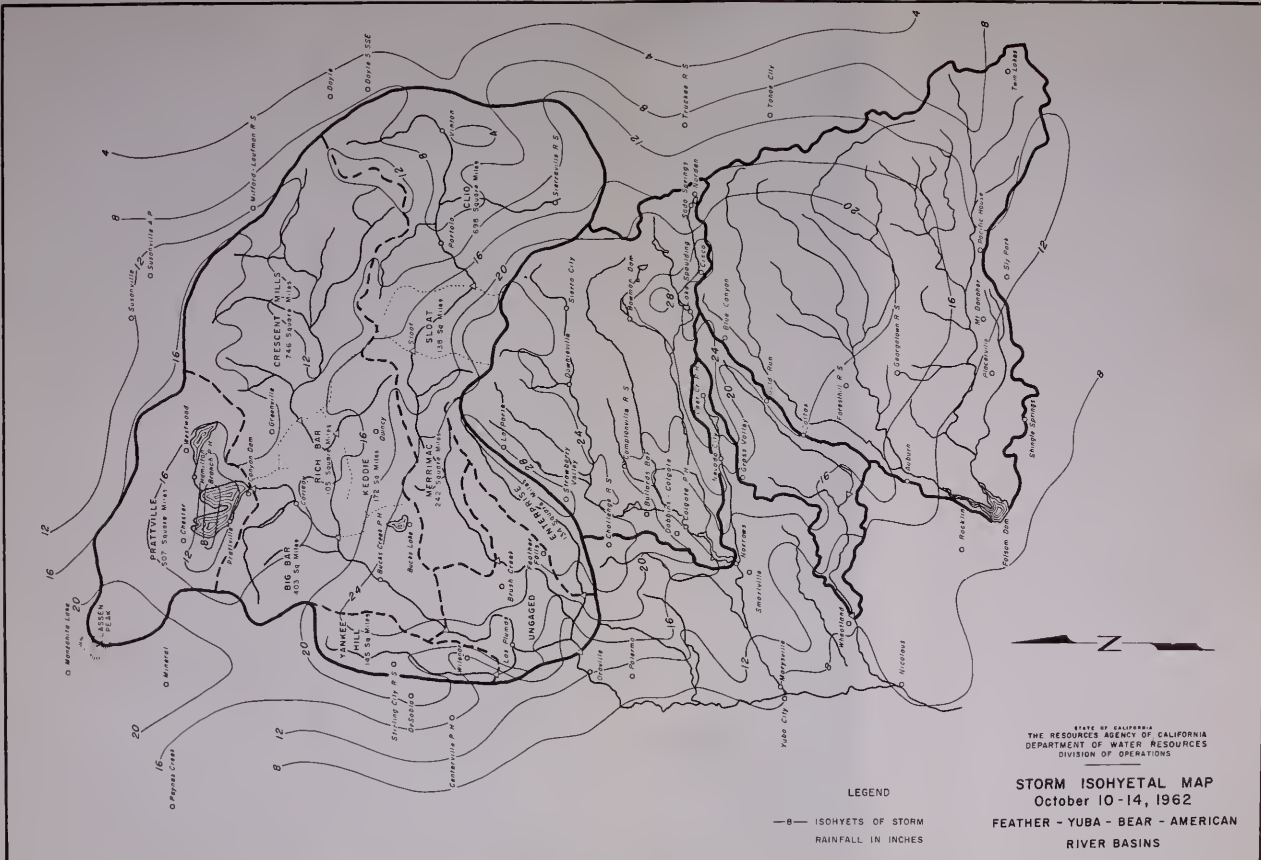
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

STORM ISOHYETAL MAP
OCTOBER 10 - 14, 1962


MAJOR
DRAINAGE AREAS
IN
CALIFORNIA
LEGEND
ELEVATION IN FEET
500 AND UNDER
500 TO 2500
2500 TO 5000
5000 TO 7500
7500 TO 10,000
10,000 AND OVER
DRAINAGE BOUNDARY
OREGON
MEXICO
PARKER RESERVOIR
COLORADO RIVER AQUEDUCT
ALL AMERICAN CANAL
N



LEGEND

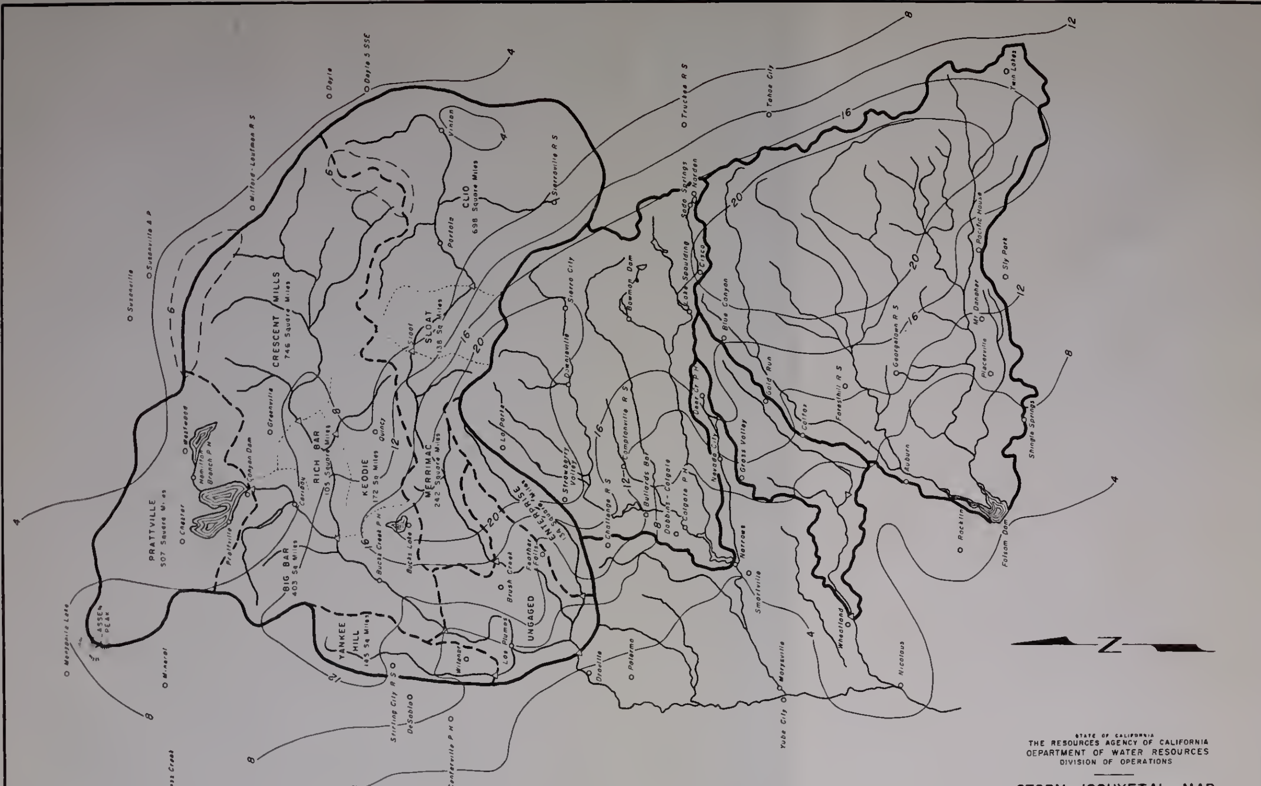
—8— ISOHYETS OF STORM RAINFALL IN INCHES

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

STORM ISOHYETAL MAP
October 10-14, 1962
FEATHER - YUBA - BEAR - AMERICAN RIVER BASINS

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

STORM ISOHYETAL MAP
JANUARY 29 - FEBRUARY 3, 1963

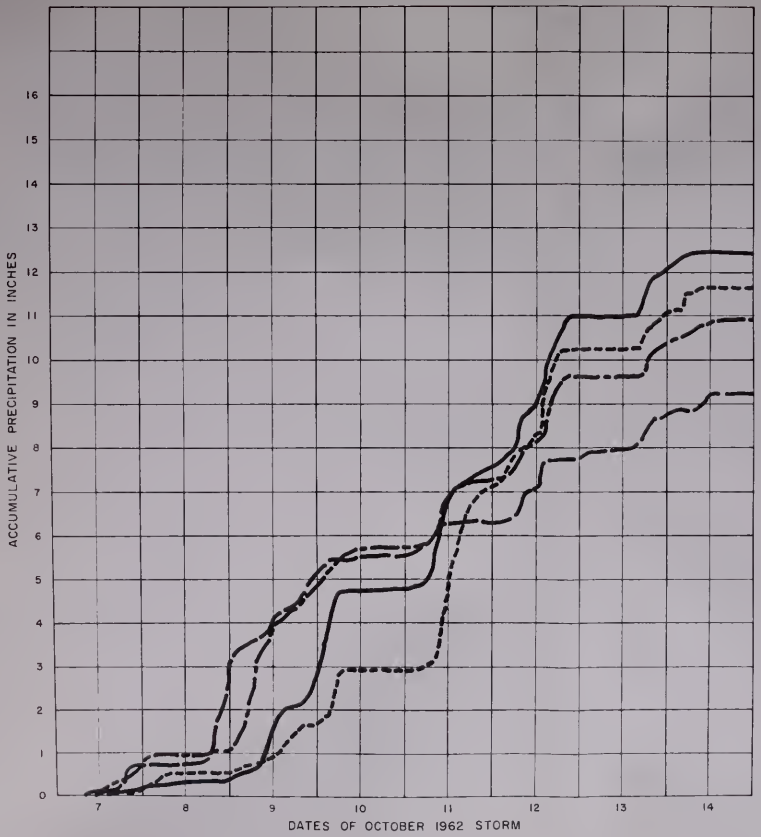


LEGEND

—8— ISOHYETS OF STORM RAINFALL IN INCHES

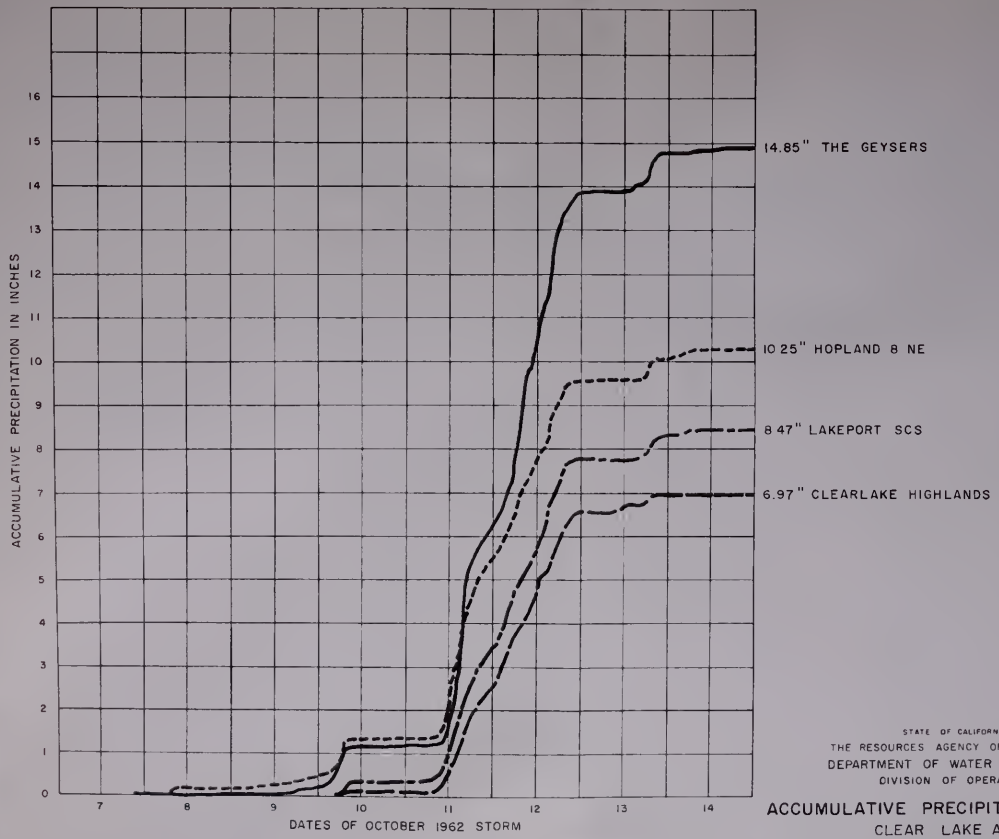
STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

STORM ISOHYETAL MAP
January 29 - February 3, 1963
FEATHER - YUBA - BEAR - AMERICAN RIVER BASINS



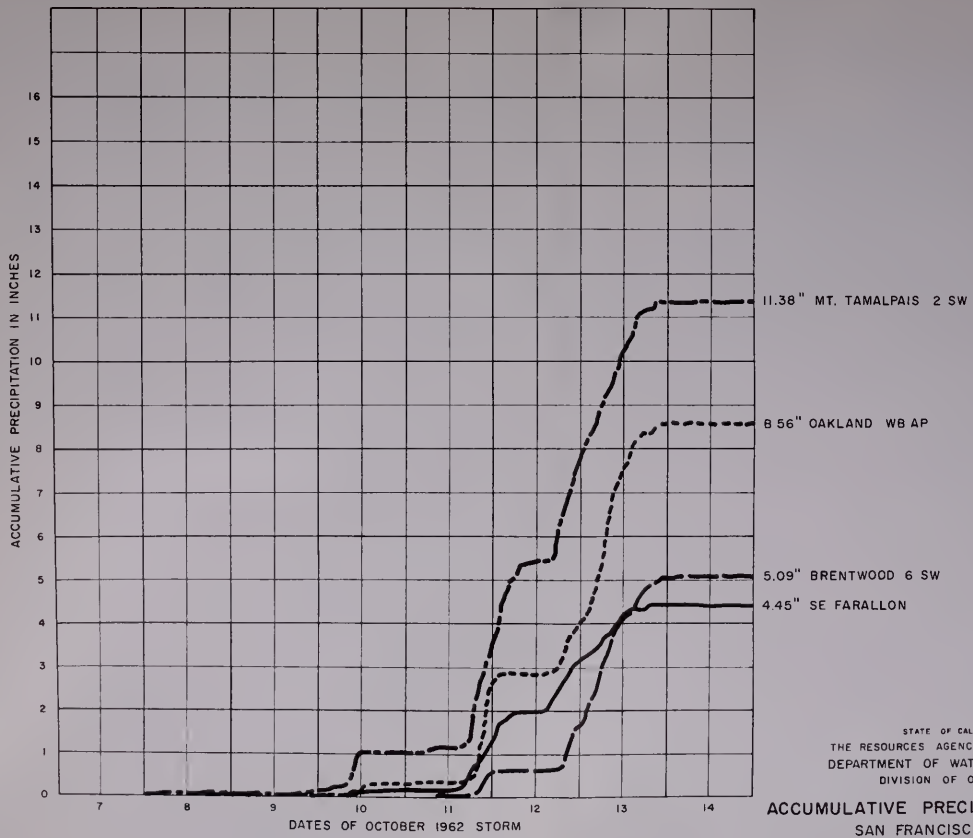
STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
NORTH COASTAL AREA
OCTOBER 1962 STORM



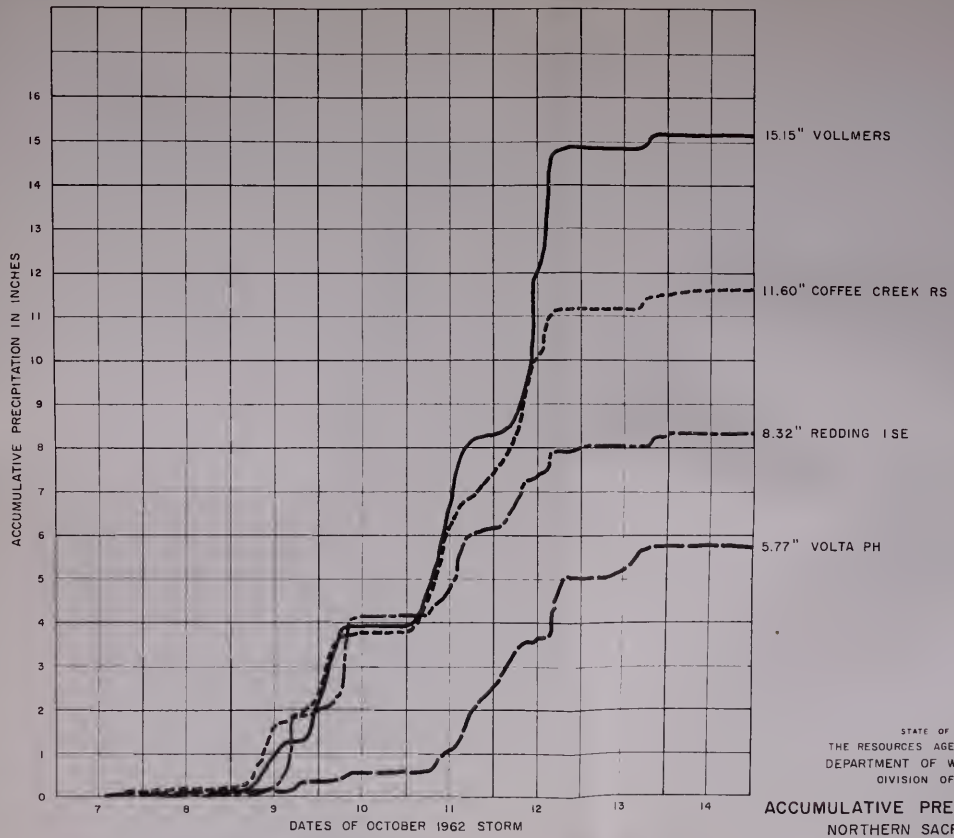
STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
CLEAR LAKE AREA
OCTOBER 1962 STORM



