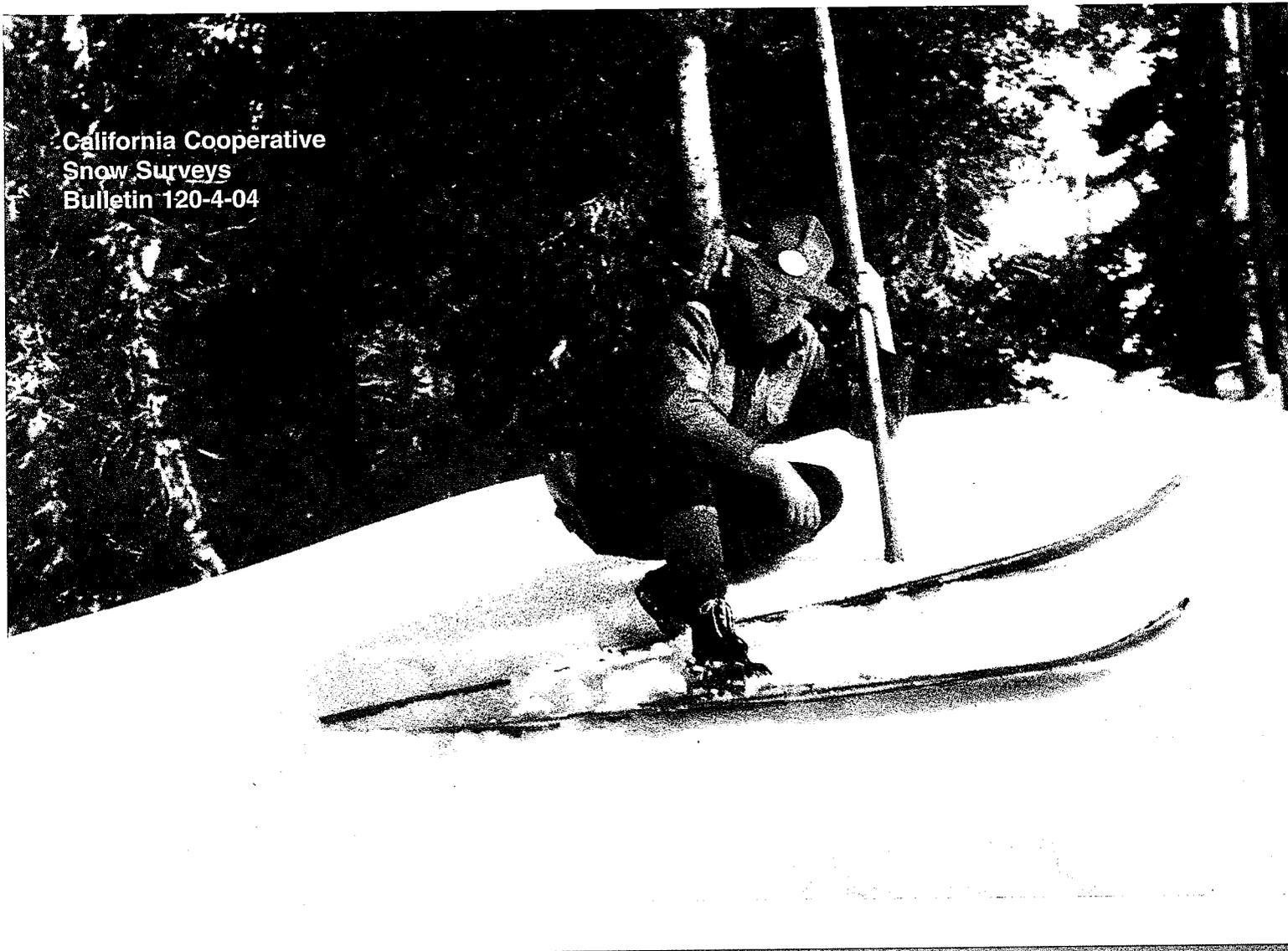


California Cooperative
Snow Surveys
Bulletin 120-4-04



State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California

Report 4 May 1, 2004

Arnold Schwarzenegger
Governor
State of California

Mike Chrisman
Secretary for Resources
The Resources Agency

Lester A. Snow
Director
Department of Water Resources



STATE OF CALIFORNIA
Arnold Schwarzenegger ,Governor

THE RESOURCES AGENCY
Mike Chrisman, Secretary for Resources

Department of Water Resources
Lester A. Snow
Director

Tom Glover
Deputy Director

Stephen W. Verigin
Acting Chief Deputy Director

Gerald E. Johns
Acting Deputy Director

L. Lucinda Chipponeri
Assistant Director for Legislation

Peggy Bernardy
Chief Counsel

Division of Flood Management

Stein Buer.....Chief, Division of Flood Management
Maury Roos.....State Hydrologist
Gary Hester.....Chief, Hydrology and Flood Operations
Gary B. Bardini.....Chief Forecaster

