California Cooperative
Snow Surveys
Bulletin 120-4_97

State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California

Report 4 May 1, 1997

Pete Wilson
Governor
State of California

Douglas P. Wheeler
Secretary for Resources
The Resources Agency

David N. Kennedy
Director
Department of Water Resources

STATE OF CALIFORNIA
Pete Wilson, Governor

THE RESOURCES AGENCY
Douglas P. Wheeler, Secretary for Resources

Department of Water Resources
David N. Kennedy, Director

Stephen L. Kashiwada
Deputy Director

Robert G. Potter
Chief Deputy Director

Raymond D. Hart
Deputy Director

L. Lucinda Chipponeri
Assistant Director for Legislation

Susan N. Weber
Chief Counsel

Division of Flood Management

George T. Qualley . . . . . Chief
Maurice Roos . . . . . Chief Hydrologist
Gary Hester . . . . . Chief Forecaster

Prepared by

Frank Gehrke . . . . . Chief, Snow Surveys
Robert R. Newton . . . . . Associate Engineer,W.R.
J. Pierre Stevens . . . . . Associate Engineer, W.R.
David M. Hart . . . . . Water Resources Engineering Associate
Dudley E. McFadden . . . . . Assistant Engineer, W.R.
Shawn T. Perkins . . . . . Water Resources Technician II

COOPERATING AGENCIES

Public Agencies
Buena Vista Water Storage District
Central California Irrigation District
East Bay Municipal Utility District
Friant Water Users Association
Kaweah Delta Water Conservation District
Kern Delta Water District
Kings River Conservation District
Lower Tule River Irrigation District
Merced Irrigation District
Modesto Irrigation District
Nevada Irrigation District
North Kern Water Storage District
Northern California Power Agency
Oakdale Irrigation District
Omochumne-Hartnell Water District
Oroville-Wyandotte Irrigation District
Placer County Water Agency
Sacramento Municipal Utility District
South San Joaquin Irrigation District
Tri-Dam Project
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency

Private Organizations
J.G. Boswell Company
Kaweah River Association
Kings River Water Association
St. Johns River Association
Tule River Association
State Water Contractors

Municipalities
City of Bakersfield Water Department
City of Los Angeles Department of Water and Power
City and County of San Francisco Hetch Hetchy Water and Power

State Agencies
California Department of Forestry & Fire Protection
California Department of Water Resources

Public Utilities
Pacific Gas and Electric Company
Southern California Edison Company

Federal Agencies
U.S. Department of Agriculture
Forest Service (14 National Forests)
Pacific Southwest Forest and Range Experiment Station
Natural Resource Conservation Service
U.S. Department of Commerce
National Weather Service
U.S. Department of Interior
Bureau of Reclamation
Geological Survey, Water Resources
National Park Service (3 National Parks)
U.S. Department of Army
Corps of Engineers

Other Cooperative Programs
Nevada Cooperative Snow Surveys
Oregon Cooperative Snow Surveys

Summary of Water Conditions
May 1, 1997

April precipitation was much below normal, with little in central and southern California. The three month period from February through April is the driest of record at many stations in strong contrast to the previous wettest two month period in December and January. Substantial high elevation snowpack and reservoir storage carryover of floodwaters will provide for the needs of most users, but those on low elevation watersheds without storage will probably see low flows early this year.

Forecasts of April through July runoff have been reduced again from one month ago, but still are near average at 90 percent overall. There is a strong disparity between high elevation basins and lower elevation ones. Water year runoff forecasts are 150 percent, most of which occurred during the winter.

Snowpack water content is about 55 percent of average statewide compared to 95 percent last year. The current pack is 45 percent of the April 1 average. Much of the pack has already melted in the northern Sierra Cascade range and Trinity.

Precipitation statewide during April was about half average ranging from mostly less than 10 percent in the south up to 100 percent in the north coast region. Seasonal precipitation is about 120 percent of average compared to 110 percent one year ago.

Runoff this year is about 175 percent of the seasonal average compared to 125 percent last year. Runoff during April was below average at 85 percent. Estimated April runoff of the 8 major rivers within the Sacramento and San Joaquin River hydrologic regions was 2.7 million acre-feet.

Reservoir storage is still good at around 110 percent of average, less than the 120 percent last year on May 1. Storage increased during April but at less than average accumulation because of the dry spring conditions.

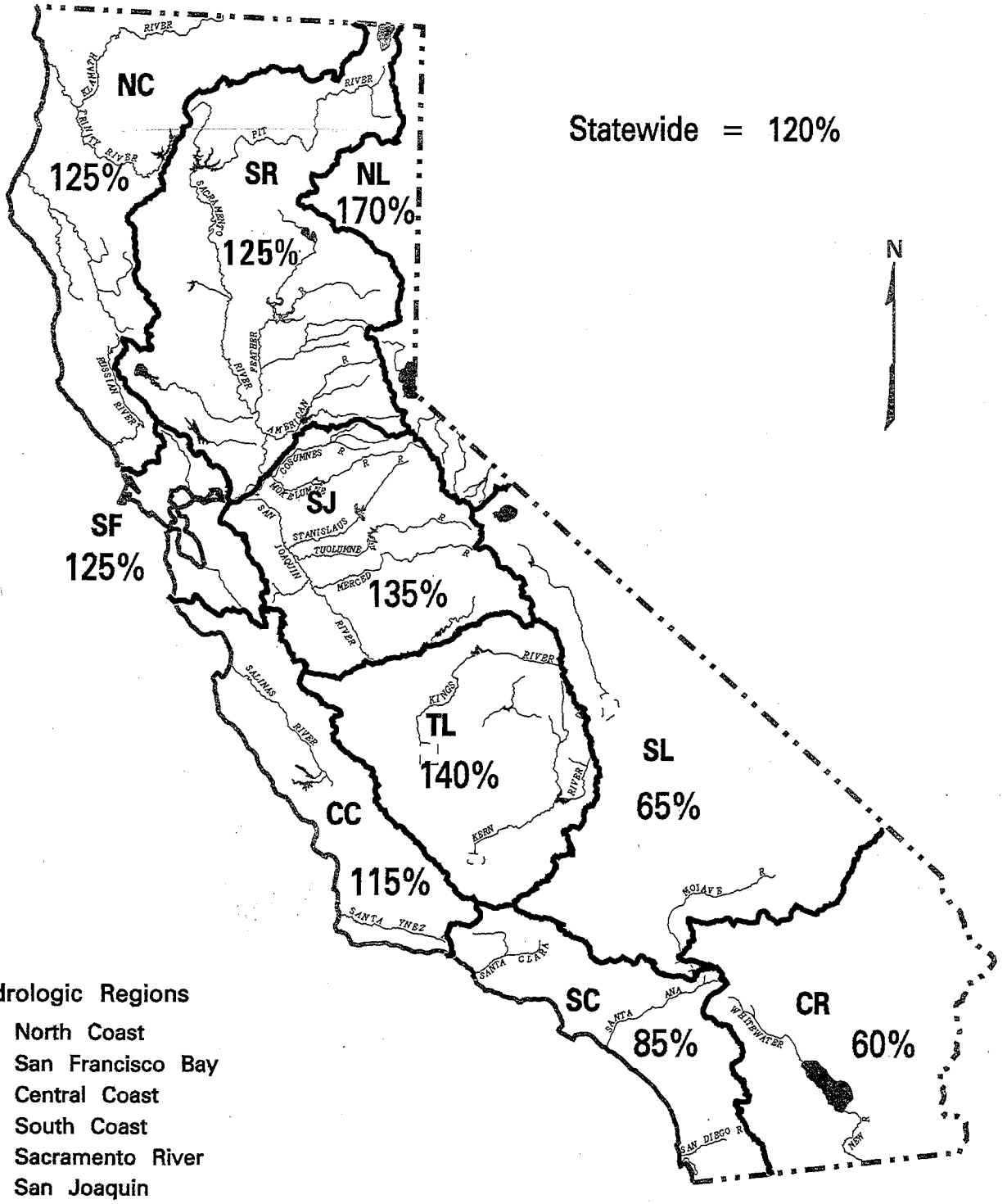
SUMMARY OF WATER CONDITIONS
IN PERCENT OF AVERAGE

HYDROLOGIC REGION	PRECIPITATION OCTOBER 1 TO DATE	MAY 1 SNOW WATER CONTENT	MAY 1 RESERVOIR STORAGE	RUNOFF OCTOBER 1 TO DATE	APR-JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	125	25	105	155	55	115
SAN FRANCISCO BAY	125	--	115	155	--	--
CENTRAL COAST	115	--	110	170	--	--
SOUTH COAST	85	--	115	80	--	--
SACRAMENTO RIVER	125	30	105	165	75	145
SAN JOAQUIN RIVER	135	70	120	245	105	175
TULARE LAKE	140	85	150	250	120	175
NORTH LAHONTAN	170	95	140	260	125	170
SOUTH LAHONTAN	65	100	90	120	125	125
COLORADO RIVER-DESERT	60	---	---	---	---	---
STATEWIDE	**120**	**55**	**110**	**175**	**90**	**150**