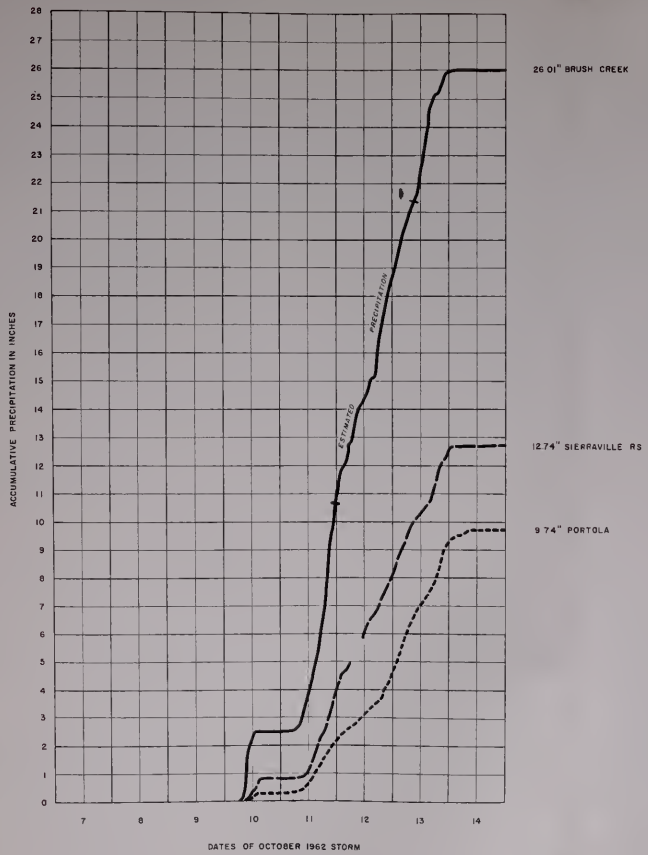
STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
SAN FRANCISCO BAY AREA
OCTOBER 1962 STORM



STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
NORTHERN SACRAMENTO VALLEY
OCTOBER 1962 STORM



MISSING HOURLY DATA

BRUSH CREEK – ACCUMULATIVE AMOUNT ON OCT 11 AT 2300, 10.70 INCHES

34 HOUR ACCUMULATIVE AMOUNT FROM 2300-OCT 11 TO 0900-OCT 13 ESTIMATED FROM D.W.R. RADIO PRECIPITATION GAGE AND RADAR OBSERVATIONS, 10.72 INCHES

SIERRAVILLE – 4 HOUR ACCUMULATIVE AMOUNT OCT 12 FROM 0700-1100, 0.77 INCHES

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
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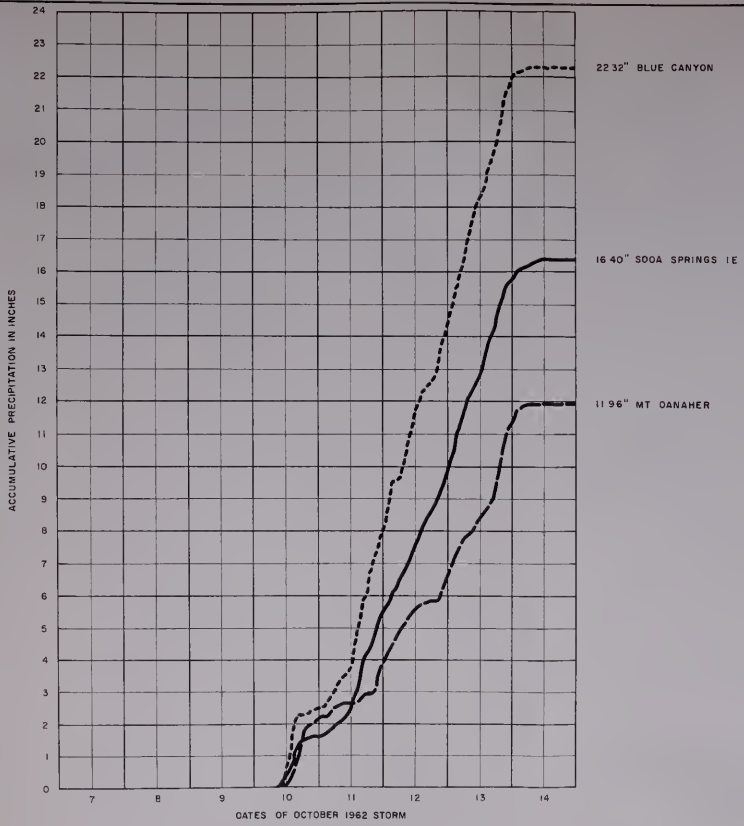
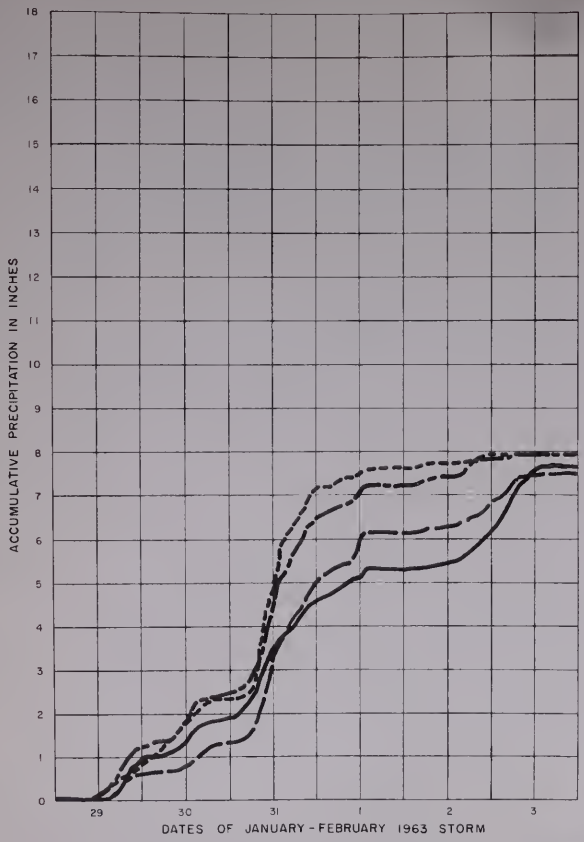
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
FEATHER - YUBA RIVER BASINS
OCTOBER 1962 STORM



STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
AMERICAN RIVER BASIN
OCTOBER 1962 STORM



LEGEND

7.99" MIRANDA SPENGLER RCH
7.98" WILLITS - HOWARD RS
7.70" HAPPY CAMP RS
7.54" HOOPA

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
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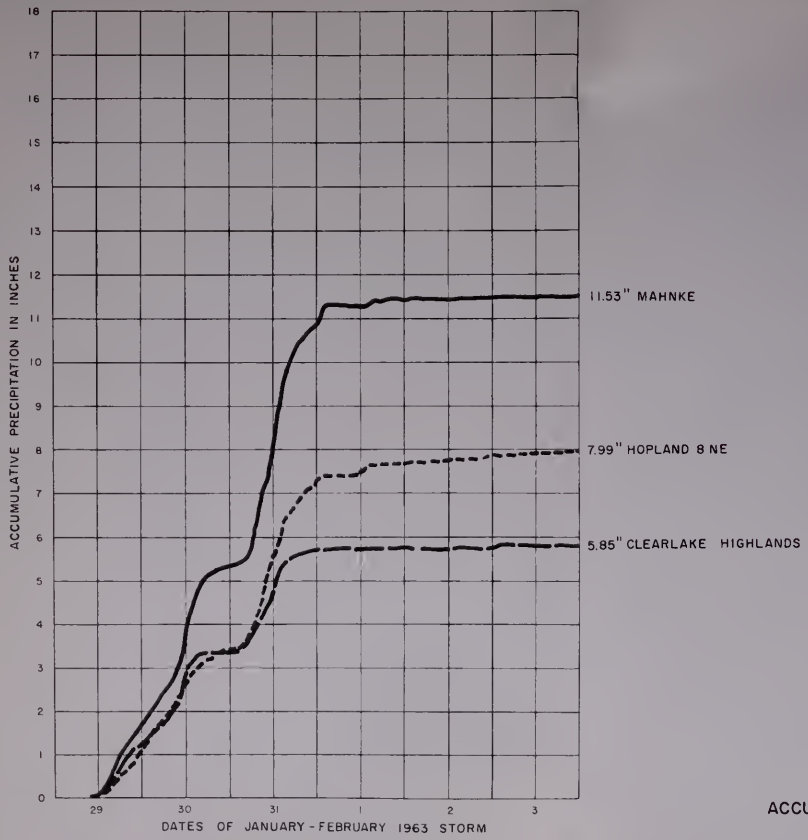
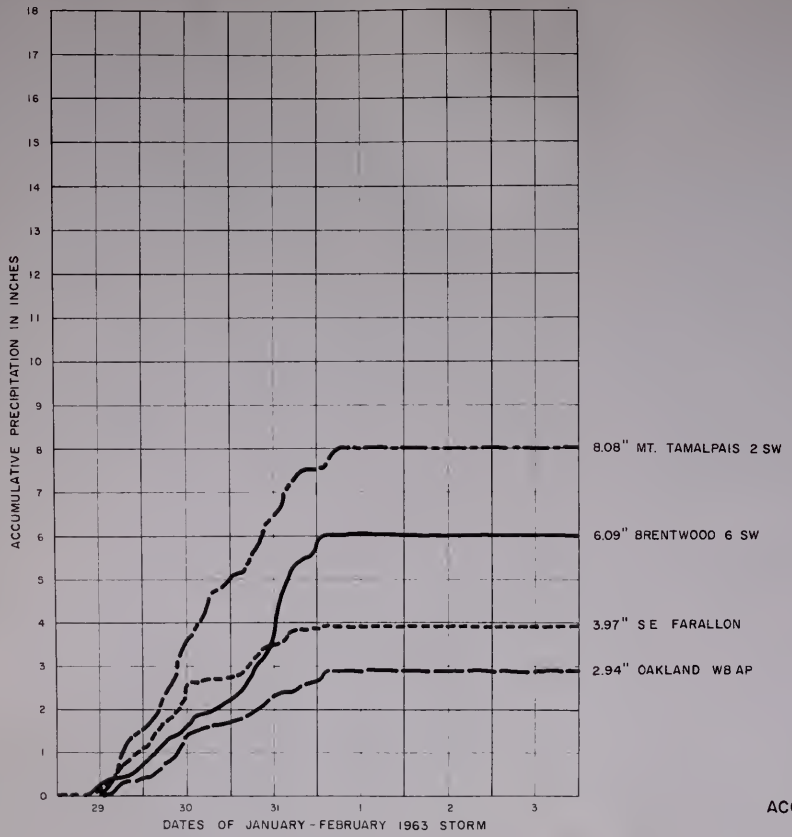
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
NORTH COASTAL AREA
JANUARY - FEBRUARY 1963 STORM



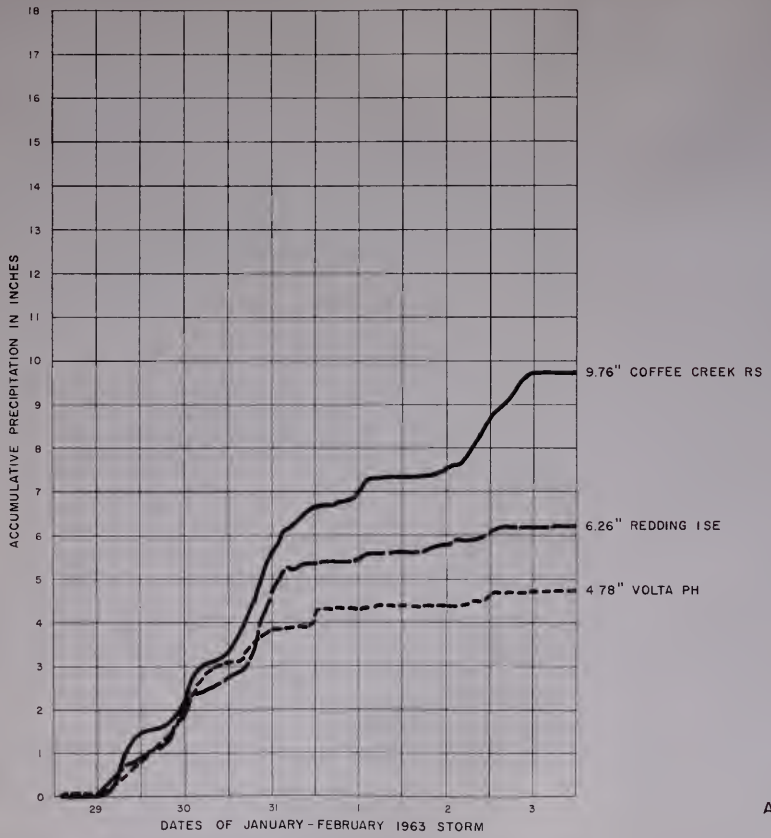
STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
CLEAR LAKE AREA
JANUARY - FEBRUARY 1963 STORM



STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
SAN FRANCISCO BAY AREA
JANUARY - FEBRUARY 1963 STORM

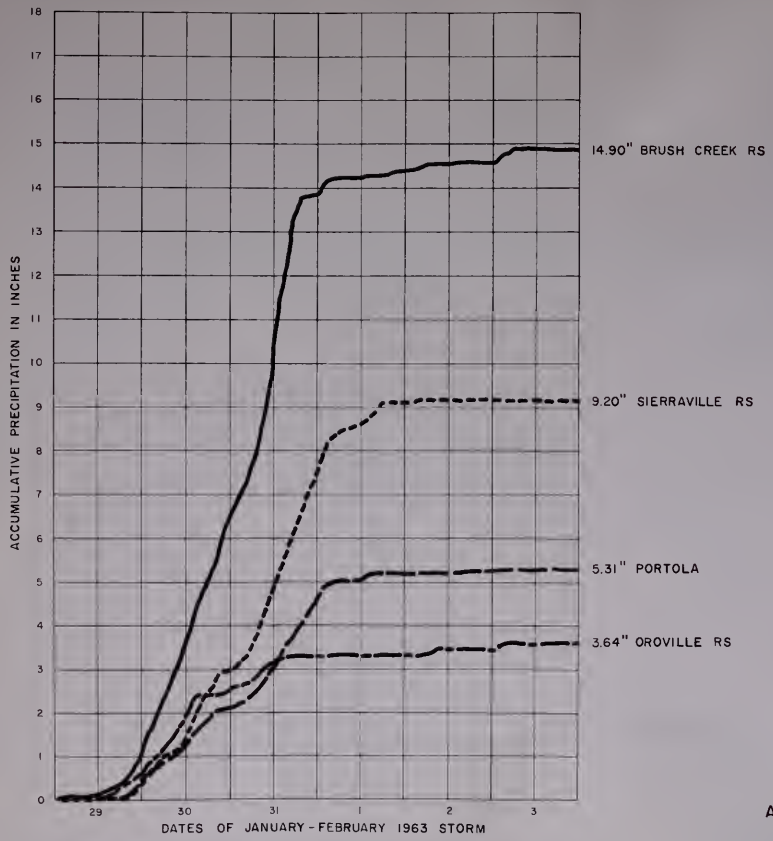


MISSING HOURLY DATA

VOLTA PH - 3 HOUR ACCUMULATIVE AMOUNT
JAN. 29 FROM 1000 - 1300, 0.17".

STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
DIVISION OF OPERATIONS

ACCUMULATIVE PRECIPITATION CURVES
NORTHERN SACRAMENTO VALLEY
JANUARY - FEBRUARY 1963 STORM



STATE OF CALIFORNIA
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
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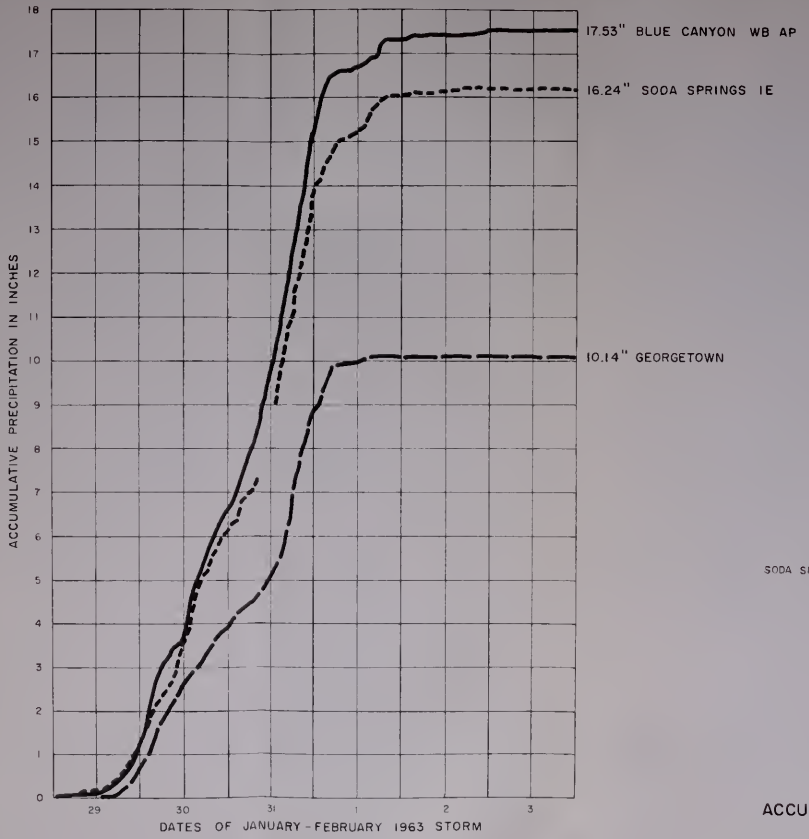
ACCUMULATIVE PRECIPITATION CURVES
FEATHER - YUBA RIVER BASINS
JANUARY - FEBRUARY 1963 STORM



MISSING HOURLY DATA

SODA SPRINGS 1E - 5 HOUR ACCUMULATIVE AMOUNT
JAN 31 FROM 0800 - 1300, 1.75".

STATE OF CALIFORNIA
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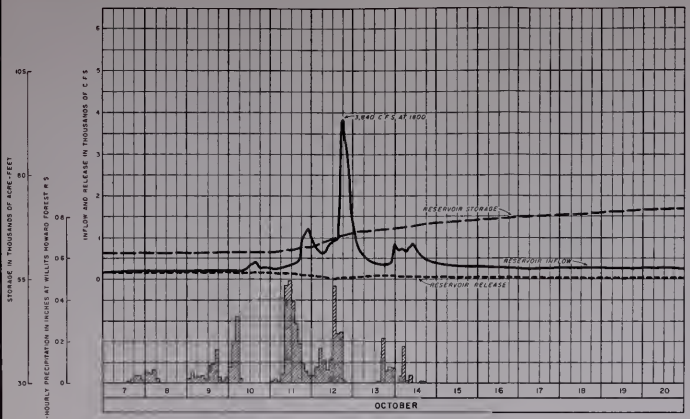
ACCUMULATIVE PRECIPITATION CURVES
AMERICAN RIVER BASIN
JANUARY - FEBRUARY 1963 STORM

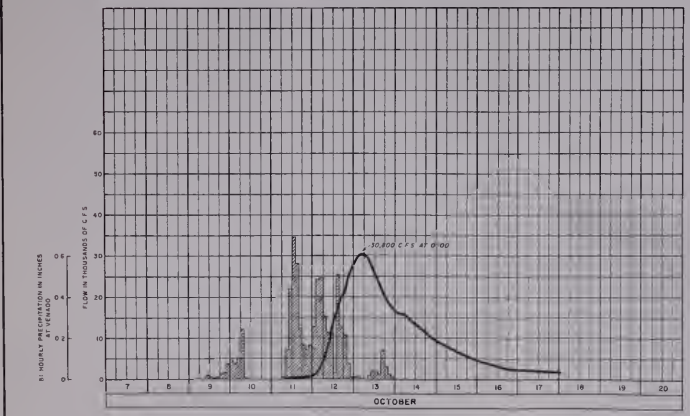


COYOTE RESERVOIR

GROSS POOL 122,500 ACRE-FEET COMPLETED 1959

PERIOD OF RECORD 1959 - PRESENT

DATE	INFLOW IN C.F.S.
2/8/60	10,200
12/1/60	6,500



RUSSIAN RIVER NEAR GUERNEVILLE

PERIOD OF RECORD 1939 - PRESENT

PRIOR TO 1954 PUBLISHED AS "AT GUERNEVILLE"

DATE	FLOW IN C.F.S.
12/23/39	50,100
2/28/40	69,400
2/25/55	69,600
12/20/55	69,400
2/22/56	69,200

STATE OF CALIFORNIA
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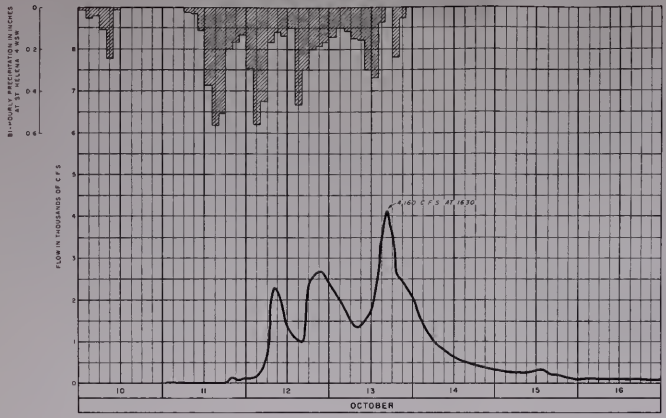
HIGH WATER OF 1962-63
OCTOBER 1962 STORM

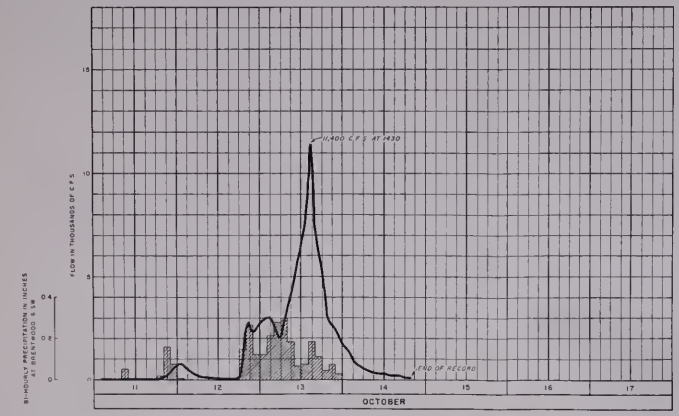
EAST FORK RUSSIAN RIVER, COYOTE RESERVOIR OPERATION AND HYDROGRAPH OF RUSSIAN RIVER



NAPA RIVER NEAR ST. HELENA

PERIOD OF RECORD 1929-32, 1939 - PRESENT

DATE	FLOW IN C F S
12/22/55	12,600
2/6/42	11,800
2/27/40	11,700
2/8/60	11,600



WALNUT CREEK AT WALNUT CREEK

PERIOD OF RECORD 1952 - PRESENT

DATE	FLOW IN C F S
4/2/58	12,200
10/13/62	11,400
12/23/55	11,000

STATE OF CALIFORNIA
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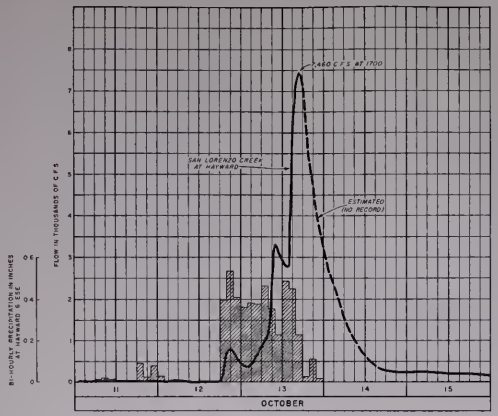
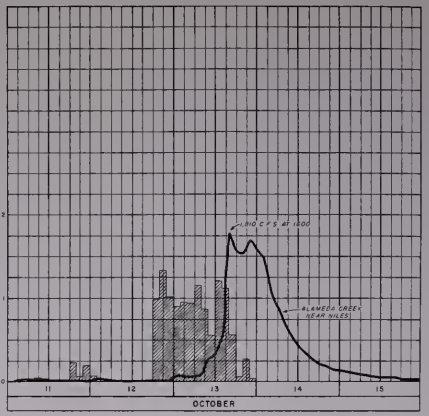
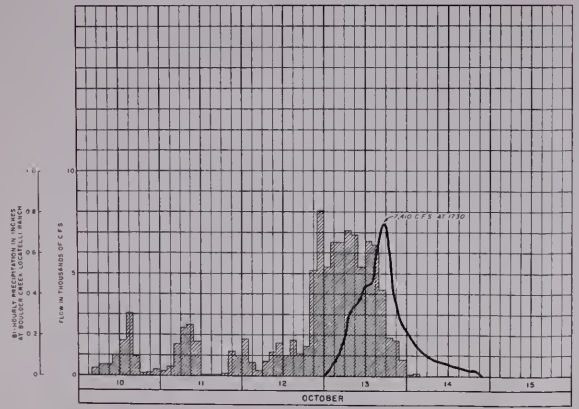
DIVISION OF OPERATIONS

HIGH WATER OF 1962-63
OCTOBER 1962 STORM

HYDROGRAPHS OF NAPA RIVER AND WALNUT CREEK







SAN LORENZO CREEK AT HAYWARD

PERIOD OF RECORD 1940, 1946 - PRESENT

DATE	FLOW IN C F S
10/13/62	7,460
4/2/58	5,100
12/22/58	4,790
1/24/42	4,200 (Est)

ALAMEDA CREEK NEAR NILES

PERIOD OF RECORD 1891 - PRESENT

DATE	FLOW IN C F S
12/23/55	29,000
4/3/58	25,900
11/2/52	24,300
11/19/50	18,400
2/10/22	3,900

SAN LORENZO RIVER AT BIG TREES

PERIOD OF RECORD 1936 - PRESENT

DATE	FLOW IN C F S
12/23/55	30,400
2/27/40	24,000
4/2/58	17,200
2/9/41	15,500
4/8/41	15,200

STATE OF CALIFORNIA
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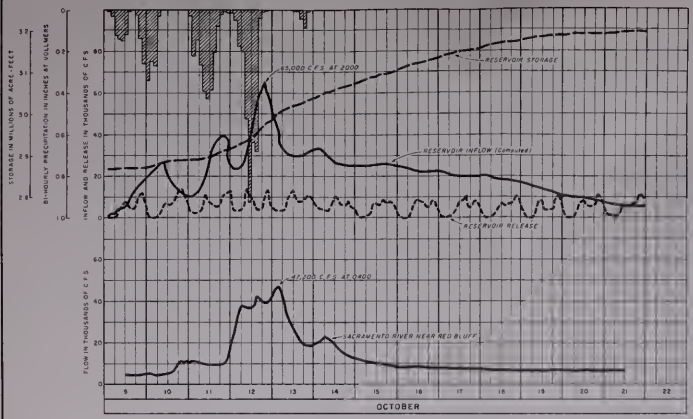
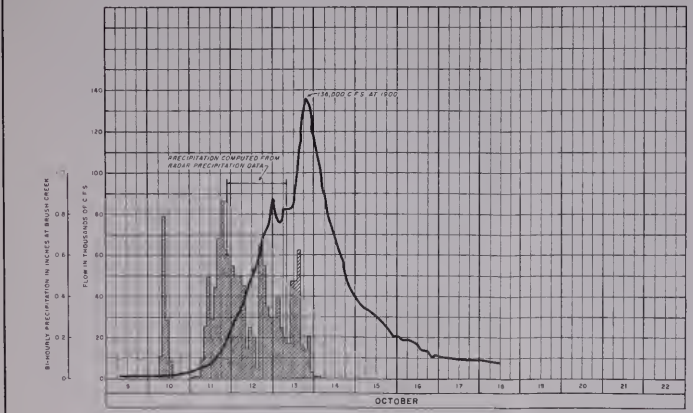
DIVISION OF OPERATIONS

HIGH WATER OF 1962-63
OCTOBER 1962 STORM

HYDROGRAPHS OF SAN LORENZO CREEK, ALAMEDA CREEK AND SAN LORENZO RIVER





SHASTA RESERVOIR

GROSS POOL: 4,452,700 ACRE-FEET
(SHASTA RESERVOIR OPERATION STARTED 1943)

PERIOD OF RECORD: 1925 – PRESENT
INFLOW TO SHASTA RESERVOIR COMPUTED SINCE 1945
REPORTED AS "SACRAMENTO RIVER AT KESWICK" 1942-45
"SACRAMENTO RIVER AT KENNETT" 1925-42

DATE	INFLOW IN C.F.S.
12/22/55	201,000
2/28/40	182,000
12/11/37	132,000
2/24/58	115,500
3/30/40	98,200

SACRAMENTO RIVER NEAR RED BLUFF

SACRAMENTO RIVER NEAR RED BLUFF FLOW REGULATED BY SHASTA RESERVOIR SINCE 1943

PERIOD OF RECORD: 1892 – PRESENT

PRIOR TO CONSTRUCTION OF SHASTA DAM

DATE	FLOW IN C.F.S.
2/28/40	291,000
12/11/37	262,000
2/3/09	252,000
2/2/15	239,000
2/16/04	207,000
2/6/42	203,000

SINCE CONSTRUCTION OF SHASTA DAM

DATE	FLOW IN C.F.S.
2/19/58	139,000
12/27/51	137,000
2/23/58	130,000
1/15/56	115,000
2/22/56	111,000

FEATHER RIVER AT OROVILLE

KNOWN AS "AT OROVILLE" 1902-34, KNOW AS "NEAR OROVILLE" 1934-JULY 1, 1962, CHANGED BACK TO "AT OROVILLE" JULY 1, 1962-PRESENT

DATE	FLOW IN C.F.S.
3/19/07	230,000
12/23/55	203,000
3/28/28	185,000
12/11/37	185,000
1/16/09	180,000

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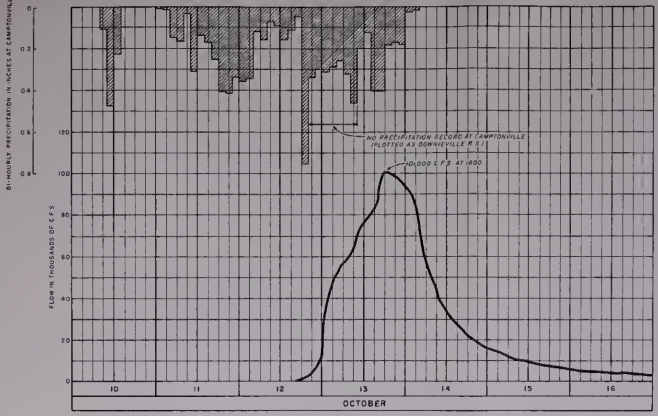
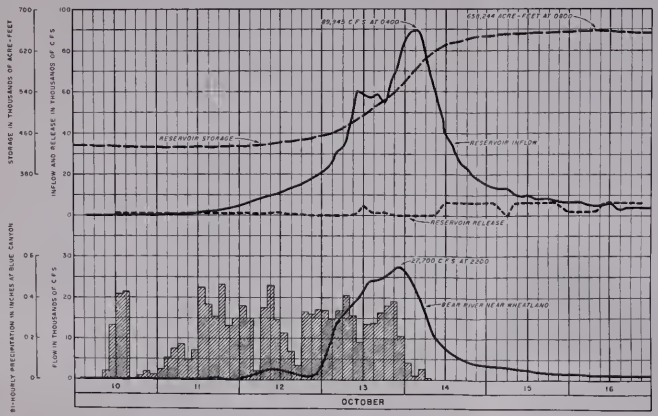
SHASTA RESERVOIR OPERATION AND HYDROGRAPH OF SACRAMENTO RIVER AND FEATHER RIVER





YUBA RIVER AT SMARTSVILLE

COMPUTED FROM SUMMATION OF "AT ENGLEBRIGHT DAM" AND "DEER CREEK NEAR SMARTVILLE"