Prepared by

Frank Gehrke.....Chief, Snow Surveys
Dave Rizzardo.....Engineer, W.R.
John King.....Engineer, W.R.
Boone Lek.....Engineer, W.R.
Mary Jimenez.....Engineer, W.R.
Matt Winston.....Associate Meteorologist, W.R.
Stephen Nemeth.....Assistant Engineering Specialist, W.R.
David M. Hart.....Water Resources Engineering Associate

COOPERATING AGENCIES

Public Agencies

Buena Vista Water Storage District
East Bay Municipal Utility District
Eldorado Irrigation 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
Placer County Water Agency
Sacramento Municipal Utility District
San Joaquin Exchange Contractors Water Association
South Feather Water & Power District
South San Joaquin Irrigation District
Tri-Dam Project
Truckee River Basin Water Commission
Tulare Lake Basin Water Storage District
Turlock Irrigation District
Yuba County Water Agency
Private Organizations
J.G. Boswell Company
Kaweah and St. Johns River Association
Kings River Water Association
Tule River Association
State Water Project 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

University of California
Central Sierra Snow Laboratory
Scripps Institution of Oceanography
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)
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, 2004

April continued in the warm dry pattern established in March. The only break was a spell of cool showery weather the third week of the month. Snowpack melting continued at much above normal April rates and only about half the April 1 pack remained on May 1. Snowmelt runoff seems to be about one month early this year and can be expected to taper off relatively early. Runoff forecasts were lowered because of the dry April and still show a strong north to south gradient, much below average in the southern half of the State. Reservoir storage is near average which will help meet most water needs this year, but supplies in the southern part of the Central Valley and eastern Sierra region may be short.

Forecasts of April through July runoff are 65 percent of average overall, ranging from near normal in the Trinity and the northern Shasta Lake tributaries to 55 percent in the southern Sierra. Water year forecasts are somewhat better at 80 percent of average statewide.

Snowpack water content dropped at about double the normal rate in April and now stands at about 50 percent of average for May 1 overall or 40 percent of the average for April 1. The rapid rate of melting swelled monthly streamflow to near normal on a number of major snowfed rivers in spite of the lack of rain. Last year the pack was 105 percent of average at this time as a result of a wet cool April.

Precipitation from October 1 through April 30 was about 90 percent of average compared to 110 percent one year ago. Precipitation during April was only 50 percent of average statewide, barely three quarters of average in the far northwest and little in the south, apart from the Colorado Desert Area at 400%

Runoff so far this year has been about 90 percent of average compared to 100 percent at this time last year. Runoff during April was nearly 80 percent of average for the month. Estimated runoff of the 8 major rivers of the Sacramento and San Joaquin River regions was 2.7 million acre-feet during April. The May estimate of the Sacramento River Index at the 90% exceedence level is 15.6 MAF and the May San Joaquin 60-20-20 Index at the 75% exceedence level is 2.2.