SEASONAL PRECIPITATION

IN PERCENT OF AVERAGE TO DATE

October 1, 1996 through April 30, 1997



Hydrologic Regions

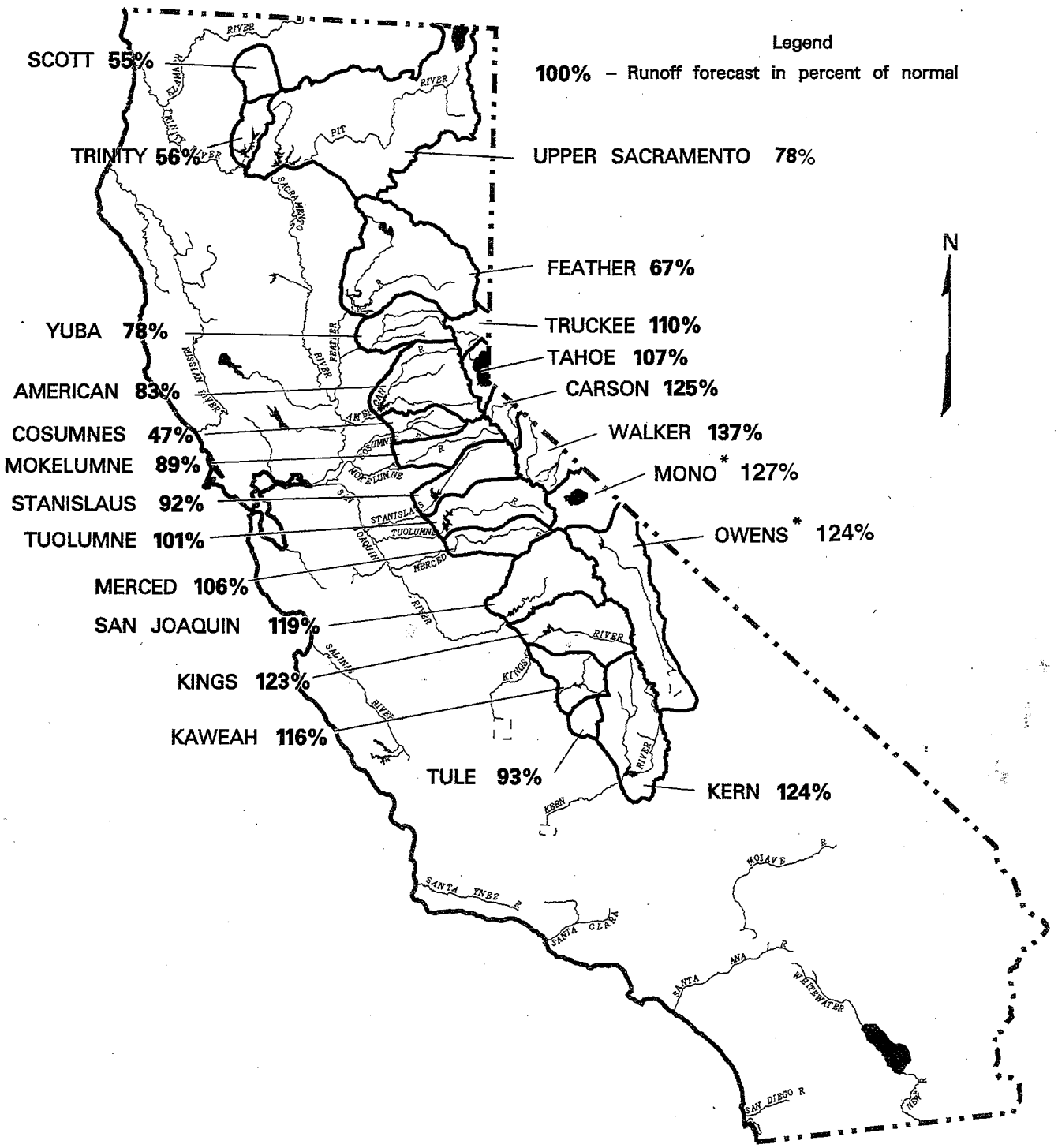
NC – North Coast
SF – San Francisco Bay
CC – Central Coast
SC – South Coast
SR – Sacramento River
SJ – San Joaquin
TL – Tulare Lake
NL – North Lahontan
SL – South Lahontan
CR – Colorado River–Desert

WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

FORECAST OF APRIL – JULY

UNIMPAIRED SNOWMELT RUNOFF

May 1, 1997



* FORECAST BY DEPARTMENT OF WATER AND POWER, CITY OF LOS ANGELES

MAY 1, 1997 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)					
	HISTORICAL			FORECASTS		
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg	80 % Probability Range (1)
SACRAMENTO RIVER						
Upper Sacramento River						
Sacramento River at Shasta Lake (3)	297	702	39	160	54%	
McCloud River at Shasta Lake	392	850	185	280	71%	
Pit River at Shasta Lake	1,056	1,796	480	890	84%	
Total Inflow to Shasta Lake	1,801	3,189	726	1,400	78%	1,170 - 1,720
Sacramento River above Bend Bridge, near Red Bluff	2,451	4,674	943	1,720	70%	1,440 - 2,100
Feather River						
Feather River at Lake Almanor near Prattville (3)	333	675	120	240	72%	
North Fork at Pulga (3)	1,028	2,416	243	690	67%	
Middle Fork near Clio (4)	86	518	4	55	64%	
South Fork at Ponderosa Dam (3)	110	267	13	70	64%	
Total Inflow to Oroville Reservoir	1,831	4,676	392	1,220	67%	980 - 1,530
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	220	77%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	90	80%	
South Yuba at Langs Crossing (3)	233	481	57	180	77%	
Yuba River at Smartville	1,029	2,424	200	800	78%	700 - 950
American River						
North Fork at North Fork Dam (3)	262	716	43	210	80%	
Middle Fork near Auburn (3)	522	1,406	100	440	84%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	140	81%	
Total Inflow to Folsom Reservoir	1,261	3,074	229	1,050	83%	940 - 1,220
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	128	363	8	60	47%	35 - 95
Mokelumne River						
North Fork near West Point (5)	437	829	104	370	85%	
Total Inflow to Pardee Reservoir	459	1,065	102	410	89%	365 - 480
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	300	90%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	200	89%	
Total Inflow to New Melones Reservoir	699	1,710	116	640	92%	530 - 740
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	310	96%	
Tuolumme River near Hetch Hetchy (3)	606	1,392	153	610	101%	
Total Inflow to New Don Pedro Reservoir	1,184	2,682	301	1,200	101%	1,090 - 1,350
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	380	105%	
Total Inflow to Lake McClure	611	1,587	123	650	106%	590 - 730
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	1,150	113%	
Big Creek below Huntington Lake (6)	95	264	11	110	116%	
South Fork near Florence Lake (6)	202	511	58	230	114%	
Total Inflow to Millerton Lake	1,212	3,355	262	1,440	119%	1,330 - 1,570
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	290	121%	
Total Inflow to Pine Flat Reservoir	1,183	3,114	273	1,450	123%	1,340 - 1,570
Kaweah River at Terminus Reservoir	276	814	61	320	116%	290 - 350
Tule River at Success Reservoir	59	256	2	55	93%	45 - 70
Kern River						
Kern River near Kernville (3)	373	1,203	83	460	123%	
Total Inflow to Isabella Reservoir	442	1,657	84	550	124%	510 - 630