PERIOD OF RECORD 1903 - PRESENT

REPORTED AS "AT SMARTVILLE" (INCLUDES DEER CREEK)
1903-41, 1941-PRESENT, COMPUTED AS STATED ABOVE

DATE	FLOW IN C F S
12/23/55	156,300
3/28/28	120,000
11/21/50	113,800
11/5/09	111,000

FOLSOM RESERVOIR

GROSS POOL 1,000,000 ACRE-FEET, COMPLETED 1956. FLOW REGULATED BY FOLSOM RESERVOIR SINCE 1955

PERIOD OF RECORD 1904 - PRESENT **

DATE	INFLOW IN C F S
12/23/55	219,000* (Folsom Inflow)
11/21/50	180,000
3/25/28	163,000
3/19/07	140,000
1/22/43	138,000

* Data furnished by U S Bureau of Reclamation
** Prior to 1955 listed as "American River at Fair Oaks"

BEAR RIVER NEAR WHEATLAND

PERIOD OF RECORD 1904 - PRESENT
REPORTED AS "AT VAN TRENT" 1904 28

DATE	FLOW IN C F S
12/22/55	33,000
1/21/43	31,500*
11/14/05	29,400
11/21/50	29,100
2/12/07	28,200

* Sum of Main Channel Flow (23,600 C F S) and flow through levee break 1/2 mile upstream (5,700 C F S)

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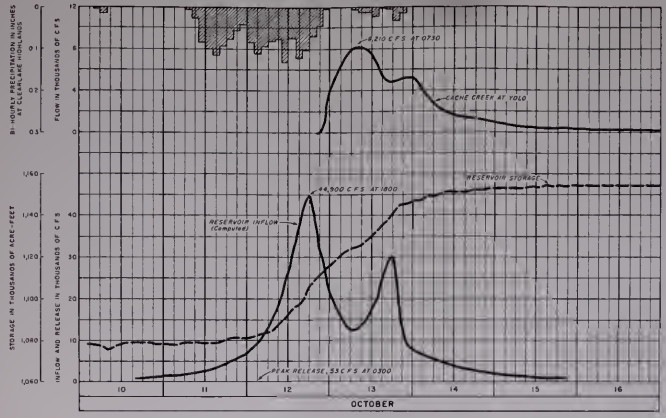
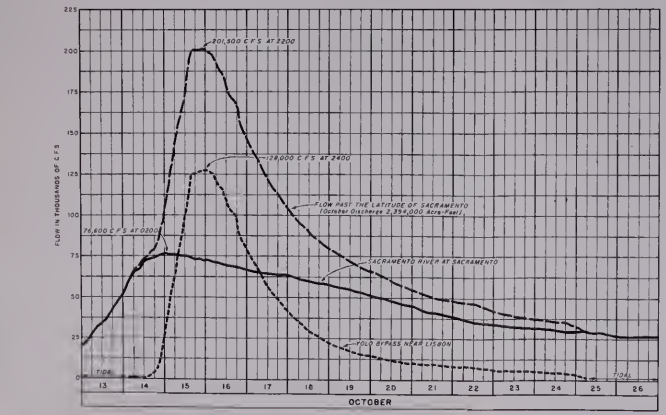
HYDROGRAPHS OF YUBA AND BEAR RIVERS AMERICAN RIVER, FOLSOM RESERVOIR OPERATION





CACHE CREEK AT YOLO

PERIOD OF RECORD 1905 - PRESENT

DATE	FLOW IN C.F.S.
2/25/58	41,400*
2/26/40	38,700*
2/23/58	27,400
4/2/58	25,800

*Includes overbank flow

LAKE BERRYESSA (MONTICELLO DAM)

GROSS POOL 1,800,000 ACRE-FEET COMPLETED 1957 PEAK FLOWS PRIOR TO CONSTRUCTION OF MONTICELLO DAM "PUTAH CREEK NEAR WINTERS"

PERIOD OF RECORD 1905 - PRESENT

REPORTED AS "AT WINTERS" 1905 - 31

DATE	FLOW IN C.F.S.
2/27/40	81,000
1/21/43	70,300
2/6/42	67,200
12/31/13	80,000
12/22/55	55,400*

*Affected by storage behind partially completed Monticello Dam

PEAK INFLOWS SINCE CONSTRUCTION OF MONTICELLO DAM

DATE	INFLOW IN C.F.S.
2/24/58	85,300

FLOW PAST LATITUDE OF SACRAMENTO

FLOW PAST LATITUDE OF SACRAMENTO RECORD IS OBTAINED BY SUMMATION OF THE FOLLOWING SACRAMENTO RIVER AT SACRAMENTO AND YOLO BYPASS NEAR LISBON (PUBLISHED AS "AT LISBON" PRIOR TO 2/13/59)

PERIOD OF RECORD 1914 - PRESENT

MAXIMUM MONTHLY DISCHARGES OF RECORD

DATE	QUANTITY IN ACRE-FEET
FEBRUARY - 1958	9,400,000
JANUARY - 1956	9,200,000
MARCH - 1940	7,331,000*
MARCH - 1938	7,288,000*
FEBRUARY - 1942	7,093,000*

*Shasta and Folsom Reservoirs not in operation

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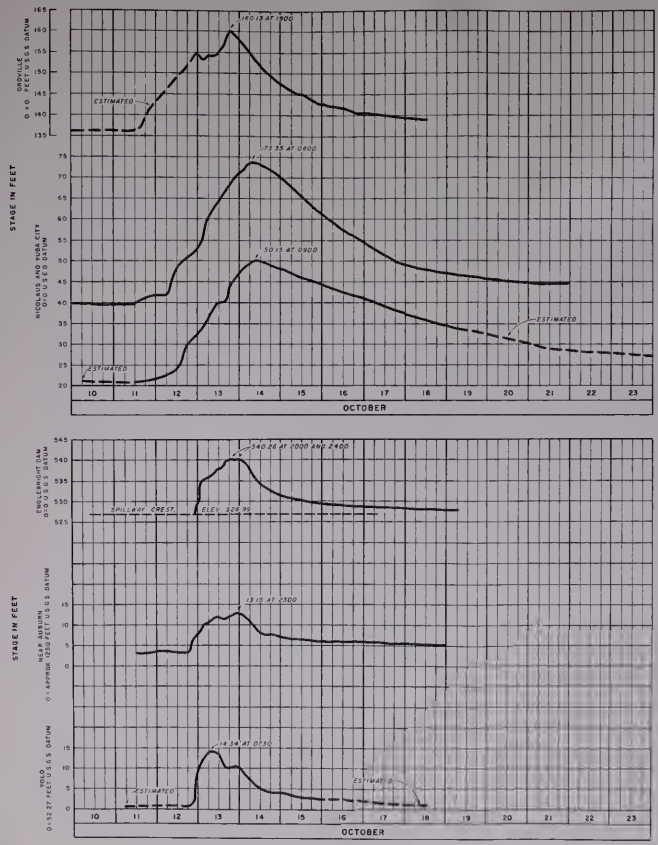
HYDROGRAPHS OF CACHE CREEK AND FLOW PAST LATITUDE OF SACRAMENTO PUTAH CREEK, LAKE BERRYESSA RESERVOIR OPERATION



FEATHER RIVER AT OROVILLE

FEATHER RIVER AT YUBA CITY

FEATHER RIVER AT NICOLAUS

YUBA RIVER AT ENGLEBRIGHT DAM

BEAR RIVER NEAR AUBURN

CACHE CREEK AT YOLO

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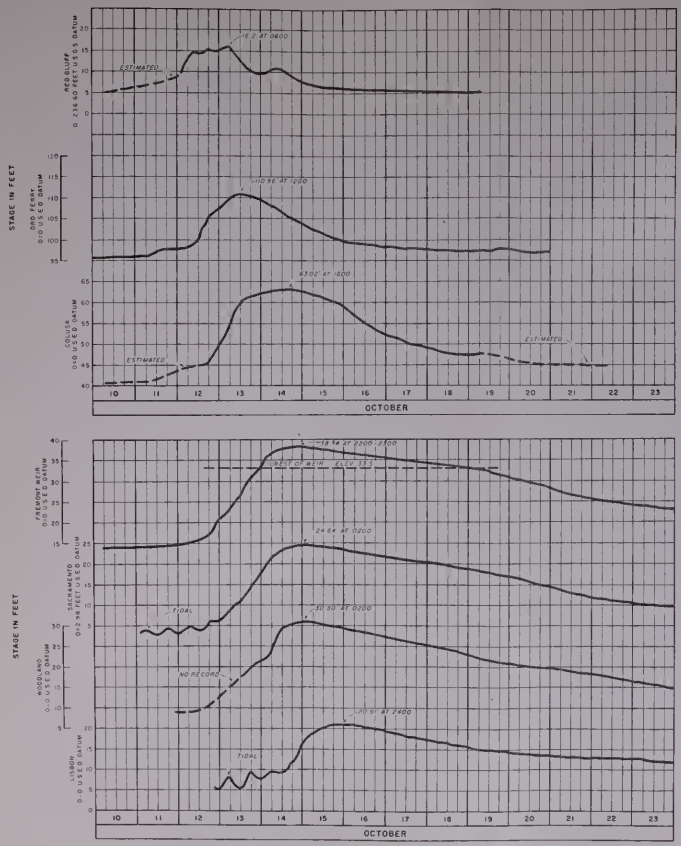
OCTOBER 1962 STORM

FEATHER RIVER, YUBA RIVER, CACHE CREEK AND BEAR RIVER GAGE HEIGHTS



SACRAMENTO RIVER AT RED BLUFF

SACRAMENTO RIVER AT ORD FERRY

SACRAMENTO RIVER AT COLUSA

SACRAMENTO RIVER AT FREMONT WEIR (WEST END)

SACRAMENTO RIVER AT SACRAMENTO

YOLO BYPASS NEAR WOODLAND

YOLO BYPASS NEAR LISBON

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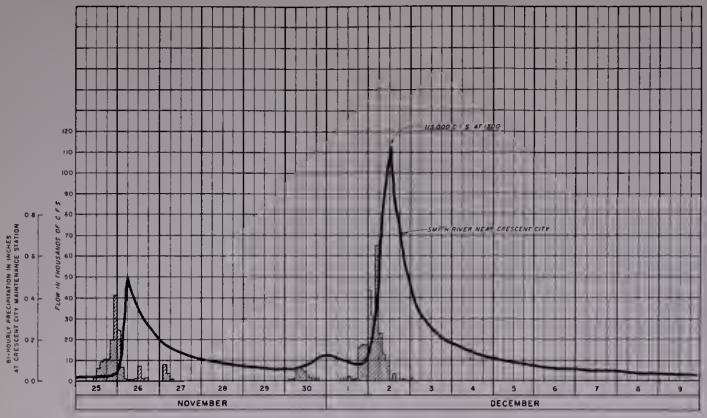
HIGH WATER OF 1962-63
OCTOBER 1962 STORM

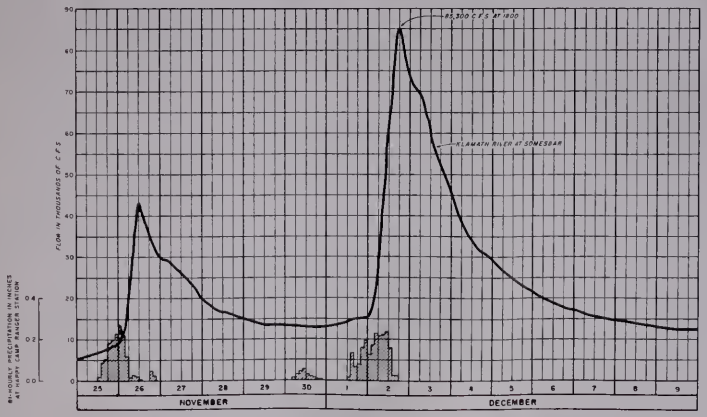
SACRAMENTO RIVER AND YOLO BYPASS GAGE HEIGHTS



SMITH RIVER NEAR CRESCENT CITY

PERIOD OF RECORD 1934 – PRESENT

DATE	FLOW IN CFS
12/22/55	165,000
10/29/50	152,000
11/23/53	141,000
1/18/53	139,000
12/28/45	123,000



KLAMATH RIVER AT SOMESBAR

PERIOD OF RECORD 1927 – PRESENT

DATE	FLOW IN CFS
12/22/55	202,000
2/21/27	141,000
1/18/53	137,000
12/28/85	97,000
1/29/58	96,800

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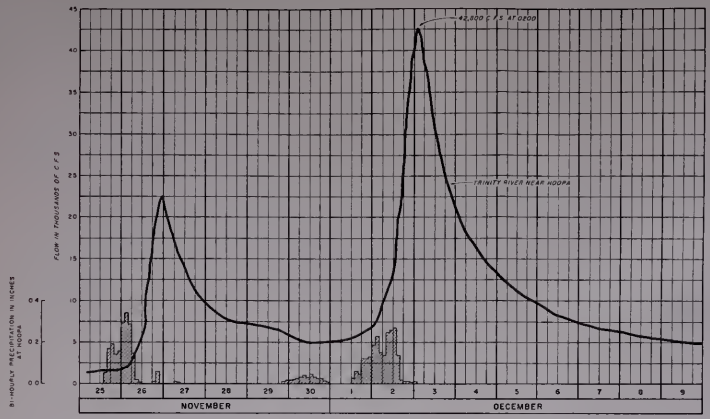
HIGH WATER OF 1962-63
NOVEMBER - DECEMBER 1962 STORM

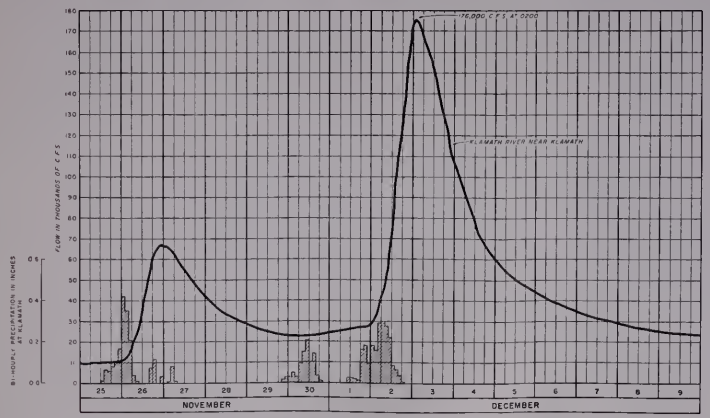
HYDROGRAPHS OF SMITH RIVER AND KLAMATH RIVER



TRINITY RIVER NEAR HOOPA

PERIOD OF RECORD 1911-14, 1916-18, 1931 TO PRESENT

DATE	FLOW IN C.F.S.
12/22/55	190,000
2/19/58	129,000
2/28/40	124,000
2/25/58	117,000
12/11/37	105,000



KLAMATH RIVER NEAR KLAMATH

PERIOD OF RECORD 1910-24, 1950-PRESENT

DATE	FLOW IN C.F.S.
12/22/55	425,000
1/18/53	297,000
2/23/58	236,000
2/19/58	232,000
2/16/58	227,000
1/28/58	217,000

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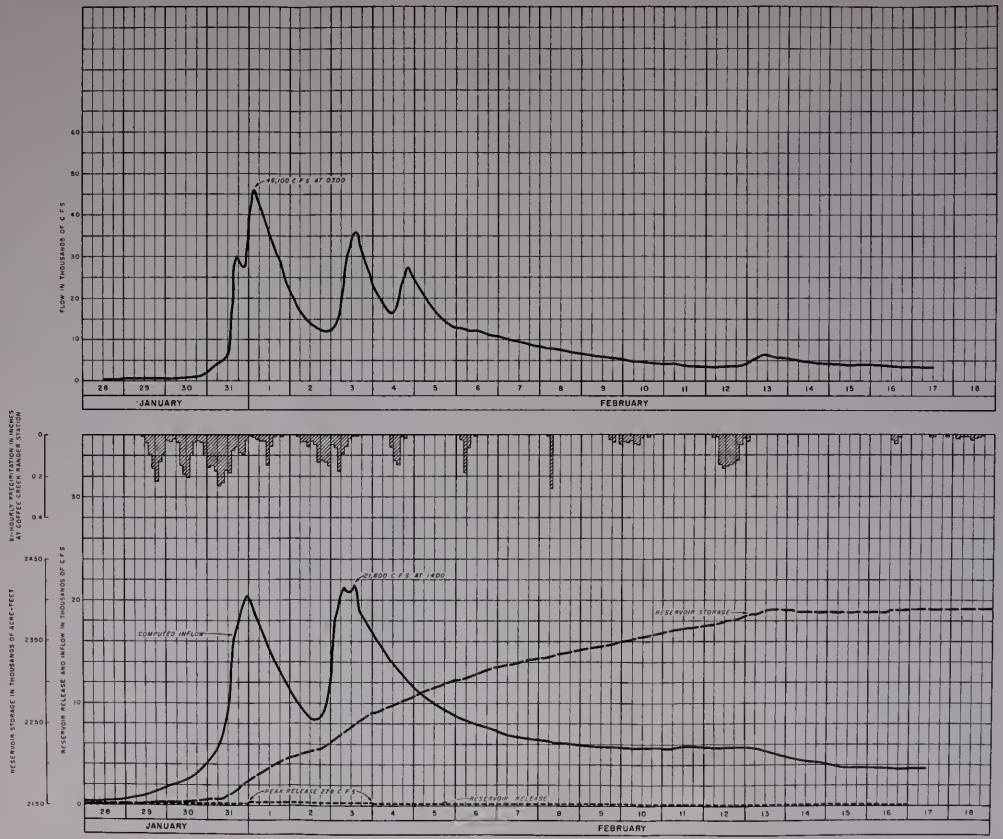
HIGH WATER OF 1962-63
NOVEMBER - DECEMBER 1962 STORM