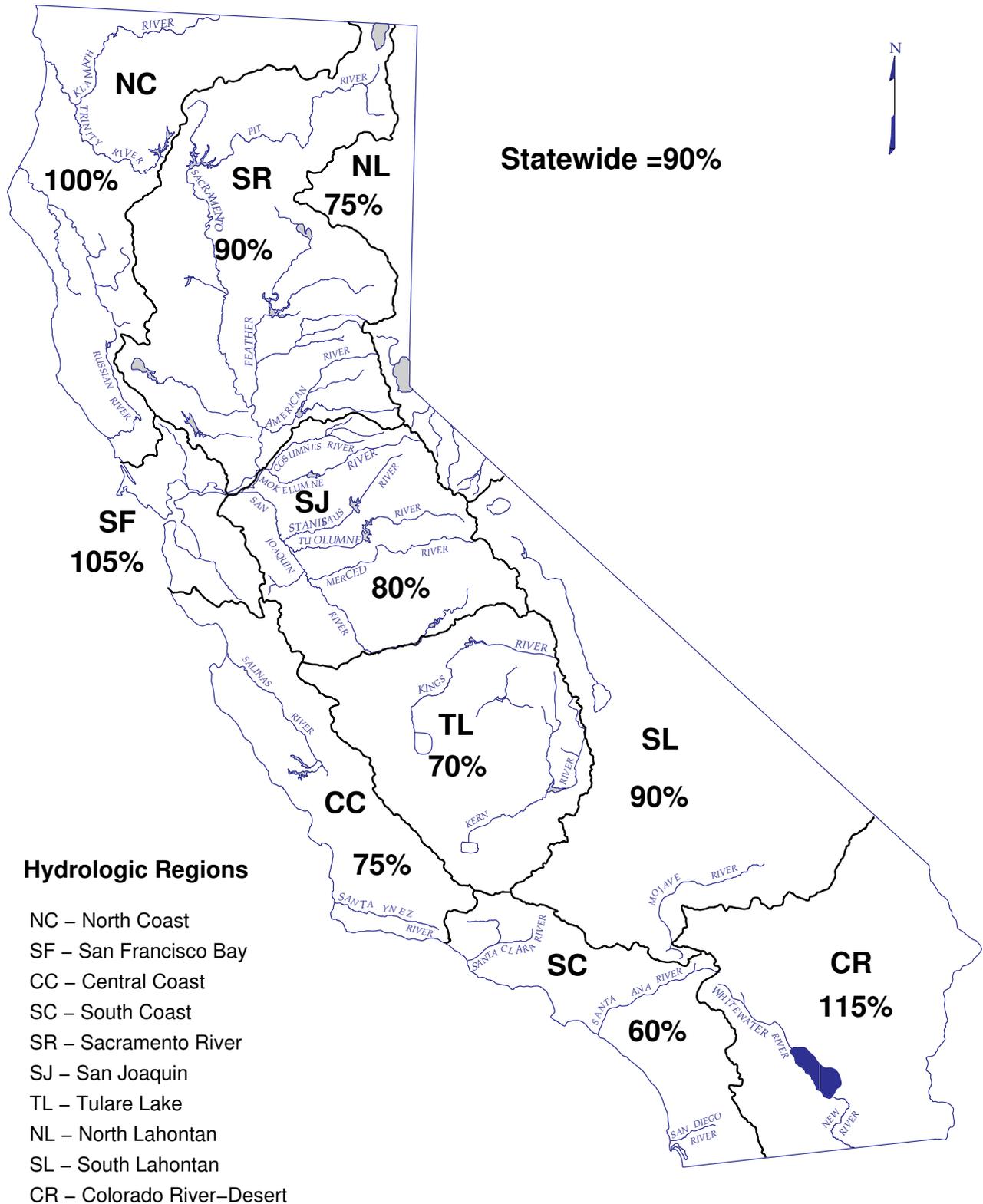
Reservoir storage gained about 0.4 million acre-feet during the month, to end at just over average for the date. This was less than the normal gain of about 1.4 million acre-feet expected in April. With the reduction in expected late season snowmelt, not many of the major foothill reservoirs are likely to fill. Last year at this time, reservoir storage stood at 105 percent.

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	100	110	110	95	95	95
SAN FRANCISCO BAY	105	--	95	90	--	--
CENTRAL COAST	75	--	75	50	--	--
SOUTH COAST	60	--	85	30	--	--
SACRAMENTO RIVER	90	55	105	90	70	85
SAN JOAQUIN RIVER	80	40	110	75	60	65
TULARE LAKE	70	35	95	75	55	60
NORTH LAHONTAN	75	50	50	85	60	65
SOUTH LAHONTAN	90	40	100	65	80	70
COLORADO RIVER- DESERT	115	--	--	--	--	--
STATEWIDE	90	50	100	90	65	80