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1946-1995 unless otherwise noted
(3) 50 year average based on years 1941-90
(4) 44 year average based on years 1936-79
(5) 36 year average based on years 1936-72
(6) 45 year average based on years 1936-81

MAY 1, 1997 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF

Unimpaired Runoff in 1,000 Acre-Feet (1)														
HISTORICAL			DISTRIBUTION								FORECASTS			
50 Yr Avg (2)	Max of Record	Min of Record	Oct Thru Jan*	Feb *	Mar *	Apr *	May	Jun	Jul	Aug & Sep	Water Year Forecasts	Pct of Avg	80 % Probability Range (1)	
856	1,964	165												
1,184	2,353	577												
3,078	5,150	1,484												
5,896	10,796	2,479	4,400	710	500	460	440	280	220	410	7,420	126%	7,110	- 7,830
8,518	17,180	3,294	6,210	1,030	710	620	500	350	250	440	10,110	119%	9,760	- 10,590
780	1,269	366												
2,417	4,400	666												
219	637	24												
291	562	32												
4,526	9,492	994	4,380	555	530	495	410	200	115	155	6,840	151%	6,570	- 7,190
564	1,056	102												
181	292	30												
379	565	98												
2,337	4,926	369	2,500	300	265	305	320	140	35	35	3,900	167%	3,790	- 4,070
616	1,234	66												
1,070	2,575	144												
318	705	59												
2,674	6,381	349	3,180	340	295	370	450	190	40	25	4,890	183%	4,770	- 5,060
378	1,253	20	610	73	31	25	25	8	2	1	775	205%	740	- 820
626	1,009	197												
736	1,800	129	620	80	85	120	180	100	10	5	1,200	163%	1,150	- 1,280
471	929	88												
1,131	2,952	155	980	95	130	180	260	160	40	15	1,860	164%	1,740	- 1,960
461	1,147	123												
770	1,661	258												
1,857	4,430	383	1,500	165	235	275	450	385	90	30	3,130	169%	3,000	- 3,280
461	1,020	92												
952	2,859	150	925	105	115	175	265	170	40	15	1,810	190%	1,740	- 1,900
1,337	2,964	308												
112	298	14												
248	653	71												
1,753	4,642	362	1,065	180	220	300	490	480	170	75	2,980	170%	2,860	- 3,130
284	607	58												
1,647	4,294	383	815	145	190	310	500	480	160	70	2,670	162%	2,550	- 2,820
431	1,402	92	335	70	65	75	120	95	30	10	800	186%	760	- 840
135	615	16	226	46	31	21	20	11	3	2	360	267%	340	- 380
558	1,577	163												
694	2,309	175	365	95	115	140	190	150	70	45	1,170	169%	1,120	- 1,260

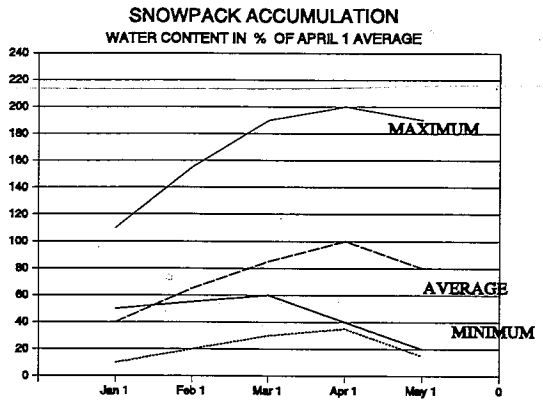
* Indicates observed runoff

MAY 1, 1997 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

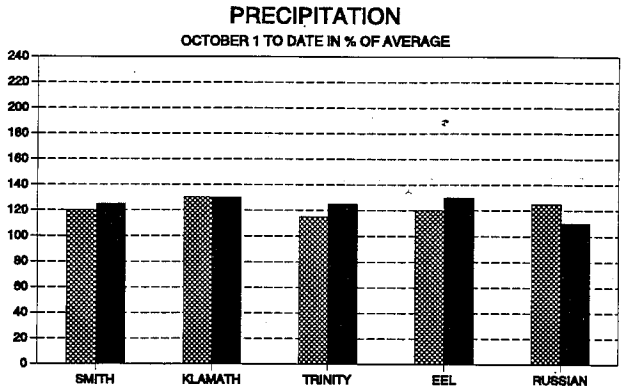
HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)				
	HISTORICAL			FORECASTS	
	50 Yr Avg (2)	Max of Record	Min of Record	Apr-Jul Forecasts	Pct of Avg
NORTH COAST					
Trinity River					
Total Inflow to Lewiston Lake	642	1,593	80	360	56%
Scott River					
Near Fort Jones	200	N/A	N/A	110	55%
Klamath River					
Total inflow to Upper Klamath Lake (3)	337	531	229	380	113%
NORTH LAHONTAN					
Truckee River					
Lake Tahoe to Farad accretions	264	713	58	290	110%
Lake Tahoe Rise (assuming gates closed, in feet) (4)	1.5	3.8	0.2	1.6	107%
Carson River					
West Fork at Woodfords	54	135	12	70	130%
East Fork near Gardnerville	183	407	43	220	120%
Walker River					
West Fork near Coleville	143	330	35	200	140%
East Fork near Bridgeport	61	209	7	80	131%
SOUTH LAHONTAN					
Owens River					
Total tributary flow to Owens River (5)	226	579	96	280	124%

(1) See inside back cover for definition
(2) All 50 year averages are based on years 1946-1995 unless otherwise noted
(3) Forecast by U.S. Natural Resources Conservation Service, Portland Oregon, 30 year average based on years 1961-1990. May through September forecast.
(4) 50 year average based on years 1941-1990
(5) Forecast by Department of Water and Power, City of Los Angeles

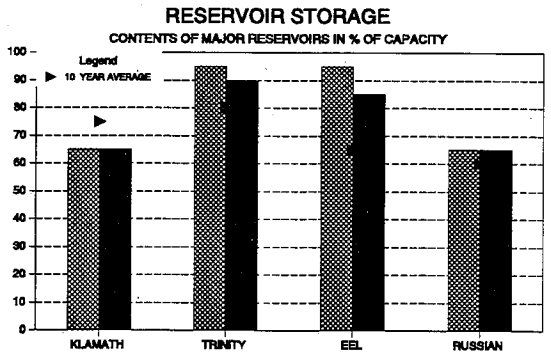
NORTH COAST REGION



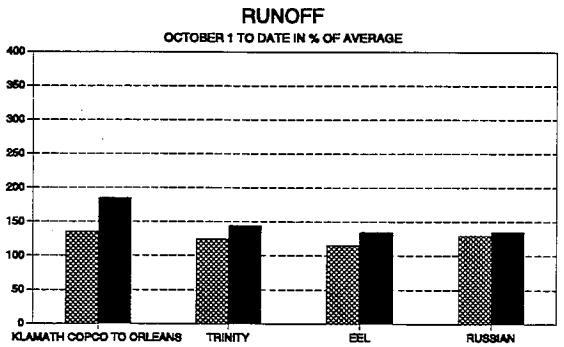
SNOWPACK - First of the month measurements made at 8 snow courses indicate an area wide snow water equivalent of 7.2 inches. This is 20 percent of the seasonal (April 1) average and about 25 percent of the May 1 average.. Last year at this time the pack was holding 17.7 inches of water.



PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 125 percent of normal. Precipitation last month was about 100 percent of the monthly average. Seasonal precipitation at this time last year stood at 125 percent of normal.

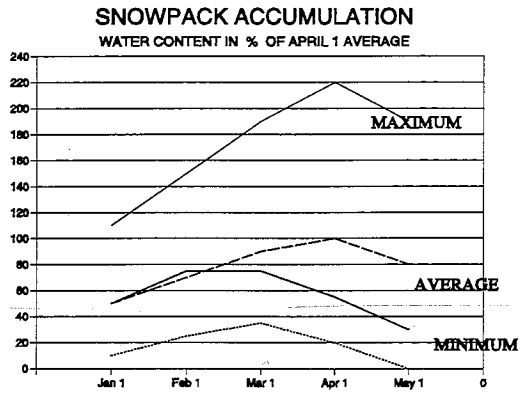


RESERVOIR STORAGE - First of the month storage in 7 reservoirs was 2.7 million acre-feet which is 105 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 110 percent of average.



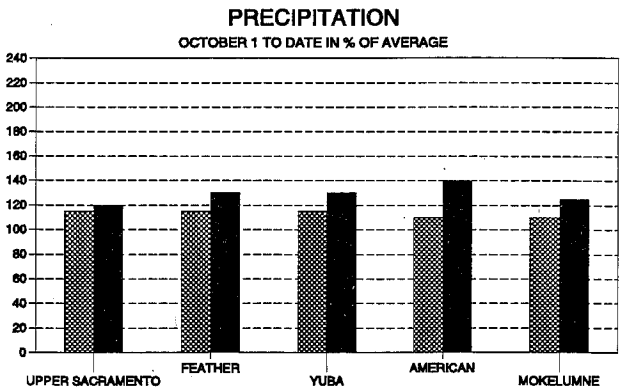
RUNOFF - Seasonal runoff of streams draining the area totaled 17 million acre-feet which is 155 percent of average for this period. Last year, runoff for the same period was 125 percent of average.

LAST YEAR THIS YEAR

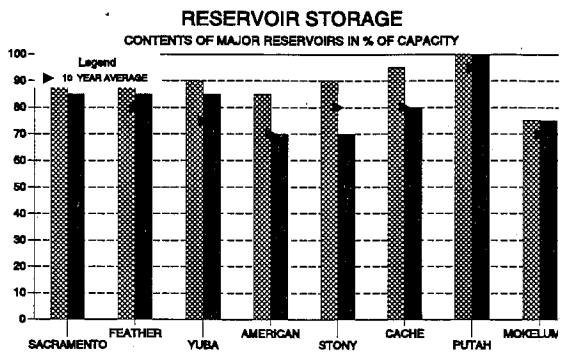


SACRAMENTO RIVER REGION

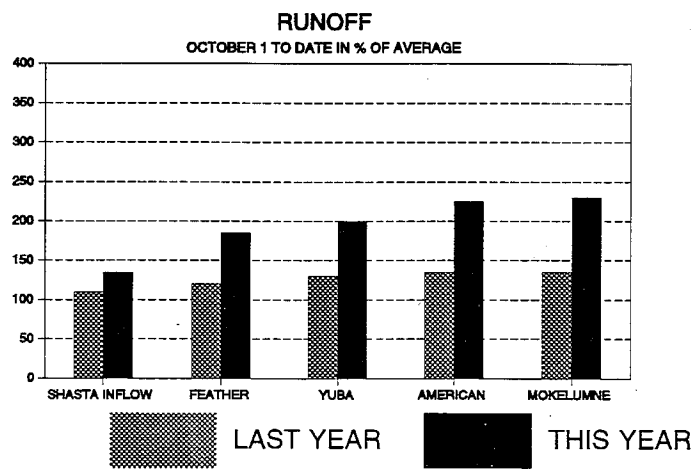
SNOWPACK - First of the month measurements made at 70 snow courses indicate an area wide snow water equivalent of 10.2 inches. This is 25 percent of the seasonal (April 1) average and 30 percent of the average for this date. Last year at this time the pack was holding 22.2 inches of water.



PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 120 percent of normal. Precipitation last month was about 60 percent of the monthly average. Seasonal precipitation at this time last year stood at 115 percent of normal.

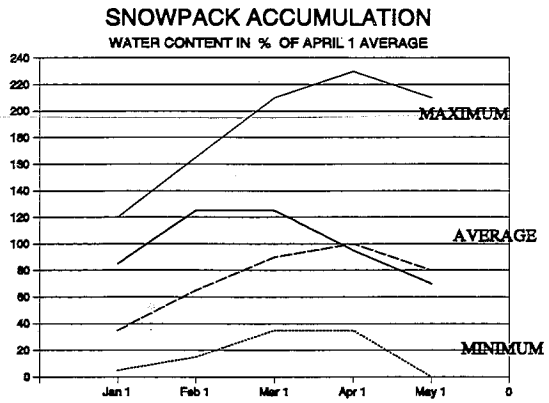


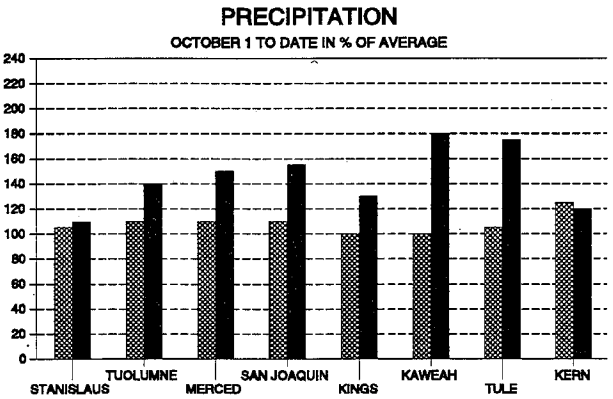
RESERVOIR STORAGE - First of the month storage in 43 reservoirs was 14 million acre-feet which is 105 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 115 percent of average.

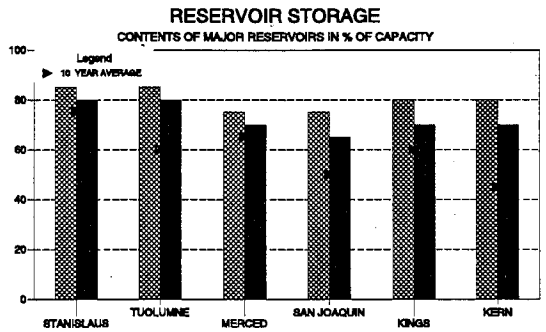


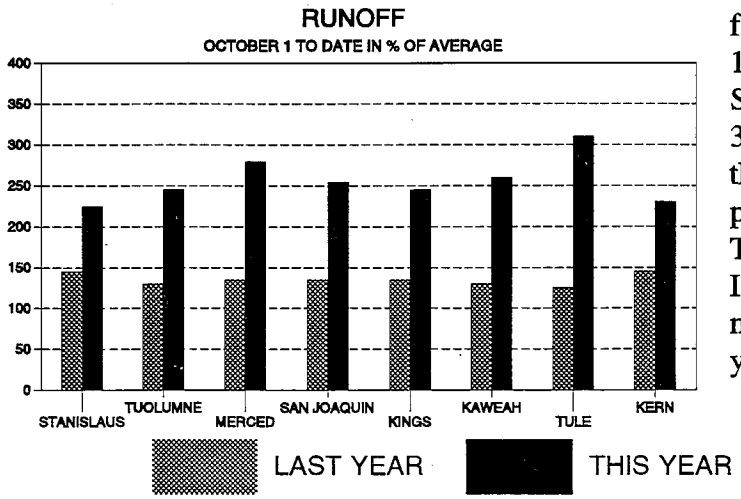
RUNOFF - Seasonal runoff of streams draining the area totaled 22 million acre-feet which is 165 percent of average for this period. Last year, runoff for the same period was 120 percent of average.