HYDROGRAPHS OF TRINITY RIVER AND KLAMATH RIVER



SMITH RIVER NEAR CRESCENT CITY

PERIOD OF RECORD 1934 - PRESENT

DATE	FLOW IN C F S
12/22/55	165,000
10/29/50	57,000
11/23/53	141,000
1/18/53	39,000
12/26/45	23,000

TRINITY RESERVOIR

GROSS POOL 2,448,000 ACRE-FEET COMPLETED 1940

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HIGH WATER OF 1962-63
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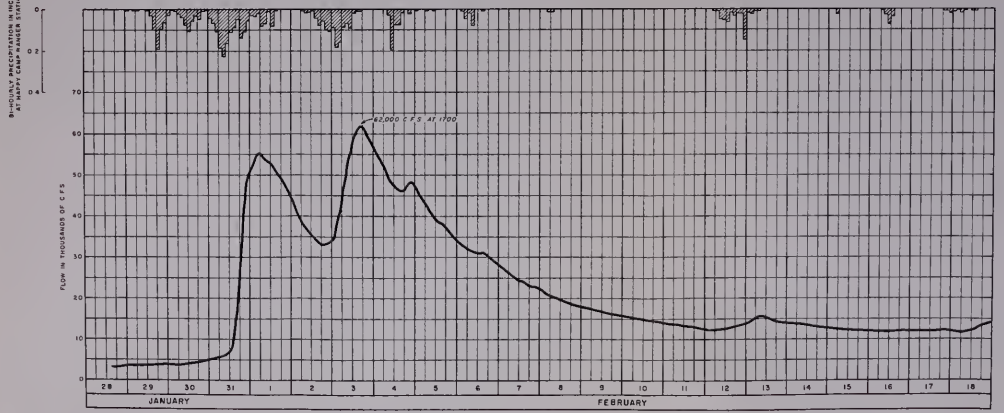
HYDROGRAPH OF SMITH RIVER TRINITY RIVER, TRINITY RESERVOIR OPERATION



TRINITY RIVER NEAR HOOPA

PERIOD OF RECORD 1911-14, 1916-18, 1931-PRESENT

DATE	FLOW IN C F S
12/22/55	190,000
2/19/58	23,200
2/28/40	24,000
2/25/58	7,000
12/11/37	105,000

KLAMATH RIVER AT SOMESBAR

PERIOD OF RECORD 1927- PRESENT

DATE	FLOW IN C F S
12/22/55	202,000
2/21/27	141,000
1/18/53	137,000
12/28/45	97,000
1/29/58	96,800

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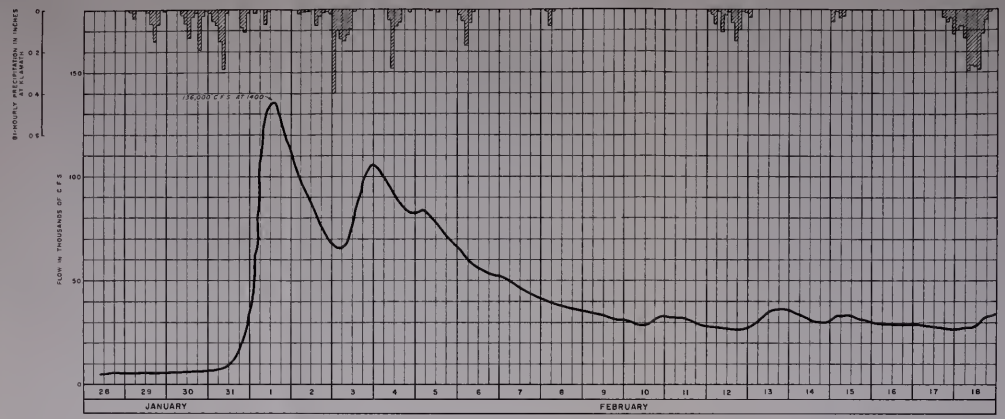
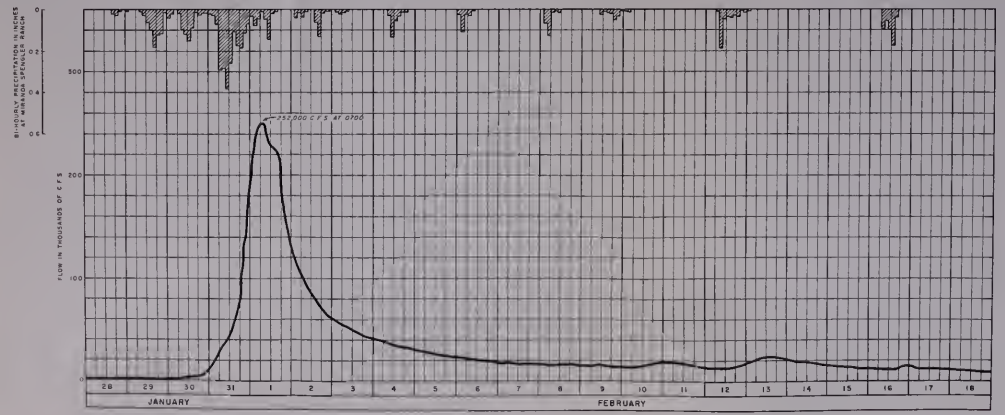
HIGH WATER OF 1962 - 63
JANUARY - FEBRUARY 1963 STORM

HYDROGRAPHS OF TRINITY RIVER AND KLAMATH RIVER





KLAMATH RIVER NEAR KLAMATH

PERIOD OF RECORD 1910-28, 1950-PRESENT

DATE	FLOW IN C F S
12/22/55	425,000
1/18/53	297,000
2/23/58	236,000
2/19/58	232,000
2/18/58	222,000
1/29/58	217,000

EEL RIVER AT SCOTIA

PERIOD OF RECORD 1910-1915, 1916-PRESENT

DATE	FLOW IN C F S
12/22/55	541,000
2/2/15	351,000*
12/11/37	345,000*
2/6/90	343,000
2/28/40	305,000
2/1/63	252,000

*Based from revised 1940 Rating Curve

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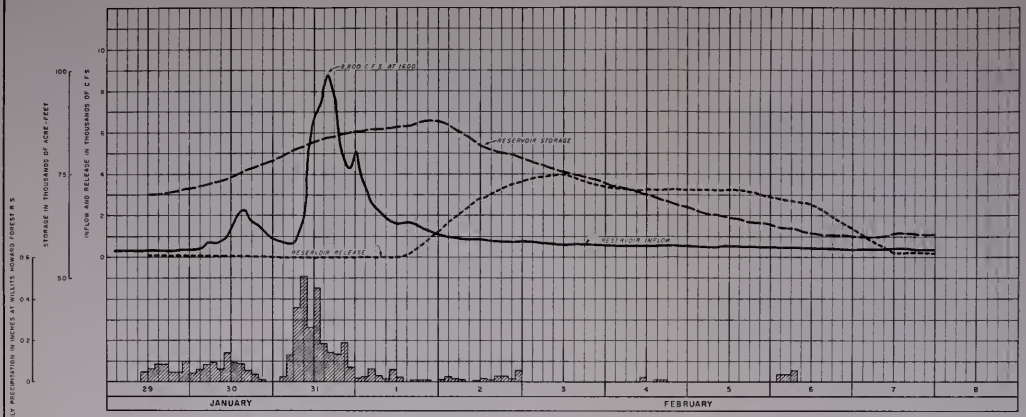
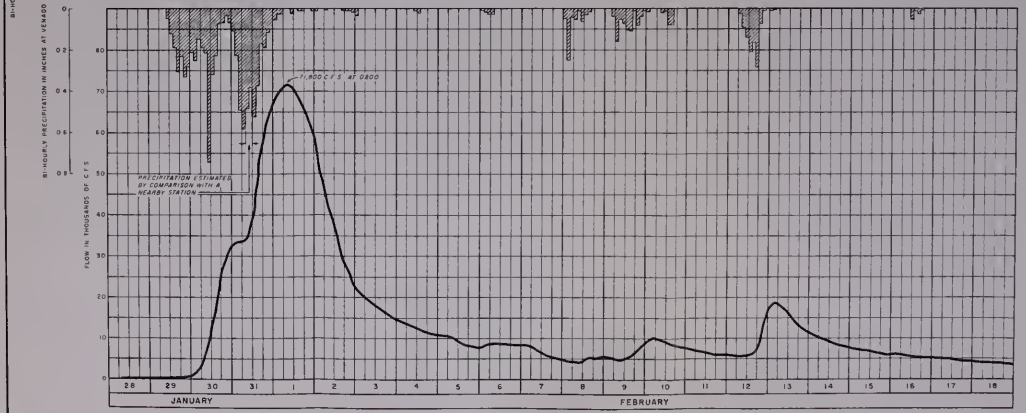
HIGH WATER OF 1962-63
JANUARY - FEBRUARY 1963 STORM

HYDROGRAPHS OF KLAMATH RIVER AND EEL RIVER





COYOTE RESERVOIR

GROSS POOL 122,500 ACRE-FEET COMPLETED 1959

PERIOD OF RECORD 1959-PRESENT

DATE	INFLOW IN C.F.S.
2/8/60	0,200
/31/63	8,800
12/1/60	9,300

RUSSIAN RIVER NEAR GUERNEVILLE

PERIOD OF RECORD 1938-PRESENT

PRIOR TO 1954 PUBLISHED AS "AT GUERNEVILLE"

DATE	FLOW IN C.F.S.
12/23/55	90,000
2/28/60	88,400
2/ /63	7,800
2/25/56	69,600
12/20/55	69,400
2/22/56	69,200

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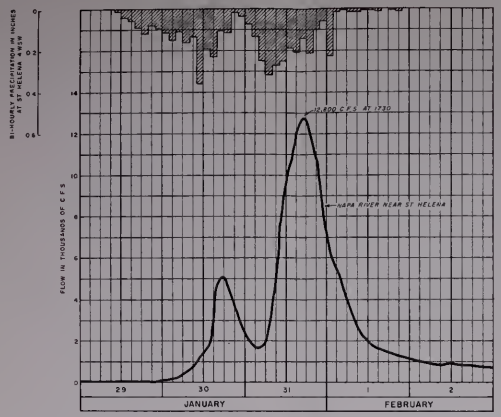
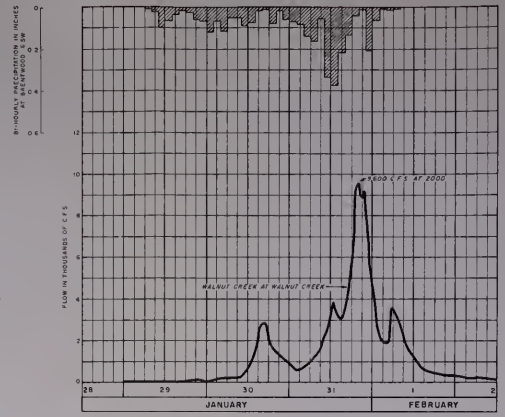
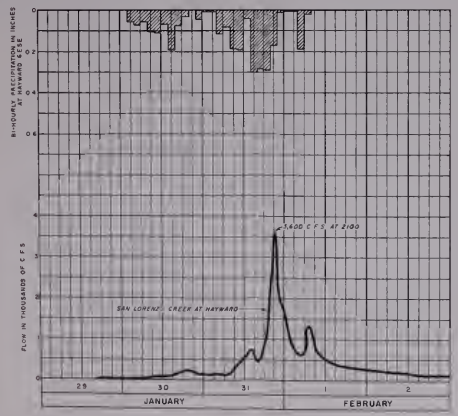
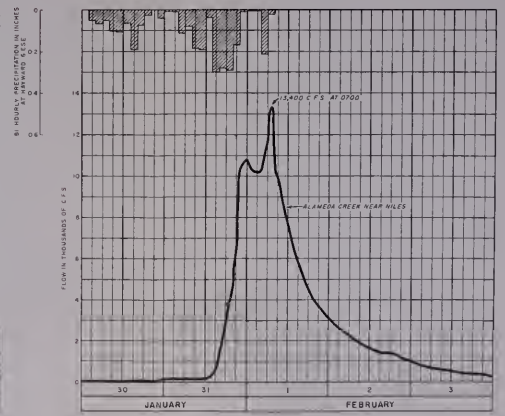
EAST FORK RUSSIAN RIVER,
COYOTE RESERVOIR OPERATION
AND
HYDROGRAPH OF RUSSIAN RIVER









NAPA RIVER NEAR ST HELENA

PERIOD OF RECORD 1929-32, 1959-PRESENT

DATE	FLOW IN C F S
1/31/83	12,800
12/22/55	12,600
2/6/42	11,800
2/27/40	11,700
2/6/60	11,600

WALNUT CREEK AT WALNUT CREEK

PERIOD OF RECORD 1952-PRESENT

DATE	FLOW IN C F S
4/2/58	12,300
10/13/62	11,400
12/23/58	11,000
1/31/63	9,600

SAN LORENZO CREEK AT HAYWARD

PERIOD OF RECORD 1939-1940, 1946-PRESENT

DATE	FLOW IN C F S
10/13/82	7,460
4/2/58	5,150
12/22/55	4,790
1/24/42	4,200 (Est
1/31/63	5,600

ALAMEDA CREEK NEAR NILES

PERIOD OF RECORD 1891 - PRESENT

DATE	FLOW IN C F S
12/23/55	29,000
4/5/58	25,500
12/12/52	24,300
11/9/50	18,400
2/10/22	15,500
2/1/63	15,400

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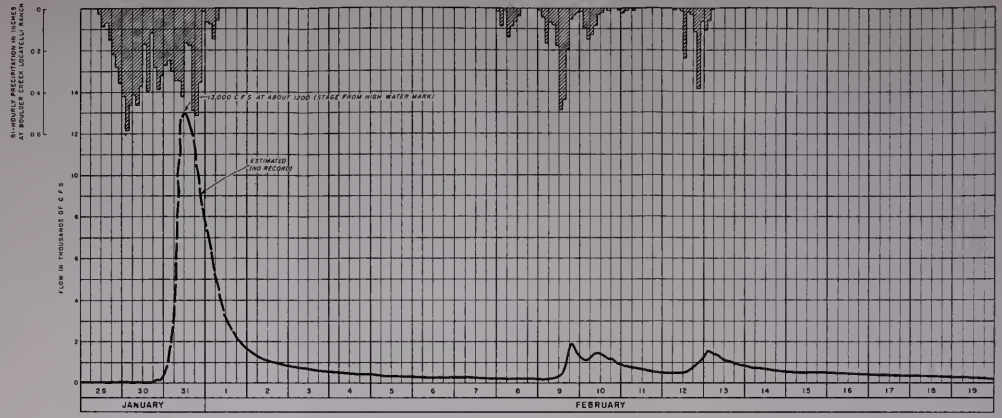
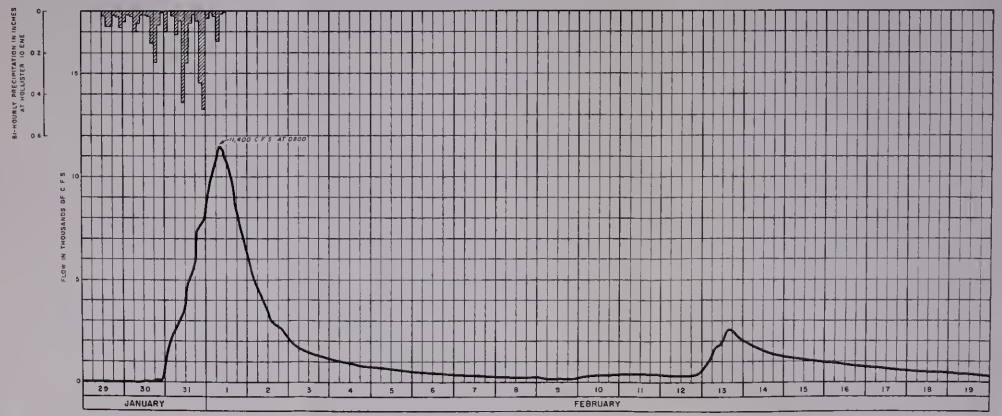
HYDROGRAPHS OF NAPA RIVER, WALNUT CREEK, SAN LORENZO CREEK, AND ALAMEDA CREEK