**DEPARTMENT OF WATER RESOURCES
CALIFORNIA COOPERATIVE SNOW SURVEYS
SEASONAL PRECIPITATION**

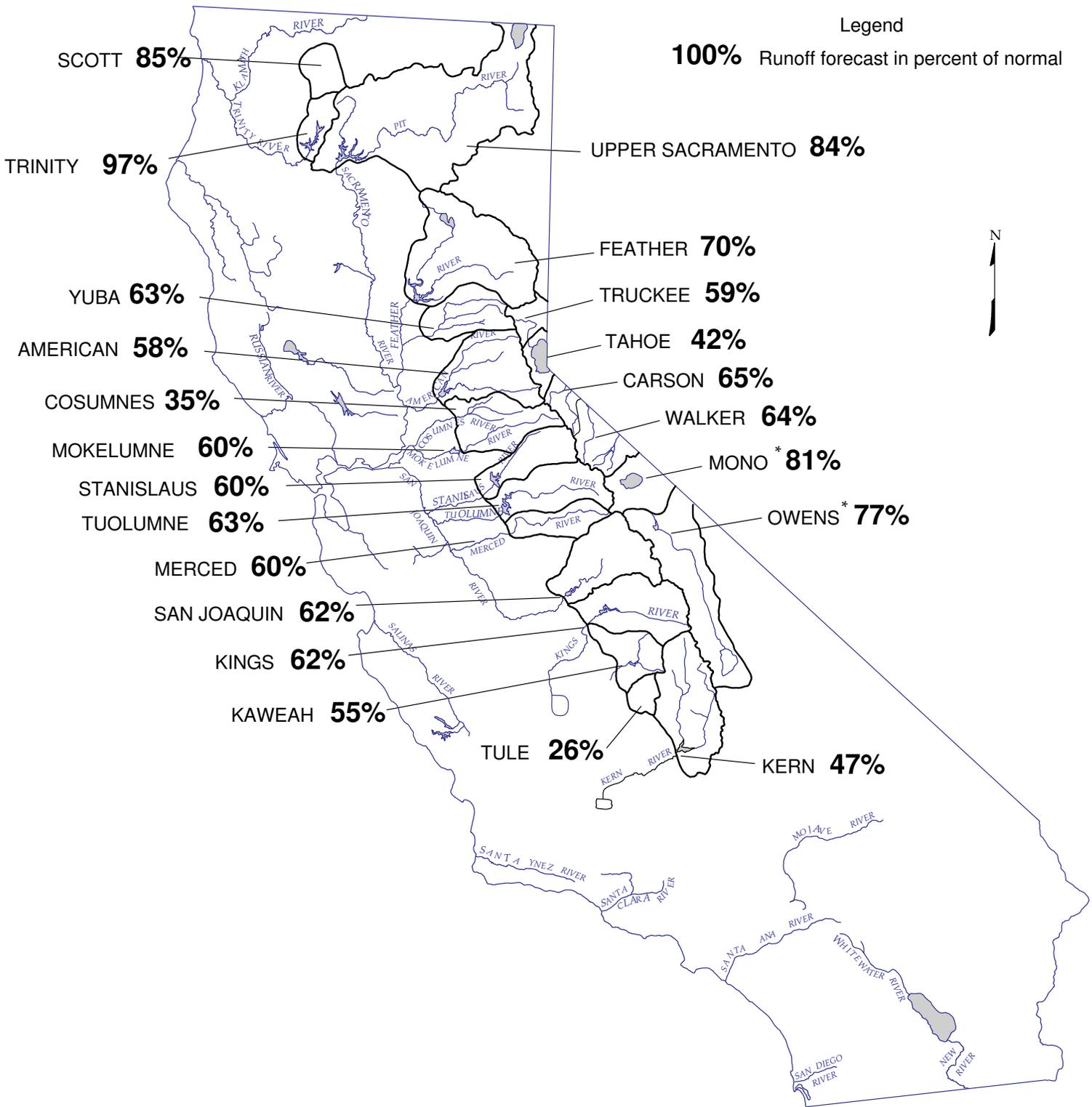
IN PERCENT OF AVERAGE TO DATE
October 1, 2003 through April 30, 2004



WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

**DEPARTMENT OF WATER RESOURCES
CALIFORNIA COOPERATIVE SNOW SURVEYS
FORECAST OF APRIL – JULY
UNIMPAIRED SNOWMELT RUNOFF**