The Sacramento River Region 40-30-30 Water Supply Index is forecasted to be 11.0 million acre-feet assuming median meteorological conditions for the remainder of the year. This classifies the year as "wet" in the Sacramento-San Joaquin Delta according to the State Water Resources Control Board.









SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

SNOWPACK - First of the month measurements made at 60 San Joaquin River Region snow courses indicate an area wide snow water equivalent of 21.5 inches. This is 60 percent of the seasonal (April 1) average and 70 percent of the average for this month.. Last year at this time the pack was holding 29.6 inches of water.

At the same time, 39 Tulare Lake Region snow courses indicated a basin-wide snow water equivalent of18.0 inches which is 65 percent of the seasonal average and 85 percent of the average for this month. Last year at this time, the Region was holding 22.1 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the San Joaquin River Region was 135 percent of normal. Precipitation last month was about 15 percent of the monthly average. Seasonal precipitation at this time last year stood at 110 percent of normal.

Seasonal precipitation on the Tulare Lake Region was 140 percent of normal. Precipitation last month was less than 5 percent of the monthly average. Seasonal precipitation at this time last year stood at 110 percent of normal.

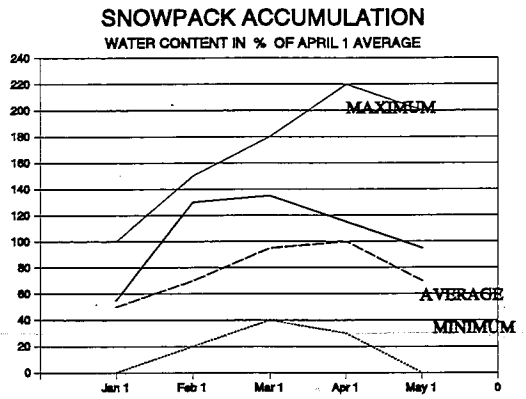
RESERVOIR STORAGE - First of the month storage in 33 San Joaquin River Region reservoirs was 8.8 million acre-feet which is 120 percent of average and about 80 percent of available capacity. Storage in these reservoirs at this time last year was 125 percent of average.

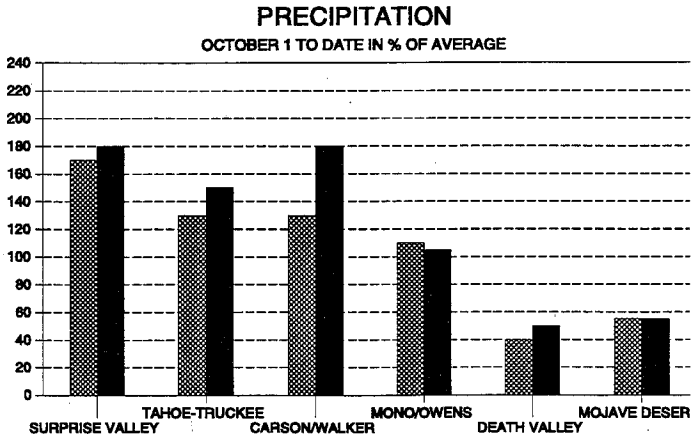
First of the month storage in 6 Tulare Lake Region reservoirs was 1.4 million acre-feet which is 150 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 170 percent of average.

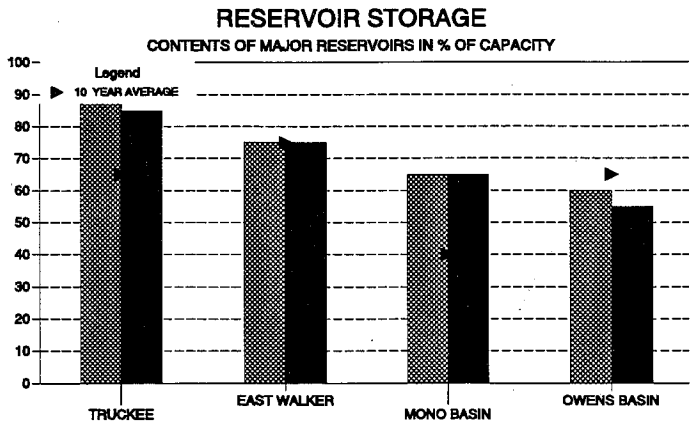
RUNOFF - Seasonal runoff of streams draining the area totaled 8.3 million acre-feet which is 245 percent of average for this period. Last year, runoff for the same period was 135 percent of average.

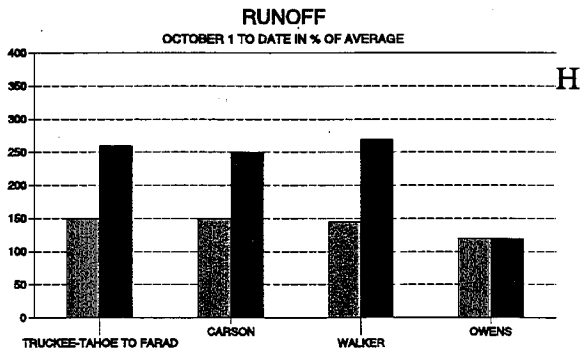
Stream runoff draining into the Tulare Lake Basin totaled 3.1 million acre-feet which is 250 percent of average for this period. Last year, runoff for this same period was 135 percent of average.

The San Joaquin River Region 60-20-20 Water Supply Index is forecasted to be 4.3 million acre-feet, assuming median meteorological conditions for the remainder of the year. which classifies the year as "wet".









LAST YEAR THIS YEAR

NORTH AND SOUTH LAHONTAN REGIONS

SNOWPACK - First of the month measurements made at 9 North Lahontan snow courses indicate an area wide snow water equivalent of 25.4 inches. This is 75 percent of the seasonal (April 1) average and 95 percent of the May 1 average. Last year at this time the pack was holding 33.5 inches of water.

At the same time, 7 South Lahontan snow courses indicated a basin-wide snow water equivalent of 20 inches which is 80 percent of the seasonal average and 100 percent for this date. Last year at this time, the pack was holding 24.0 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the North Lahontan Region was 170 percent of normal. Precipitation last month was about 65 percent of the monthly average. Seasonal precipitation at this time last year stood at 145 percent of normal.

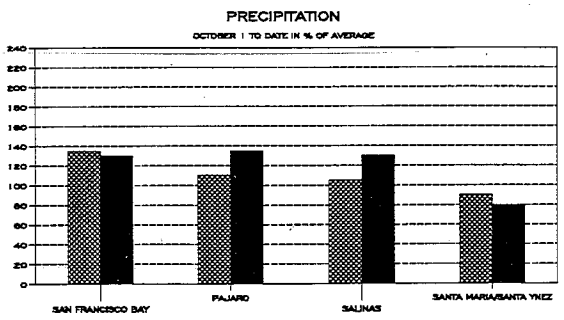
Seasonal precipitation on the South Lahontan Region was 65 percent of normal. Precipitation last month was 5 percent of the monthly average. Seasonal precipitation at this time last year stood at 80 percent of normal.

RESERVOIR STORAGE - First of the month storage in 5 North Lahontan Region reservoirs was 919 thousand acre-feet which is 140 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 145 percent of average. Lake Tahoe was 5.2 feet above its natural rim on May 1. First of the month storage in 8 South Lahontan Region reservoirs was 240 thousand acre-feet which is 90 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 90 percent of average.

RUNOFF - Seasonal runoff of streams draining the North Lahontan area totaled 1.1 million acre-feet which is 260 percent of average for this period. Last year, runoff for the same period was 150 percent of average.

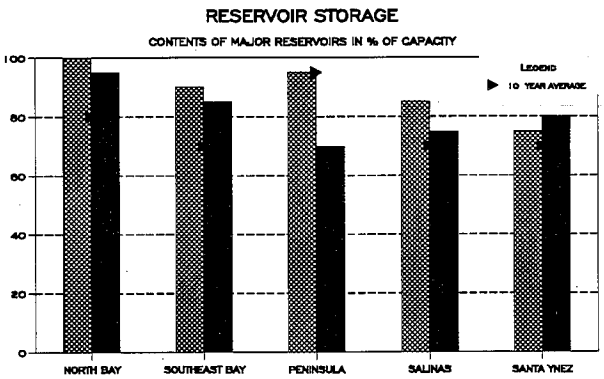
Seasonal runoff of the Owens River in the South Lahontan Region totaled 98 thousand acre-feet which is 120 percent of average for this period. Last year, runoff for this same period was 120 percent of average.