SAN LORENZO RIVER AT BIG TREES

PERIOD OF RECORD 1958 - PRESENT

DATE	FLOW IN C F S
12/23/55	30,400
2/27/46	24,000
4/2/59	7,200
2/3/4	5,500
4/4/4	5,2[illegible]

PAJARO RIVER AT CHITTENDEN

PERIOD OF RECORD 1959 - PRESENT
PRIOR TO OCT 1954 PUBLISHED AS "NEAR CHITTENDEN"

DATE	FLOW IN C F S
12/24/55	24,000
4/3/58	23,500
2/1/63	[illegible]400
4/4 or 5/41	[illegible]00
4/6/58	0,400

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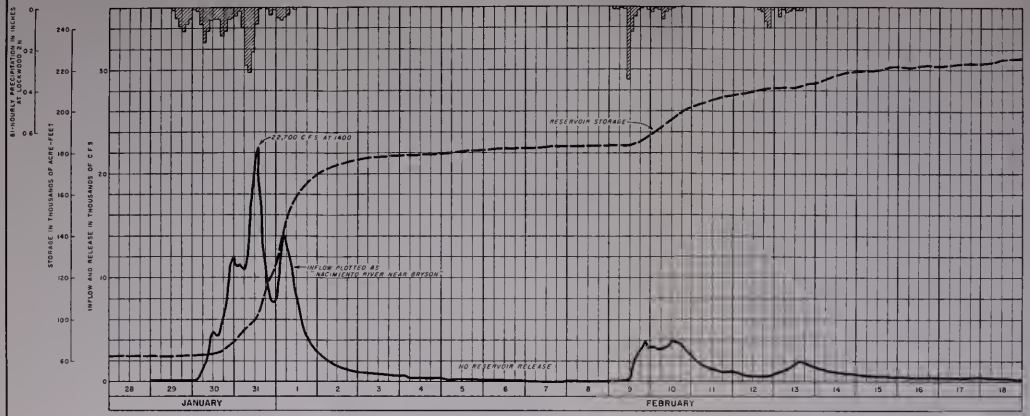
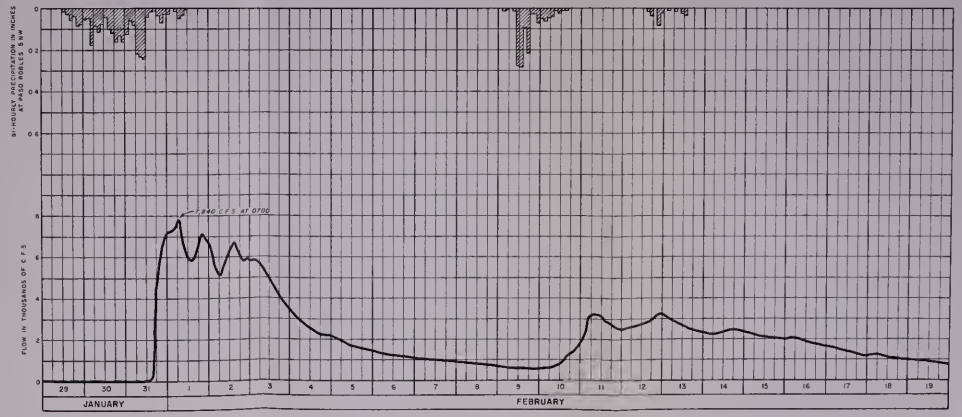
HYDROGRAPHS OF
SAN LORENZO RIVER AND
PAJARO RIVER





NACIMIENTO RESERVOIR

GROSS POOL 350,000 ACRE-FEET COMPLETED 1957
"NACIMIENTO RIVER NEAR BRYSON"
PERIOD OF RECORD 1955-PRESENT

DATE	INFLOW IN C.F.S.
12/23/55	30,300
4/3/58	23,100
1/31/63	22,700

SALINAS RIVER NEAR SPRECKELS

PERIOD OF RECORD 1900-1901, 1929-PRESENT
PUBLISHED AS "NEAR SALINAS" 1900-1901

DATE	FLOW IN C.F.S.
2/12/38	75,000
3/8/41	45,400
2/3/45	44,800
1/22/43	42,800
12/28/31	42,000

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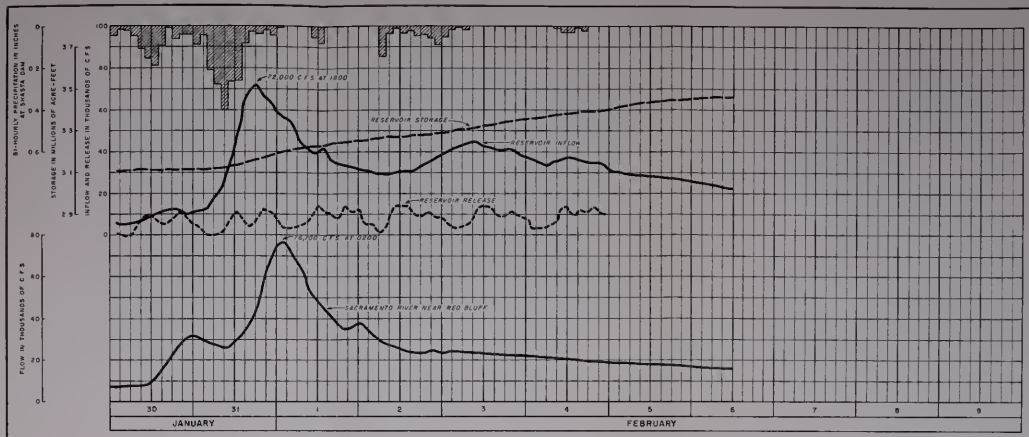
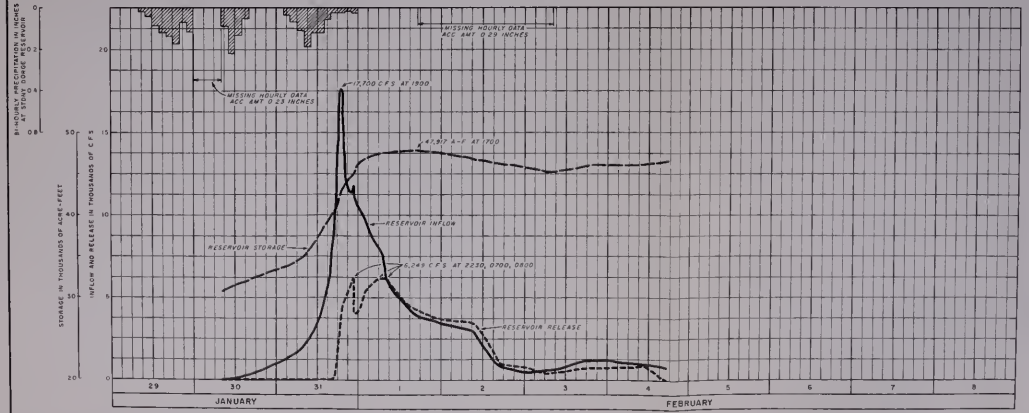
NACIMIENTO RIVER,
NACIMIENTO RESERVOIR OPERATION
HYDROGRAPH OF SALINAS RIVER





SHASTA RESERVOIR

GROSS POOL 4,492,700 ACRE-FEET
(SHASTA RESERVOIR OPERATION STARTED 1945)

PERIOD OF RECORD 1925 - PRESENT
INFLOW TO SHASTA RESERVOIR COMPUTED SINCE 1945
REPORTED AS "SACRAMENTO RIVER AT KESWICK" 1942-45
"SACRAMENTO RIVER AT KENNETT" 1925-42

DATE	INFLOW IN C F S
12/22/55	27,000
2/28/40	82,000
12/11/37	92,000
2/26/58	5,500
3/30/42	99,200

SACRAMENTO RIVER NEAR RED BLUFF

SACRAMENTO RIVER NEAR RED BLUFF FLOW REGULATED BY SHASTA RESERVOIR SINCE 1945

PERIOD OF RECORD 1895 - PRESENT

PRIOR TO CONSTRUCTION OF SHASTA DAM

DATE	FLOW IN C F S
3/28/40	29,000
12-- 37	282,000
2/3/09	252,000
2/2 /5	239,000
2/16/04	207,000
2/6/42	203,000

SINCE CONSTRUCTION OF SHASTA DAM

DATE	FLOW IN C F S
2/19/58	39,000
12/27/51	137,000
2/23/58	30,000
1/3/56	5,000
2/22/56	300

STONY GORGE RESERVOIR

GROSS POOL 50,200 ACRE-FEET COMPLETED 1929

DATE	INFLOW IN C F S
2/24/58	24,700
12/1/37*	23,900
1/3/45	17,700
2/28/41	12,800*
12/22/55	400

*Stony Creek above Stony Gorge Reservoir U.S.G.S. Station

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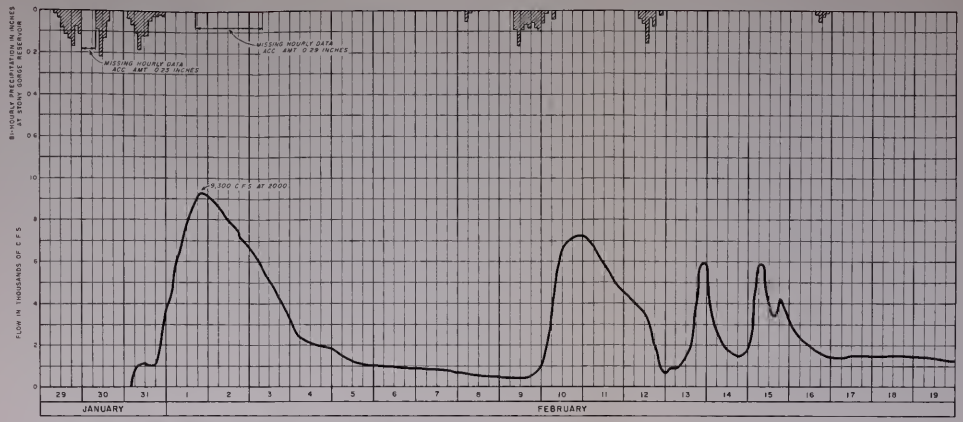
JANUARY - FEBRUARY 1963 STORM

SHASTA RESERVOIR OPERATION HYDROGRAPH OF SACRAMENTO RIVER STONY CREEK, STONY GORGE RESERVOIR OPERATION

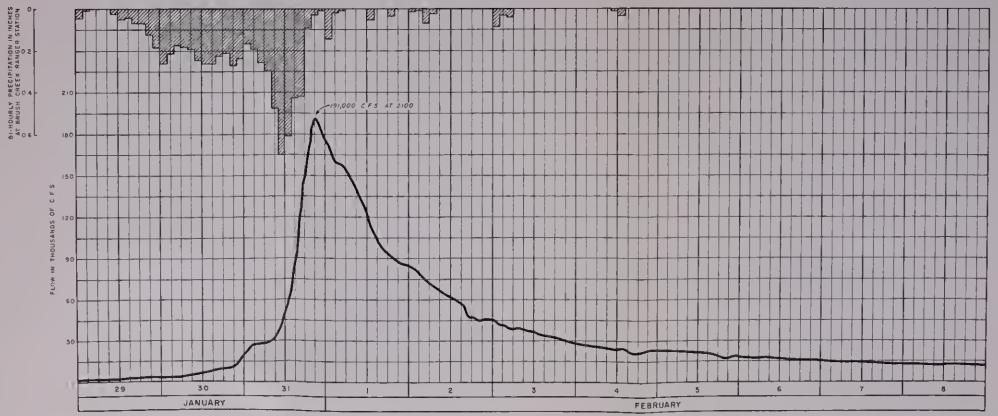


STONY CREEK NEAR HAMILTON CITY

PERIOD OF RECORD 1940-PRESENT

DATE	FLOW IN C.F.S.
2/23/58	59,900
3/1/41	37,800
2/19/58	35,100
4/4/41	27,800
2/6/42	23,800
2/11/41	22,500

Flow Regulated by East Park Reservoir (1910) and Stony Gorge Reservoir (1928)



FEATHER RIVER AT OROVILLE

KNOWN AS "AT OROVILLE" 1902-34, KNOWN AS "NEAR OROVILLE" 1934-JULY 1, 1962, CHANGED BACK TO "AT OROVILLE" JULY 1, 1962-PRESENT

DATE	FLOW IN C.F.S.
3/18/07	230,000
12/23/55	203,000
1/31/63	191,000
3/26/28	185,000
12/11/37	185,000
1/16/09	180,000

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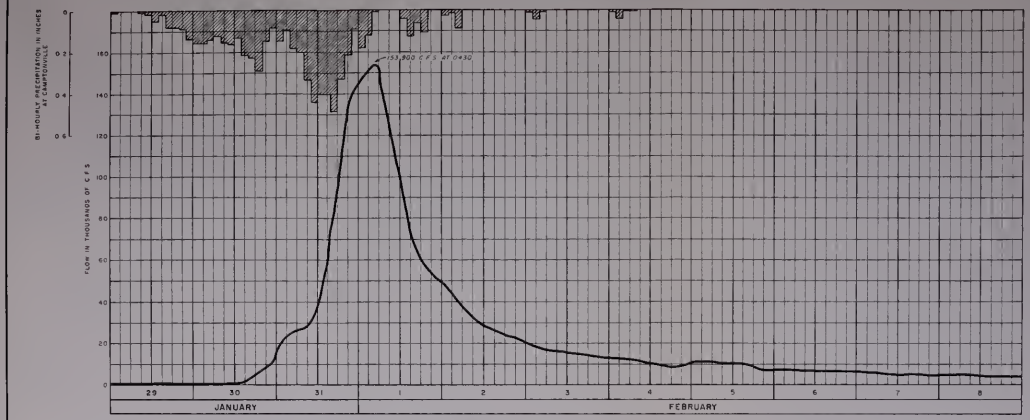
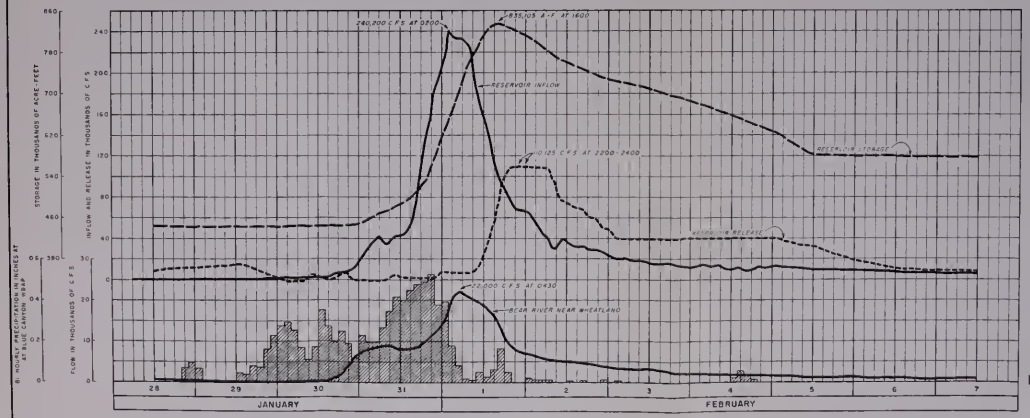
HYDROGRAPHS OF STONY CREEK AND FEATHER RIVER





YUBA RIVER AT SMARTVILLE

COMPUTED FROM SUMMATION OF AT ENGLEBRIGHT DAM AND DEER CREEK NEAR SMARTVILLE

PERIOD OF RECORD 1903 - PRESENT

REPORTED AS "AT SMARTVILLE" INCLUDES DEER CREEK 1903-41, 1941-PRESENT COMPUTED AS STATED ABOVE

DATE	FLOW IN C F S
2/23/55	56,500
2/ /63	93,950
3/26/28	20,000
11/21/50	113,800
/15/09	,000

FOLSOM RESERVOIR

GROSS POOL 1,000,000 ACRE-FEET COMPLETED 1956 FLOW REGULATED BY FOLSOM RESERVOIR SINCE 1955

PERIOD OF RECORD 1904 - PRESENT * *

DATE	INFLOW IN C F S
2/1/63	240,200* (Folsom inflow)
12/23/55	2 8,000* (Folsom inflow)
11/21/50	80,000
3/25/28	165,000
3/19/07	40,000
1/22/43	136,000

* Data furnished by U.S. Bureau of Reclamation
* * Prior to 1955 listed as "American River at Fair Oaks"