May 1, 2004



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

MAY 1, 2004 FORECASTS
APRIL-JULY UNIMPAIRED RUNOFF

HYDROLOGIC REGION and Watershed	Unimpaired Runoff in 1,000 Acre-Feet (1)					
	HISTORICAL			FORECAST		
	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 Delta above Shasta Lake (3)	299	711	39	270	90%	
McCloud River above Shasta Lake	400	850	185	365	91%	
Pit River near Montgomery Creek + Squaw Creek	1,090	2,098	480	900	83%	
Total Inflow to Shasta Lake	1,849	3,525	726	1,560	84%	1,340 - 1,860
Sacramento River above Bend Bridge, near Red Bluff	2,521	5,075	943	2,120	84%	1,820 - 2,560
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	730	71%	
Middle Fork near Clio (4)	86	518	4	60	70%	
South Fork at Ponderosa Dam (3)	110	267	13	75	68%	
Feather River at Oroville	1,870	4,676	392	1,300	70%	1,080 - 1,600
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	180	63%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	70	63%	
South Yuba at Langs Crossing (3)	233	481	57	140	60%	
Yuba River near Smartville plus Deer Creek	1,044	2,424	200	660	63%	560 - 800
American River						
North Fork at North Fork Dam (3)	262	716	43	140	53%	
Middle Fork near Auburn (3)	522	1,406	100	310	59%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	100	58%	
American River below Folsom Lake	1,282	3,074	229	750	58%	620 - 920
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	130	363	8	45	35%	35 - 75
Mokelumne River						
North Fork near West Point (5)	437	829	104	270	62%	
Total Inflow to Pardee Reservoir	469	1,065	102	280	60%	220 - 350
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	200	60%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	140	63%	
Stanislaus River below Goodwin Reservoir (7)	716	1,710	116	430	60%	360 - 525
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	200	62%	
Tuolumne River near Hetch Hetchy (3)	606	1,392	153	410	68%	
Tuolumne River below La Grange Reservoir (7)	1,230	2,682	301	780	63%	680 - 930
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	220	61%	
Merced River below Merced Falls(7)	633	1,587	123	380	60%	320 - 450
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	630	62%	
Big Creek below Huntington Lake (6)	95	264	11	60	63%	
South Fork near Florence Lake (6)	202	511	58	130	64%	
San Joaquin River inflow to Millerton Lake	1,262	3,355	262	780	62%	680 - 900
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	150	63%	
Kings River below Pine Flat Reservoir	1,234	3,113	274	760	62%	660 - 860
Kaweah River below Terminus Reservoir	290	814	62	160	55%	135 - 200
Tule River below Lake Success	65	259	2	17	26%	12 - 31
Kern River						
Kern River near Kernville (3)	373	1,203	83	190	51%	
Kern River inflow to Lake Isabella	470	1,657	84	220	47%	180 - 270

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1951-2000 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, 2004 FORECASTS
WATER YEAR UNIMPAIRED RUNOFF

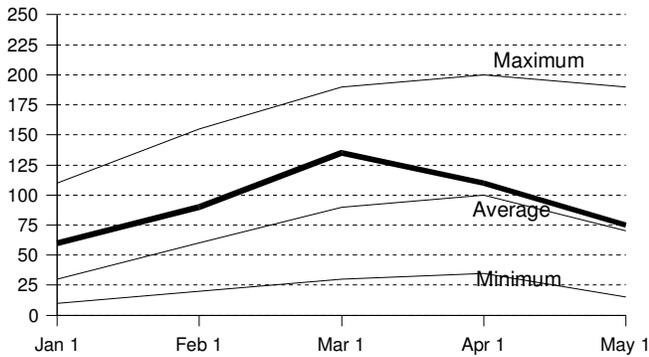
HISTORICAL			Unimpaired Runoff in 1,000 Acre-Feet (1)								FORECAST		
50 Yr Avg (2)	Max of Record	Min of Record	Oct Thru Jan*	Feb *	Mar *	Apr *	May	Jun	Jul	Aug & Sep	Water Year Forecasts	Pct of Avg	80 % Probability Range (1)
888	1,965	165											
1,234	2,353	557											
3,217	5,150	1,484											
6,194	10,796	2,479	1,810	1,370	780	515	500	320	225	390	5,910	95%	5,630 - 6,285
8,990	17,180	3,294	2,940	2,305	1,330	715	700	410	295	510	9,205	102%	8,830 - 9,775
780	1,269	366											
2,417	4,400	666											
219	637	24											
291	562	32											
4,775	9,492	994	890	730	780	540	460	200	100	150	3,850	81%	3,605 - 4,190
564	1,056	102											
181	292	30											
379	565	98											
2,459	4,926	369	380	315	325	275	260	100	25	25	1,705	69%	1,600 - 1,870
616	1,234	66											
1,070	2,575	144											
318	705	59											
2,830	6,382	349	300	270	390	325	280	125	20	15	1,725	61%	1,585 - 1,915
409	1,253	20	38	47	52	24	14	5	2	1	183	45%	190 - 215
626	1,009	197											
774	1,800	129	60	45	105	110	115	50	5	0	490	63%	430 - 570
471	929	88											
1,196	2,952	155	100	75	165	175	180	65	10	5	775	65%	700 - 880
461	1,147	123											
770	1,661	258											
1,974	4,631	383	170	110	260	260	290	200	30	15	1,335	68%	1,230 - 1,490
461	1,020	92											
1,014	2,787	150	65	60	120	140	145	80	15	5	630	62%	570 - 710
1,337	2,964	308											
112	298	14											
248	653	71											
1,851	4,642	362	115	70	190	225	295	200	60	40	1,195	65%	1,090 - 1,330
284	607	58											
1,736	4,287	386	100	55	170	215	290	195	60	30	1,115	64%	1,010 - 1,230
460	1,402	94	34	18	48	48	65	41	7	4	265	58%	230 - 310
153	615	16	15	9	15	8	6	2	1	0	56	37%	50 - 75
558	1,577	163											
741	2,318	175	60	25	70	65	70	60	25	25	400	54%	350 - 460