SAN FRANCISCO BAY AND CENTRAL COAST REGIONS



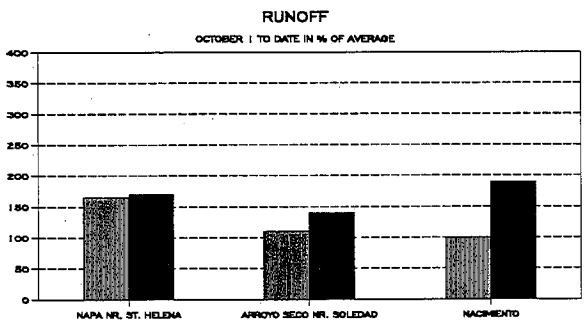
PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the San Francisco Bay area was 130 percent of normal. Precipitation last month was about 25 percent of the monthly average. Seasonal precipitation at this time last year stood at 135 percent of normal.

Seasonal precipitation on the Central Coast area was 115 percent of normal. Precipitation last month was 10 percent of the monthly average. Seasonal precipitation at this time last year stood at 105 percent of normal.



RESERVOIR STORAGE - First of the month storage in 18 major Bay area reservoirs was 589 thousand acre-feet which is 115 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 125 percent of average.

First of the month storage in 6 major Central Coast reservoirs was 741 thousand acre-feet which is 110 percent of average. About 80 percent of available capacity was being used. Storage in these reservoirs at this time last year was 115 percent of average.



RUNOFF - Seasonal runoff of the Napa River in the San Francisco Bay area totaled 117 thousand acre-feet which is 170 percent of average for this period. Last year, runoff for the same period was 165 percent of average.

Seasonal runoff of selected Central Coast streams totaled 544 thousand acre-feet, which is 170 percent of average for this period. Last year, runoff for this same period was 105 percent of average.

LAST YEAR THIS YEAR

SOUTH COAST AND COLORADO RIVER AREAS

PRECIPITATION - October through April (seasonal) precipitation on the South Coast area was 85 percent of normal. April precipitation was 5 percent of the monthly average. Seasonal precipitation at this time last year was 75 percent of normal.
Seasonal precipitation on the Colorado Desert area was 60 percent of normal. Precipitation in April was 185 percent of average. Seasonal precipitation at this time last year stood at 20 percent of average.
RESERVOIR STORAGE - May 1 storage in 29 major South Coast area reservoirs was 1.5 million acre-feet or 115 percent of average. About 80 percent of available capacity was being used. Storage in these reservoirs at this time last year was 125 percent of average.
On May 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 44 million acre-feet or 120 percent of average. About 80 percent of available capacity was in use. Last year at this time, these reservoirs were storing 120 percent of average.
RUNOFF - Seasonal runoff from selected South Coast streams totaled 44 thousand acre-feet which is 80 percent of average. Seasonal runoff from these streams last year was 90 percent of average.
COLORADO RIVER - The May 1 snowpack in the Upper Colorado River basin according to U.S. Natural Resources Conservation Service reports was 140 percent of average, highest in the Green drainage at 155 percent and lowest in the Roaring Fork drainage at 105 percent.

The April through July inflow to Lake Powell is forecast to be 12 million acre-feet, which is 155 percent of average.

CENTRAL VALLEY PROJECT

Based on May 1 conditions, Bureau of Reclamation April-July forecasts for runoff into CVP reservoirs are: Trinity--71% of average, Shasta--88% of average, American--80% of average, Stanislaus--83% of average, San Joaquin above Friant--121% of average. As of April 30, 1997 CVP storage was 9.7 million acre-feet which is a decrease of 0.8 million acre-feet compared to one year ago, and is approximately 112% of normal for that date.

In response to the continuing dry conditions experienced since late January, the Bureau of Reclamation announced updated water allocations for the CVP on April 17, 1997. Agricultural contractors both north and south of the Delta were reduced from 100% to 90% of their contract supplies; urban contractors received 90% to 100% of contractual supply. Wildlife refuges allocations were held at previously scheduled amounts, up to 100% of level II supplies. Sacramento River water rights settlement contractors and San Joaquin Exchange contractors remain at 100% supplies

Friant Division allocations are currently at 100% Class I, and about 30% for Class II for the remainder of the contract year, with the availability of Class II contingent on the forecasted inflows to Millerton. Stanislaus River contractors received a special allocation of 50,000 acre-feet, which was 100% of their request.

STATE WATER PROJECT

The extraordinarily dry February through April this year makes it likely that Lake Oroville will not fill this spring. Approval of water deliveries to SWP water supply contractors remains at 100 percent of each contractor's "Table A" entitlement or 100 percent of their request for 1997, whichever is less.

MAJOR WATER DISTRIBUTION PROJECTS

RESERVOIR STORAGE

(AVERAGES BASED ON PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	STORAGE AT END OF APRIL 1996 1,000 AF	1997 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
STATE WATER PROJECT						
Lake Oroville	3,538	2,961	3,243	3,222	109%	91%
San Luis Reservoir (SWP)	1,062	995	972	945	95%	89%
Lake Del Valle	77	39	40	39	102%	51%
Lake Silverwood	73	67	39	57	85%	78%
Pyramid Lake	171	164	167	163	100%	95%
Castaic Lake	324	282	310	313	111%	97%
Perris Lake	132	115	124	112	98%	86%
CENTRAL VALLEY PROJECT						
Clair Engle Lake	2,448	2,080	2,295	2,168	104%	89%
Lake Shasta	4,552	4,096	4,313	3,937	96%	86%
Whiskeytown Lake	241	231	238	238	103%	99%
Folsom Lake	977	739	782	553	75%	57%
New Melones Reservoir	2,420	1,549	2,040	1,994	129%	82%
Millerton Lake	520	316	450	301	95%	58%
San Luis Reservoir (CVP)	971	872	914	834	96%	86%
COLORADO RIVER PROJECT						
Lake Mead	26,159	19,574	21,882	22,917	117%	88%
Lake Powell	25,002	15,098	20,186	19,108	127%	76%
Lake Mohave	1,810	1,634	1,707	1,714	105%	95%
Lake Havasu	619	579	581	580	100%	94%
EAST BAY MUNICIPAL UTILITY DISTRICT						
Pardee Reservoir	198	180	201	177	98%	89%
Camanche Reservoir	417	268	247	255	95%	61%
East Bay (4 reservoirs)	151	132	144	151	115%	100%
CITY AND COUNTY OF SAN FRANCISCO						
Hetch-Hetchy Reservoir	360	151	277	264	175%	73%
Cherry Lake	268	135	228	192	143%	72%
Lake Eleanor	26	13	26	25	191%	98%
South Bay/Peninsula (4 reservoirs)	225	176	222	182	104%	81%
CITY OF LOS ANGELES (D.W.P.)						
Lake Crowley	183	127	122	108	85%	59%
Grant Lake	48	25	46	47	187%	98%
Other Aqueduct Storage (6 res.)	95	75	54	54	72%	57%

TELEMETERED SNOW WATER EQUIVALENTS

MAY 1, 1997

(AVERAGES BASED ON PERIOD RECORD)