BEAR RIVER NEAR WHEATLAND

PERIOD OF RECORD 1904 - PRESENT
REPORTED AS "AT VAN TRENT" 1904-28

DATE	FLOW IN C F S
12/22/55	33,000
1/21/45	5 ,300*
1/14/09	29,600
1/21/50	29, 00
2/2/07	28,200

* Sum of Main Channel Flow 125,600 C F S and Flow through levee break 1/2 mile upstream (5,700 C F S)

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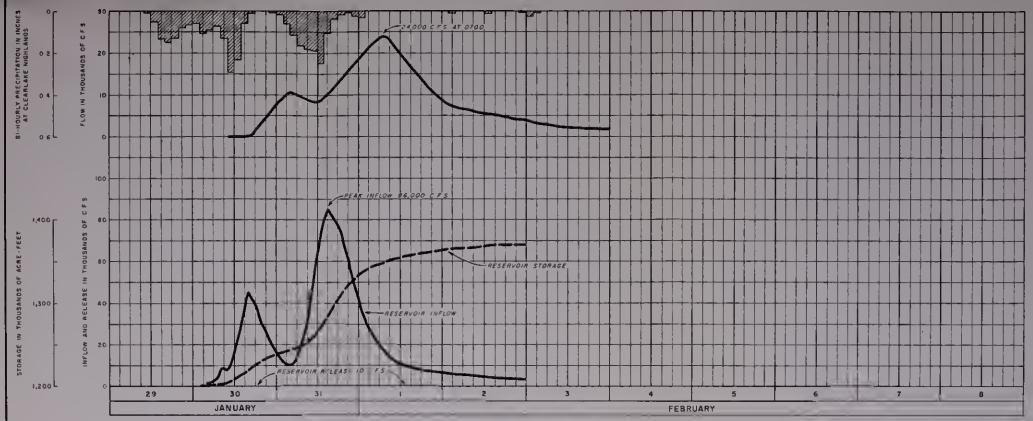
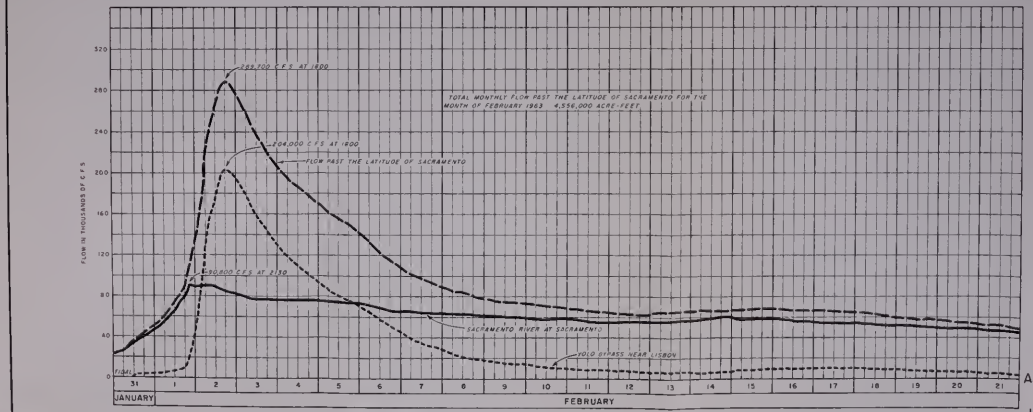
HYDROGRAPHS OF YUBA AND BEAR RIVERS AMERICAN RIVER, FOLSOM RESERVOIR OPERATION





CACHE CREEK AT YOLO

PERIOD OF RECORD 1905 - PRESENT

DATE	FLOW IN C F S
2/23/56	41,400*
2/28/40	38,700*
2/23/56	27,600
4/2/58	25,900
2/1/63	24,000

*Includes overbank flow

LAKE BERRYESSA (MONTICELLO DAM)

GROSS POOL 1,600,000 ACRE-FEET COMPLETED 1957 MEAN FLOWS PRIOR TO CONSTRUCTION OF MONTICELLO DAM "PUTAH CREEK NEAR WINTERS"

PERIOD OF RECORD 1905 - PRESENT

REPORTED AS "AT WINTERS" 1905 - 30

DATE	FLOW IN C F S
2/27/40	81,000
1/21/43	70,300
2/6/42	67,200
12/31/13	60,000
12/22/53	55,400*

*Affected by storage behind partially completed Monticello Dam

PEAK INFLOWS SINCE CONSTRUCTION OF MONTICELLO DAM

DATE	INFLOW IN C F S
1/31/63	86,000
2/24/58	85,300

FLOW PAST LATITUDE OF SACRAMENTO

FLOW PAST LATITUDE OF SACRAMENTO RECORD IS OBTAINED BY SUMMATION OF THE FOLLOWING SACRAMENTO RIVER AT SACRAMENTO AND YOLO BYPASS NEAR LISBON (PUBLISHED AS "AT LISBON PRIOR TO 2/19/58)

PERIOD OF RECORD 1914 - PRESENT

MAXIMUM MONTHLY DISCHARGES OF RECORD

DATE	QUANTITY IN ACRE-FEET
FEBRUARY - 1958	9,400,000
JANUARY - 1956	9,200,000
MARCH - 1940	7,331,000*
MARCH - 1938	7,268,000*
FEBRUARY - 1942	7,093,000*

*Shasta and Folsom Reservoirs not in operation

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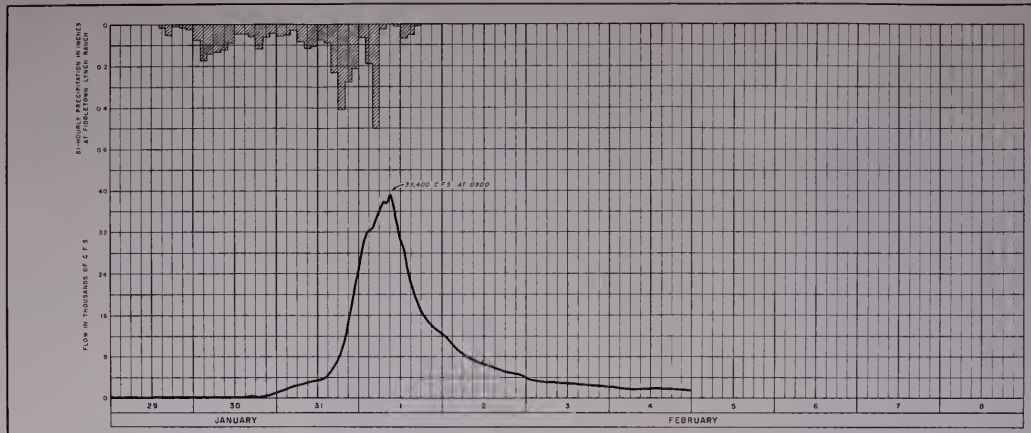
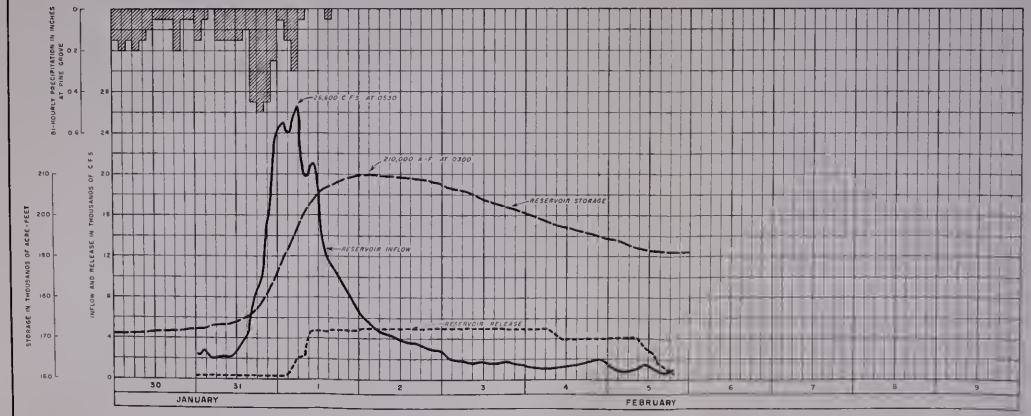
JANUARY - FEBRUARY 1963 STORM

HYDROGRAPHS OF CACHE CREEK AND FLOW PAST LATITUDE OF SACRAMENTO PUTAH CREEK, LAKE BERRYESSA RESERVOIR OPERATION





COSUMNES RIVER AT MICHIGAN BAR

PERIOD OF RECORD 1917 - PRESENT

DATE	FLOW IN C F S
12/23/55	42,000
2/1/63	39,400
4/3/58	29,300
1/8/50	27,600
3/31/40	26,200

PARDEE RESERVOIR

GROSS POOL 210,000 ACRE-FEET COMPLETED 1929
PERIOD OF RECORD 1929-PRESENT

DATE	INFLOW IN C F S
12/3/50	34,000
1/20/50	30,000
2/1/63	28,600
12/23/55	26,000

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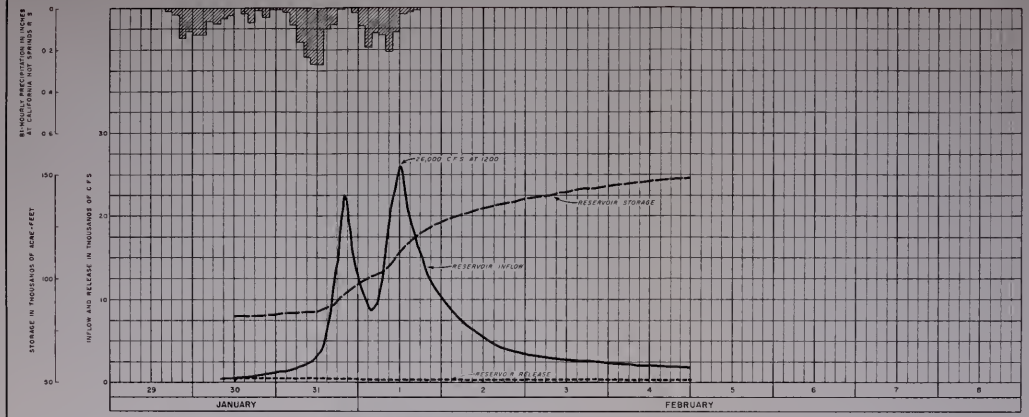
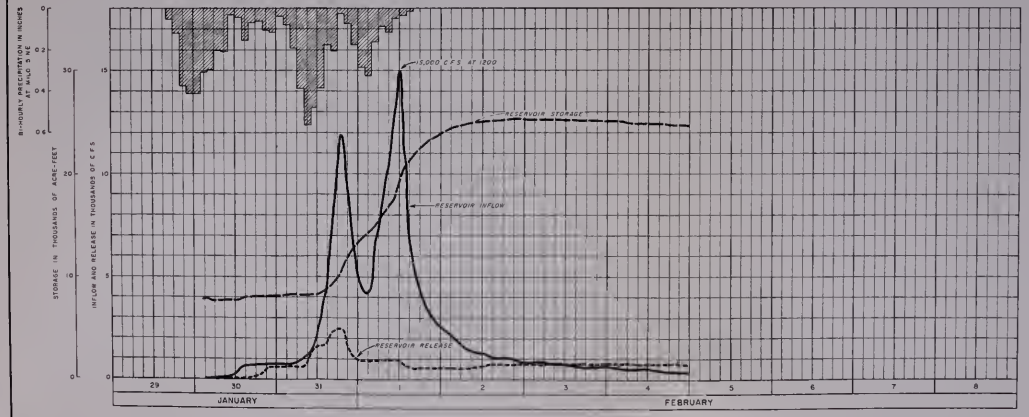
JANUARY - FEBRUARY 1963 STORM

HYDROGRAPH OF COSUMNES RIVER MOKELUMNE RIVER, PARDEE RESERVOIR OPERATION





ISABELLA RESERVOIR

GROSS POOL 570,000 ACRE-FEET COMPLETED 1953

PERIOD OF RECORD 1953-PRESENT

DATE	INFLOW IN C F S
1/19/50	39,000*
2/1/62	26,000
12/23/55	23,000

*"Kern River below Isabella" before construction of Dam

SUCCESS RESERVOIR

GROSS POOL 80,000 ACRE-FEET COMPLETED 196

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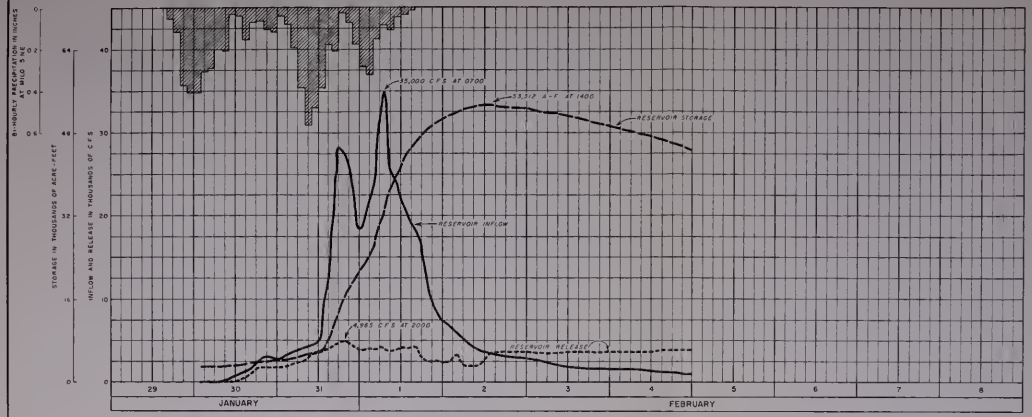
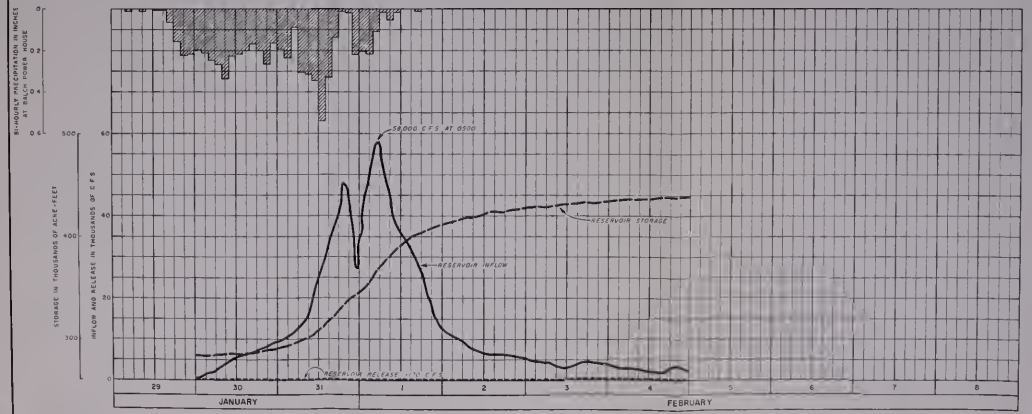
HIGH WATER OF 1962-63
JANUARY - FEBRUARY 1963 STORM

KERN RIVER, ISABELLA RESERVOIR OPERATION TULE RIVER, SUCCESS RESERVOIR OPERATION





TERMINUS RESERVOIR

GROSS POOL 150,000 ACRE-FEET COMPLETED 1962

PINE FLAT RESERVOIR

GROSS POOL 1,000,000 ACRE-FEET COMPLETED 1954

PERIOD OF RECORD 1954-PRESENT

DATE	INFLOW IN C.F.S.
2/23/55	12,000

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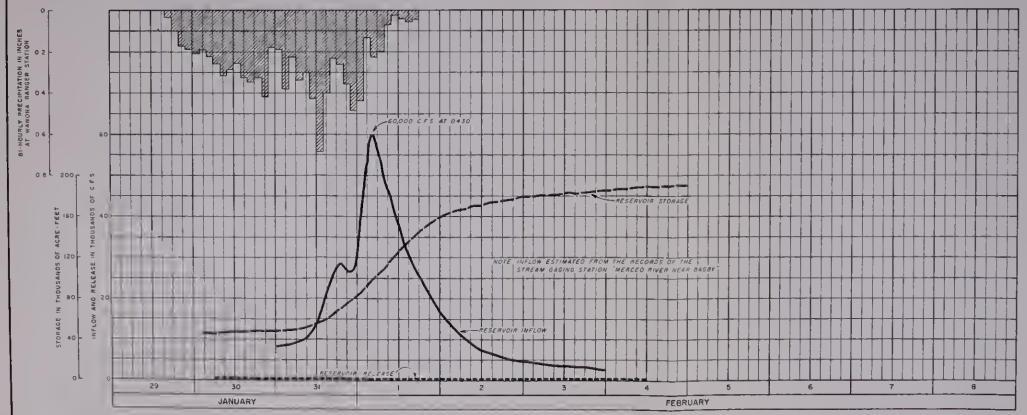
JANUARY-FEBRUARY 1963 STORM