* Unimpaired runoff in prior months based on measured flows

(7) Forecast point names based on USGS gage names. Stanislaus below Goodwin also known as inflow to New Melones, Tuolumne River below La Grange also known as inflow to Don Pedro, Merced River below Merced Falls also known as inflow to McClure.

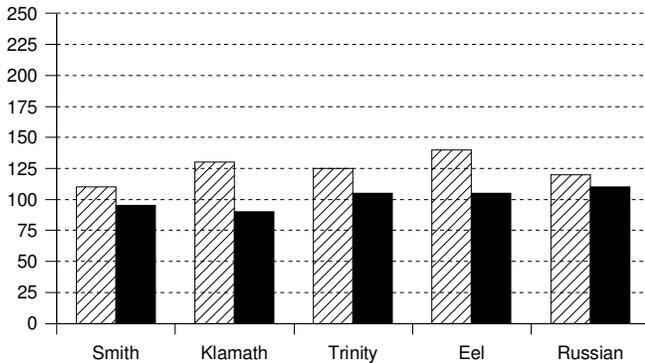
Snowpack Accumulation

Water Content in % of April 1 Average



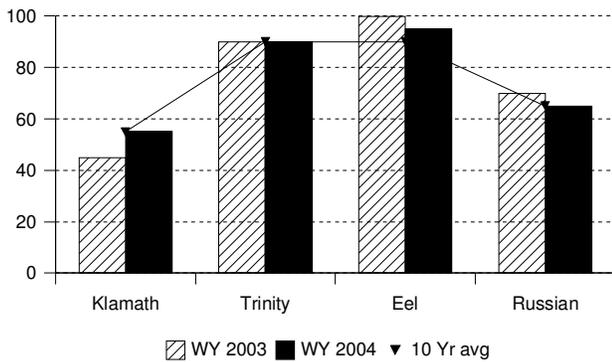
Precipitation

October 1 to date in % of Average



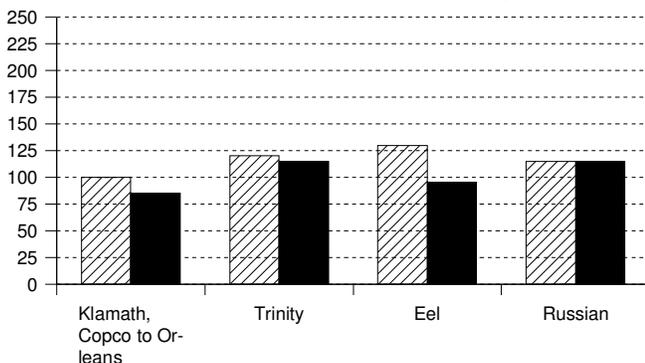
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



NORTH COAST REGION

SNOWPACK- First of the month measurements made at 10 snow courses indicate an area wide snow water equivalent of 28.6 inches. This is 75 percent of the seasonal April 1 average and 110% of the May 1 average. Last year at this time the pack was holding 43.3 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 100 percent of normal. Precipitation last month was about 70 percent of the monthly average. Seasonal precipitation at this time last year stood at 125 percent of normal.