BASIN NAME / STATION NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT MAY 1	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS
TRINITY RIVER						
Peterson Flat	7150'	29.2	0.5	2%	1.7	8.2
Red Rock Mountain	6700'	39.6	11.8	30%	12.4	16.3
Bonanza King	6450'	40.5	0.0	0%	0.0	3.3
Shimmy Lake	6200'	40.3	—	—	—	—
Middle Boulder 3	6200'	28.3	0.0	0%	0.0	0.0
Highland Lakes	6030'	29.9	0.0	0%	0.0	0.0
Scott Mountain	5900'	16.0	0.0	0%	0.0	0.0
Mumbo Basin	5700'	22.4	0.0	0%	0.0	0.0
Big Flat	5100'	15.8	0.0	0%	0.0	0.0
SACRAMENTO RIVER						
Cedar Pass	7100'	18.1	10.2	56%	10.2	13.3
Blacks Mountain	7100'	12.7	0.0	0%	0.0	2.0
Sand Flat	6750'	42.4	16.3	39%	17.1	20.9
Medicine Lake	6700'	32.6	8.0	25%	8.3	10.7
Adin Mountain	6350'	13.6	0.0	0%	0.0	0.0
Snow Mountain	5950'	27.0	13.4	50%	13.4	13.6
Slate Creek	5600'	29.0	0.0	0%	0.0	0.0
Stouts Meadow	5400'	36.0	0.0	0%	0.0	0.0
FEATHER RIVER						
Kettle Rock	7300'	25.5	0.0	0%	0.0	0.2
Grizzly Ridge	6900'	29.7	8.6	29%	9.5	15.6
Pilot Peak (DWR)	6800'	52.6	0.0	0%	0.0	0.5
Gold Lake	6750'	36.5	28.1	77%	28.2	31.2
Humbug	6500'	28.0	6.0	21%	6.6	11.8
Rattlesnake	6100'	14.0	0.0	0%	0.0	0.0
Bucks Lake	5750'	44.7	0.0	0%	0.0	3.8
Four Trees	5150'	20.0	0.0	0%	0.0	0.0
EEL RIVER						
Noel Spring	5100'	—	0.0	—	0.0	0.0
Plaskett Meadows	6000'	—	0.0	—	0.0	0.0
YUBA & AMERICAN RIVERS						
Lake Lois	8800'	39.5	—	—	—	—
Schneiders	8750'	34.5	43.0	125%	42.9	45.6
Caples Lake (DWR)	7800'	30.9	19.2	62%	19.6	23.5
Alpha	7600'	35.9	12.0	33%	12.1	18.0
Beta	7600'	35.9	15.0	42%	15.2	20.4
Silver Lake (DWR)	7100'	22.7	7.7	34%	8.2	13.1
Central Sierra Snow Lab	6950'	33.6	14.9	44%	15.0	21.8
Huysink	6600'	42.6	20.1	47%	20.5	23.4
Van Vleck	6700'	35.9	23.5	65%	24.0	28.3
Robbs Saddle	5900'	21.4	—	—	—	—
Greek Store	5600'	21.0	0.0	0%	0.0	0.0
Blue Canyon	5280'	9.0	0.0	0%	0.0	0.0
Robbs Powerhouse	5150'	5.2	0.0	0%	0.0	0.0
MOKELUMNE & STANISLAUS RIVERS						
Deadman Creek	9250'	37.2	30.0	81%	30.2	32.5
Highland Meadow	8800'	47.9	47.5	99%	47.8	52.5
Gianelli Meadow	8350'	55.5	43.9	79%	44.1	47.5
Lower Relief Valley	8100'	41.2	30.5	74%	30.5	38.3
Blue Lakes	8000'	33.1	26.7	81%	26.8	28.5
Mud Lake	7900'	44.9	50.3	112%	50.7	55.3
Stanislaus Meadow	7750'	47.5	37.0	78%	37.7	42.7
Bloods Creek	7200'	35.5	17.4	49%	18.2	24.6
Black Springs	6500'	32.0	3.4	10%	4.1	9.5
TUOLUMNE & MERCED RIVERS						
Dana Meadows	9800'	27.7	30.1	109%	30.1	34.0
Slide Canyon	9200'	41.1	—	—	—	—
Snow Flat	8700'	44.1	—	—	—	—
Tuolumne Meadows	8600'	22.6	14.1	62%	15.0	18.5
Horse Meadow	8400'	48.6	45.1	93%	45.1	50.3
Ostrander Lake	8200'	34.8	24.8	71%	26.1	32.2
Paradise Meadow	7650'	41.3	—	—	—	—
Gin Flat	7050'	34.2	8.5	25%	9.2	14.6
Lower Kibbie Ridge	6600'	27.4	0.0	0%	0.0	0.0

TELEMETERED SNOW WATER EQUIVALENTS

MAY 1, 1997

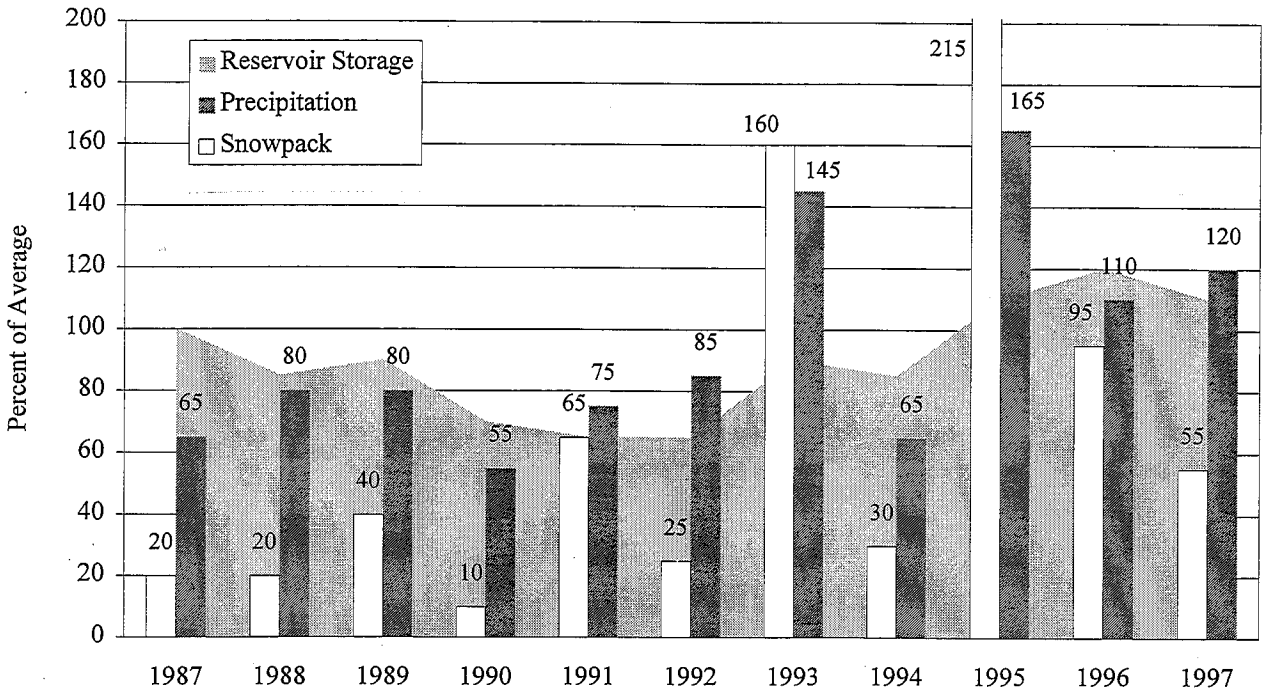
(AVERAGES BASED ON PERIOD RECORD)