KAWEAH RIVER,
TERMINUS RESERVOIR OPERATION
KINGS RIVER,
PINE FLAT RESERVOIR OPERATION



MILLERTON LAKE
(FRIANT DAM)

GROSS POOL 520,500 ACRE-FEET COMPLETED 947
PERIOD OF RECORD 947-PRESENT

DATE	INFLOW IN C.F.S.
12/23/55	96,300
2/1/63	3,700
4/3/58	20,700

LAKE MC CLURE
(EXCHEQUER DAM)

GROSS POOL 289,000 ACRE-FEET COMPLETED 926
PERIOD OF RECORD 928-PRESENT

DATE	INFLOW IN C.F.S.
12/23/55	100,200
1/19/50	83,090

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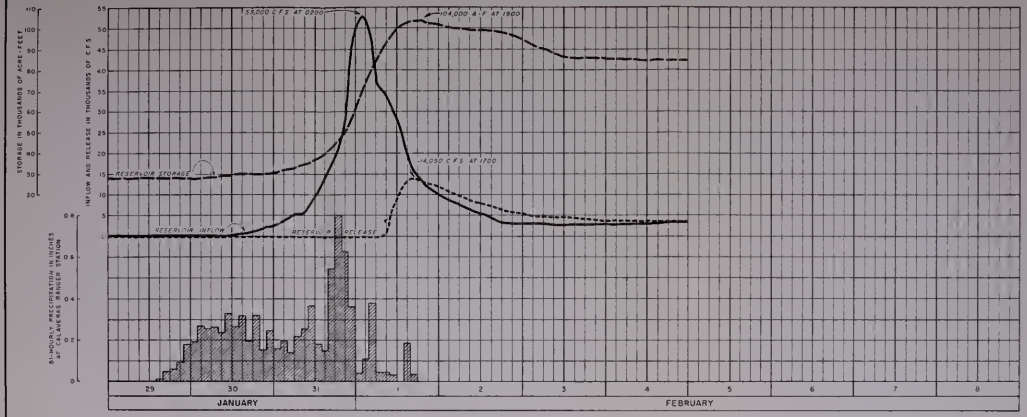
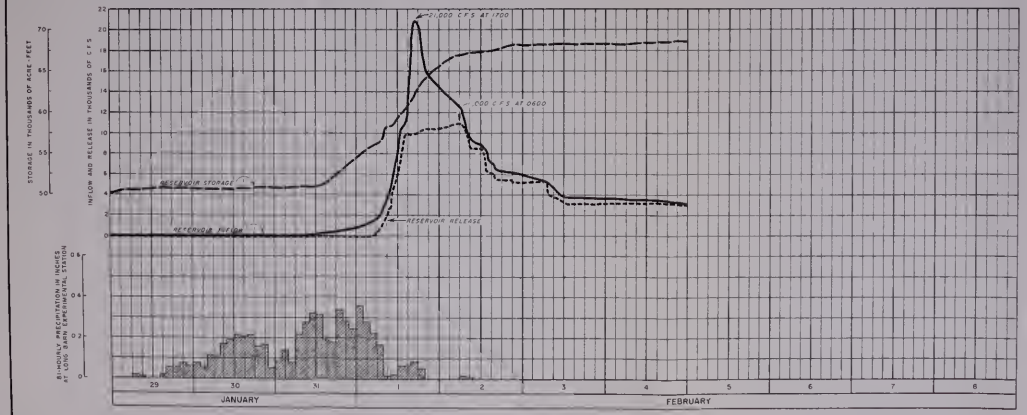
SAN JOAQUIN RIVER,
MILLERTON LAKE RESERVOIR OPERATION
MERCED RIVER,
LAKE MC CLURE RESERVOIR OPERATION





MELONES RESERVOIR

GROSS POOL 112,610 ACRE-FEET COMPLETED 1926
PERIOD OF RECORD 1926 - PRESENT

DATE	INFLOW IN C.F.S.
12/23/55	00,000

TULLOCH RESERVOIR

GROSS POOL 68,400 ACRE-FEET COMPLETED 1957
PERIOD OF RECORD 1957 - PRESENT

DATE	INFLOW IN C.F.S.
2/1/63	2,000
4/3/58	16,000

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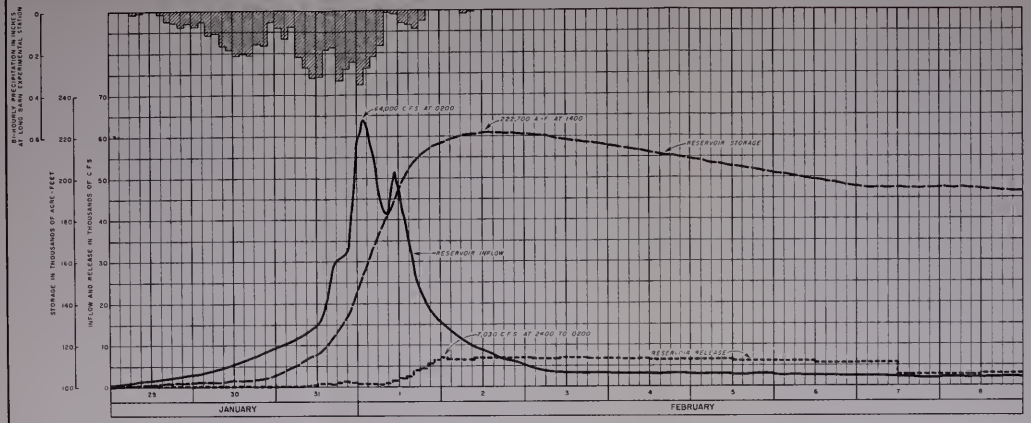
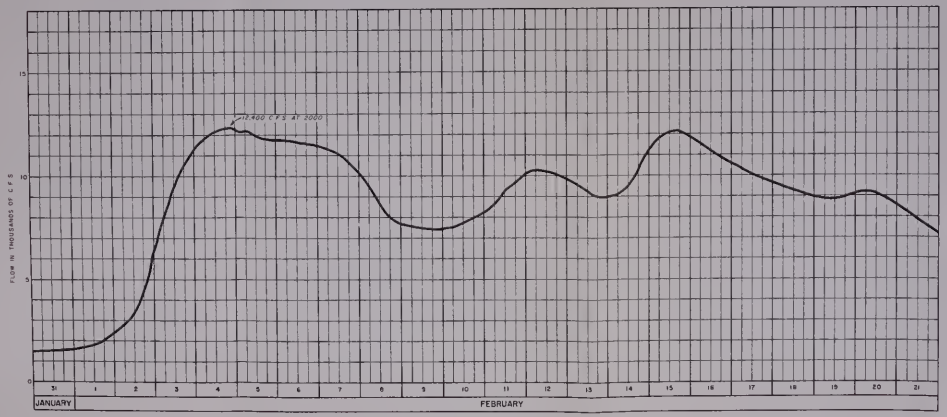
STANISLAUS RIVER,
MELONES RESERVOIR OPERATION
STANISLAUS RIVER,
TULLOCH RESERVOIR OPERATION





DON PEDRO RESERVOIR

GROSS POOL 289,000 ACRE-FEET COMPLETED 1922

PERIOD OF RECORD 1922-PRESENT

DATE	INFLOW IN C.F.S.
12/22/55	100,000
11/19/50	88,000

SAN JOAQUIN RIVER NEAR VERNALIS

PERIOD OF RECORD 1922-PRESENT

DATE	FLOW IN C.F.S.
12/9/50	79,000*
3/15/38	51,200*
12/25/55	50,800
4/5/58	41,400

*Includes flow through levee breaks

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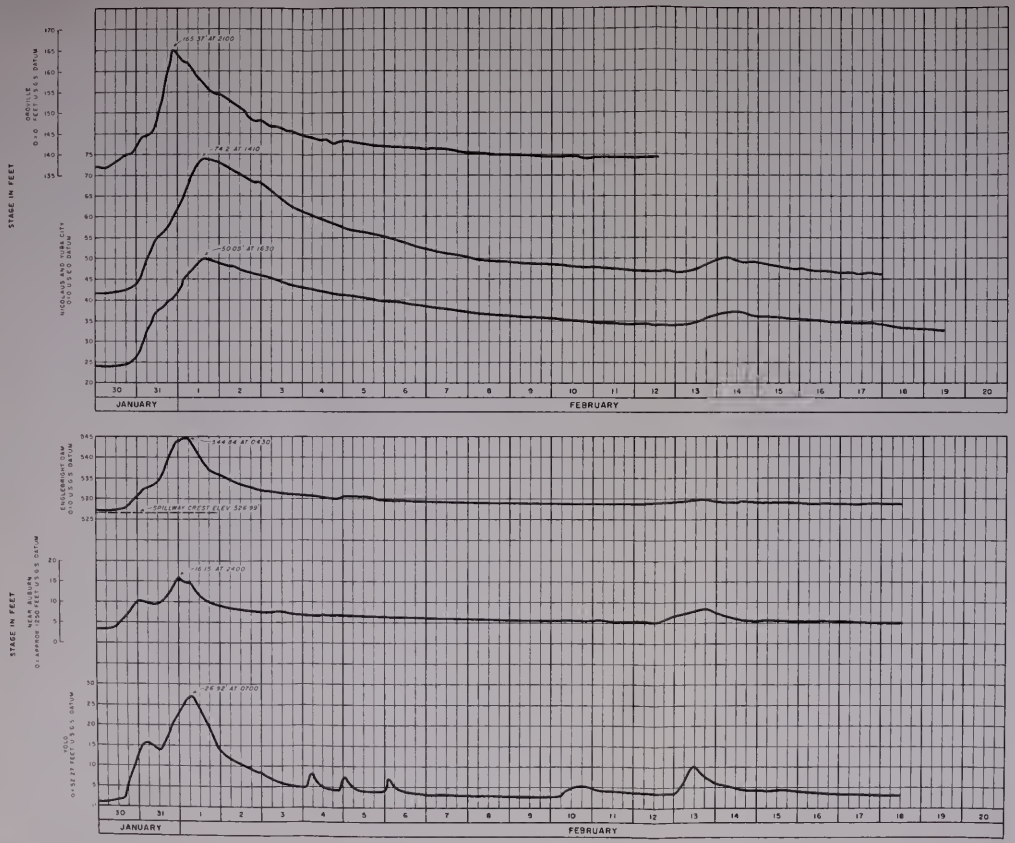
JANUARY-FEBRUARY 1963 STORM

TUOLUMNE RIVER,
DON PEDRO RESERVOIR OPERATION
HYDROGRAPH OF SAN JOAQUIN RIVER



FEATHER RIVER AT OROVILLE

FEATHER RIVER AT YUBA CITY

FEATHER RIVER AT NICOLAUS

YUBA RIVER AT ENGLEBRIGHT DAM

BEAR RIVER NEAR AUBURN

CACHE CREEK AT YOLO

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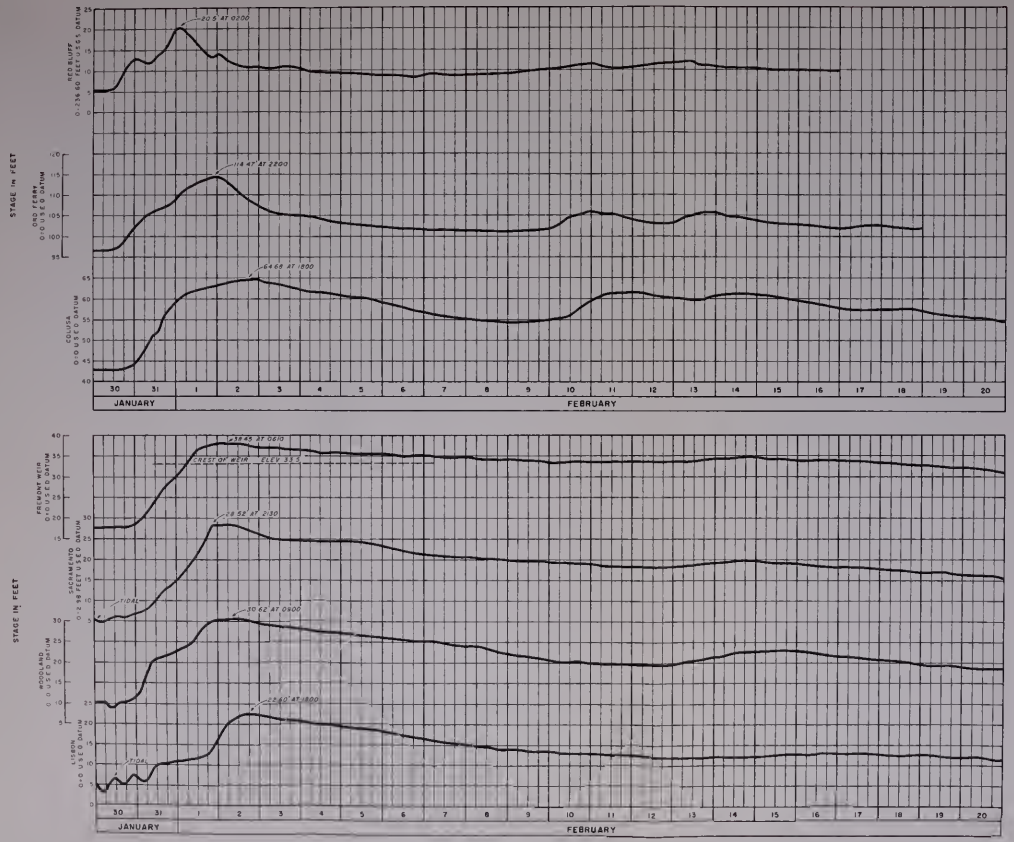
HIGH WATER OF 1962-63
JANUARY - FEBRUARY 1963 STORM

FEATHER RIVER, YUBA RIVER, CACHE CREEK AND BEAR RIVER GAGE HEIGHTS



SACRAMENTO RIVER AT RED BLUFF

SACRAMENTO RIVER AT ORO FERRY

SACRAMENTO RIVER AT COLUSA

SACRAMENTO RIVER AT FREMONT WEIR (WEST END)

SACRAMENTO RIVER AT SACRAMENTO

YOLO BYPASS NEAR WOODLAND

YOLO BYPASS NEAR LISBON

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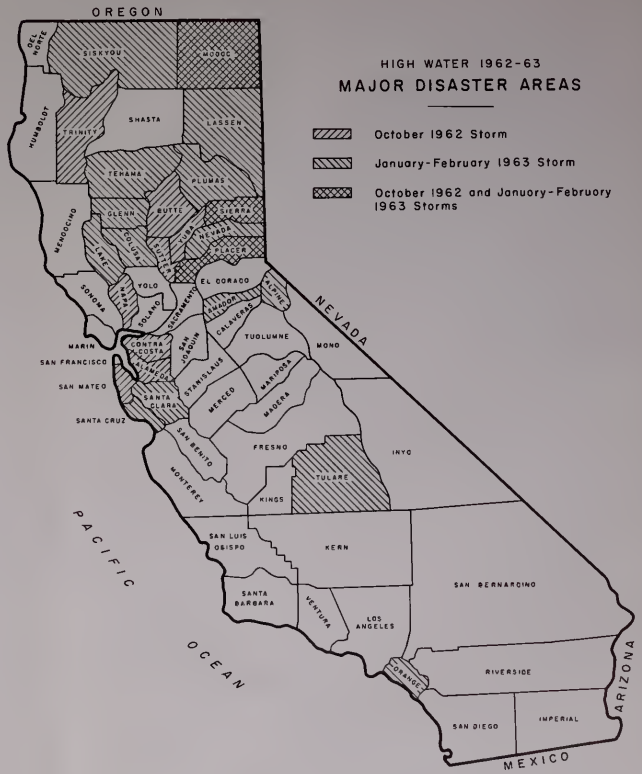
SACRAMENTO RIVER AND YOLO BYPASS GAGE HEIGHTS


HIGH WATER 1962-63
MAJOR DISASTER AREAS
October 1962 Storm
January-February 1963 Storm
October 1962 and January-February 1963 Storms
OREGON
NEVADA
ARIZONA
MEXICO
PACIFIC OCEAN
DEL NORTE
SISKIYOU
MODOC
HUMBOLDT
TRINITY
SHASTA
LASSEN
TEHAMA
PLUMAS
GLENN
BUTTE
SIERRA
COLUSA
YUBA
NEVADA
PLACER
MENDOCINO
LAKE
YOLO
EL DORADO
SONOMA
NAPA
SOLANO
SACRAMENTO
AMADOR
ALPINE
CALAVERAS
MARIN
CONTRA COSTA
SAN JOAQUIN
TUOLUMNE
MONO
SAN FRANCISCO
ALAMEDA
STANISLAUS
MARIPOSA
SAN MATEO
SANTA CLARA
MERCED
MADERA
SANTA CRUZ
SAN BENITO
FRESNO
INYO
MONTEREY
TULARE
KINGS
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
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