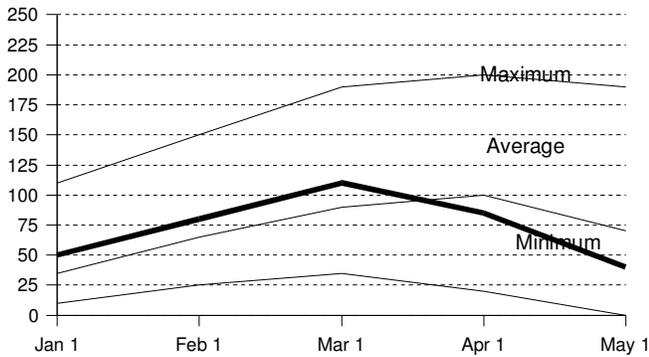
RESERVOIR STORAGE- First of the month storage in 7 reservoirs was 2.7 million acre-feet which is 110 percent of average. About 85 percent of available capacity was being used. Storage in these reservoirs at this time last year was 110 percent of average.

RUNOFF -Seasonal runoff of streams draining the area totaled 11 million acre-feet which is 95 percent of the average for this period. Last year, runoff for the same period was 120 percent of average.

SACRAMENTO RIVER REGION

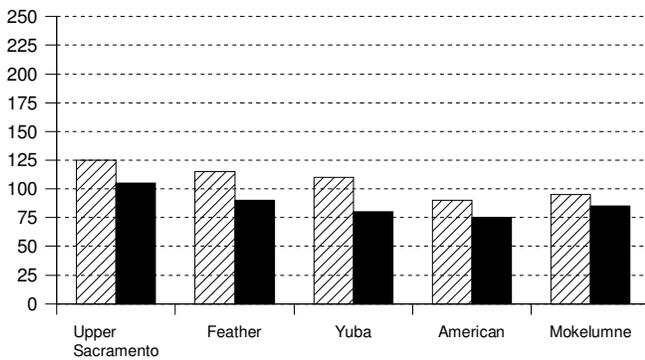
Snowpack Accumulation

Water Content in % of April 1 Average



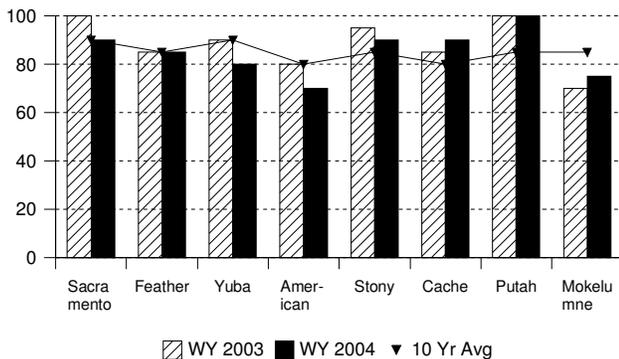
Precipitation

October 1 to date in % of Average



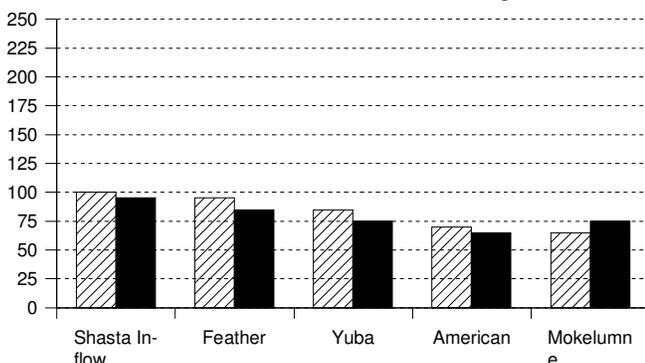
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SNOWPACK- First of the month measurements made at 69 snow courses indicate an area wide snow water equivalent of 16.6 inches. This is 40 percent of the seasonal April 1 average and 55 percent of the May 1 average. Last year at this time the pack was holding 29.4 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on this area was 90 percent of normal. Precipitation last month was about 30 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 43 reservoirs was 13.7 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.