BASIN NAME / STATION NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT MAY 1	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS
SAN JOAQUIN RIVER						
Volcanic Knob	10100'	30.1	27.5	91%	27.5	30.4
Agnew Pass	9450'	32.3	—	—	—	—
Kaiser Point	9200'	37.8	—	—	—	—
Green Mountain	7900'	30.8	15.4	50%	16.3	22.6
Tamarack Summit	7600'	30.5	0.6	2%	1.4	7.5
Chilkoot Meadow	7150'	38.0	12.8	34%	13.0	18.9
Huntington Lake (USBR)	7000'	20.1	0.0	0%	0.0	3.0
Graveyard Meadow	6900'	18.8	0.0	0%	0.0	3.9
Poison Ridge	6900'	28.9	0.0	0%	0.0	0.0
KINGS RIVER						
Bishop Pass	11200'	34.0	32.8	97%	32.8	34.8
Charlotte Lake	10400'	27.5	30.4	110%	31.6	36.0
State Lakes	10400'	29.0	—	—	—	—
Mitchell Meadow	10375'	32.9	34.1	104%	34.3	38.0
Blackcap Basin	10300'	34.3	—	—	—	—
Upper Burnt Corral	9700'	34.6	37.9	110%	38.5	44.8
West Woodchuck Meadow	9100'	32.8	23.5	72%	24.9	33.0
Big Meadows (DWR)	7600'	25.9	5.4	21%	6.2	11.2
KAWEAH & TULE RIVERS						
Quaking Aspen	7200'	21.0	0.0	0%	0.0	0.0
Giant Forest (Corps)	6400'	10.0	0.0	0%	0.0	0.0
KERN RIVER						
Upper Tyndall Creek	11500'	27.7	38.8	140%	38.7	42.3
Crabtree Meadow	10700'	19.8	20.5	104%	20.5	20.5
Chagoopa Plateau	10300'	21.8	20.0	92%	20.7	24.6
Pascoes	9150'	24.9	13.1	53%	14.2	18.6
Tunnel Guard Station	8950'	15.6	0.0	0%	0.0	0.0
Wet Meadows	8900'	30.3	1.1	4%	2.0	11.9
Casa Vieja Meadows	8400'	20.9	2.6	12%	5.2	11.1
Beach Meadows	7650'	11.0	0.0	0%	0.0	0.0
SURPRISE VALLEY AREA						
Dismal Swamp	7050'	29.2	30.2	103%	30.0	32.0
TRUCKEE RIVER						
Mount Rose Ski Area	8850'	38.5	16.6	43%	17.2	24.3
Independence Lake (NRCS)	8450'	41.4	51.5	124%	51.6	52.4
Big Meadows (NRCS)	8700'	25.7	14.2	55%	14.9	20.2
Independence Camp	7000'	21.8	0.0	0%	0.0	0.0
Independence Creek	6500'	12.7	0.0	0%	0.0	0.0
LAKE TAHOE BASIN						
Heavenly Valley	8800'	28.1	16.0	57%	15.9	21.0
Hagans Meadow	8000'	16.5	0.0	0%	0.0	0.0
Marlette Lake	8000'	21.1	11.3	54%	12.1	17.0
Echo Peak 5	7800'	39.5	25.3	64%	26.3	33.0
Rubicon Peak 2	7500'	29.1	18.4	63%	19.3	23.0
Ward Creek 3	6750'	39.4	10.1	26%	11.4	17.4
Fallen Leaf Lake	6300'	7.0	0.0	0%	0.0	0.0
CARSON RIVER						
Ebbetts Pass	8700'	38.8	33.1	85%	33.4	38.1
Poison Flat	7900'	16.2	0.0	0%	0.0	1.8
WALKER RIVER						
Virginia Lakes	9200'	20.3	22.6	111%	22.9	25.1
Lobdell Lake	9200'	17.3	13.4	77%	13.7	18.3
Sonora Pass Bridge	8750'	26.0	29.1	112%	29.6	32.4
Leavitt Meadows	7200'	8.0	0.0	0%	0.0	0.0
OWENS RIVER/MONO LAKE						
Gem Pass	10750'	31.7	42.5	134%	43.1	45.1
Sawmill	10300'	19.4	14.5	75%	15.2	20.0
Cottonwood Lakes	10200'	11.6	0.5	4%	1.6	9.2
Big Pine Creek	9800'	17.9	7.2	40%	7.8	12.4
South Lake	9600'	16.0	8.5	53%	9.6	14.5
Mammoth Pass (USBR)	9500'	42.4	35.2	83%	35.6	40.5
Rock Creek Lakes	10000'	14.0	0.0	0%	0.0	4.4

NORMAL SNOWPACK ACCUMULATION EXPRESSED AS A PERCENT OF APRIL 1ST AVERAGE

AREA	JANUARY	FEBRUARY	MARCH	APRIL	MAY
Central Valley North	45%	70%	90%	100%	75%
Central Valley South	45%	65%	85%	100%	80%
North Coast	40%	60%	85%	100%	80%

May 1 Statewide Conditions



SNOWLINES

MARK YOUR CALENDARS now for the fall California Cooperative Snow Surveys meeting. Barring unforeseen difficulties the 1997 meeting will be held the first week of November at McCloud .

DRYNESS continues for the third month in a row for many regions of California. Los Angeles Civic Center recorded no precipitation for March and April. The total precipitation of 1.12 inches in downtown Sacramento for February through April 1997 is the driest in 148 years of records for those three months. Records began in 1850 for that period. The next in line for February through April dryness was 1964 with 1.18 inches, 1885 with 1.25, 1875 with 1.35, and 1864 with 1.57.

This extreme dryness for February through April seems to be from Marysville southward in the Central Valley and from the American basin southward in the Sierra. It was wetter in the upper end of the Sacramento Valley with 5.49 inches at the Redding Fire Station for the February through April period; that was only the 13th driest on record at that location.

THE 1998 WESTERN SNOW CONFERENCE returns to a normal schedule and location. Next year's meeting will be held at Snowbird, Utah the third week of April.

SNOWPACK - Snow data is a major index of spring and summer runoff from Sierra Nevada watersheds. April 1 data historically reflects the magnitude of the snowpack at or near the maximum seasonal accumulation. Averages are based on April 1 data for the period 1946-1995 (50 years, except for data sites established after 1941).

PRECIPITATION - Averages are based on April 1 data for the period 1946-1995 (50 years, except for data sites established after 1941).

RUNOFF AND FORECASTS - Runoff data and runoff forecasts are shown as unimpaired values. Unimpaired runoff represents the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds. Forecast of runoff assumes median conditions subsequent to the date of forecast.

Runoff probability ranges are statistically derived from historical data. The 80 percent probability range is comprised of the 90 percent exceedence level value and the 10 percent exceedence level value. This means that actual runoff should fall within the stated limits eight times out of ten.

Runoff averages for most streams are based on the period 1946-1995. For more details contact California Cooperative Snow Surveys, P.O. Box 942836, Sacramento, CA 94236-0001, (916) 574-2635 or gridley@water.ca.gov.

INDICES OF WATER AVAILABILITY

The Sacramento River Hydrologic Region 40-30-30 Water Supply Index. The *40-30-30* represent the percentage weight given to the three variables in the formula for the index. The first variable is the forecasted unimpaired runoff from April through July (*40 Percent*). The second variable is the forecasted unimpaired runoff from October through March (*30 Percent*). The third variable is the previous year's index with a cap to account for required flood control releases during wet years. The basins used in this computation are those used in the Sacramento River water year unimpaired runoff.

The Sacramento River water year unimpaired runoff is the sum of: Sacramento River above Bend Bridge, Feather River Inflow to Lake Oroville, Yuba River near Smartville and American River Inflow to Folsom Lake.

The San Joaquin River Hydrologic Region 60-20-20 Water Supply Index. In a similar manner, the *60-20-20* represents the percentage weights on April through July runoff, October through March runoff and previous year's index. The San Joaquin River unimpaired runoff is the sum of: Stanislaus River Inflow to New Melones Lake, Tuolumne River Inflow to New Don Pedro Reservoir, Merced River Inflow to Lake McClure and San Joaquin River Inflow to Millerton Lake.

Prior month unimpaired runoff is the sum of the runoff in the eight major rivers used in the two above indices.

Remains of Lower Kibbie Ridge snow sensor following a fire in September, 1996. The heat was so intense the seams in the aluminum box split.

Photo by Dave Hart, DWR

State of California – The Resources Agency
DEPARTMENT OF WATER RESOURCES
P.O. Box 942836
Sacramento, CA 94236–0001

First Class