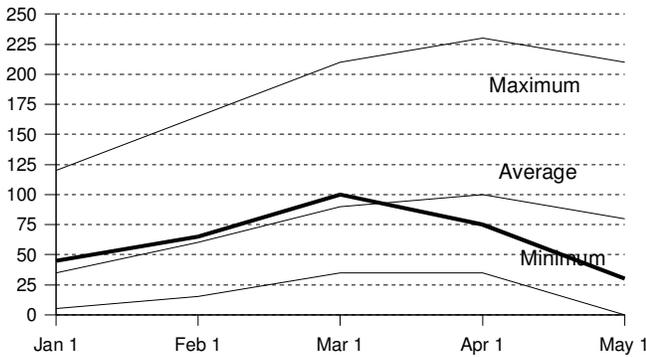
RUNOFF - Seasonal runoff of streams draining the area totaled 12.8 million acre-feet which is 90 percent of average for this period. Last year, runoff for the same period was 95 percent of average.

The **Sacramento Region 40-30-30 Water Supply Index** is forecast to be 7.7 assuming median meteorological conditions for the remainder of the year. This classifies the year as "below normal" in the Sacramento Valley according to the State Water Resources Control Board.

SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

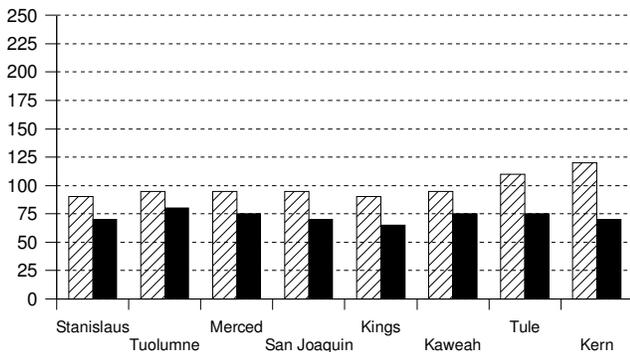
Snowpack Accumulation

Water Content in % of April 1 Average



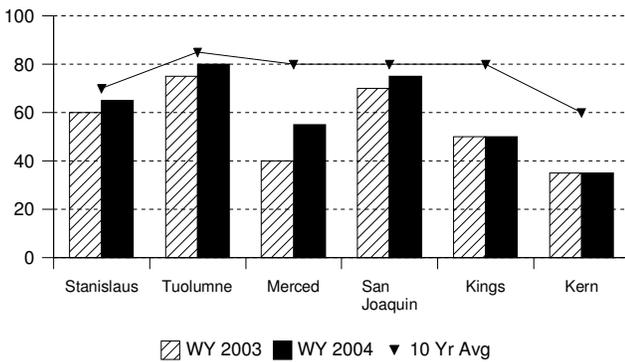
Precipitation

October 1 to date in % of Average



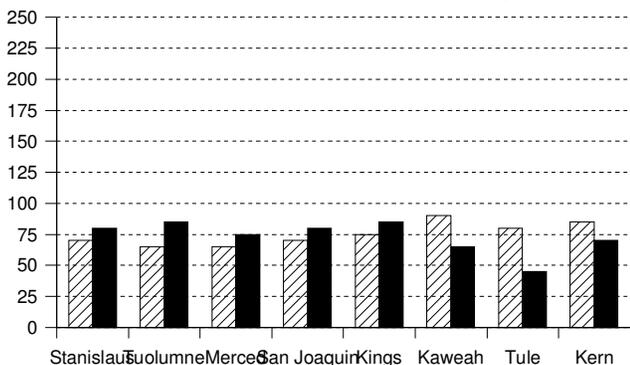
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SNOWPACK- First of the month measurements made at 50 **San Joaquin Region** snow courses indicate an area wide snow water equivalent of 13.6 inches. This is 35 percent of the seasonal (April 1) average and 40 percent of the May 1 average. Last year at this time the pack was holding 27.9 inches of water.

At the same time 32 **Tulare Lake Region** snow courses indicated a basin-wide snow water equivalent of 7.2 inches which is 25 percent of the average for April 1 and 35 percent of May 1. Last year at this time the basin was holding 16.2 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the **San Joaquin Region** was 80 percent of normal. Precipitation last month was about 15 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal. Seasonal precipitation on the **Tulare Lake Region** was 70 percent of normal. Precipitation last month was about 15 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal.

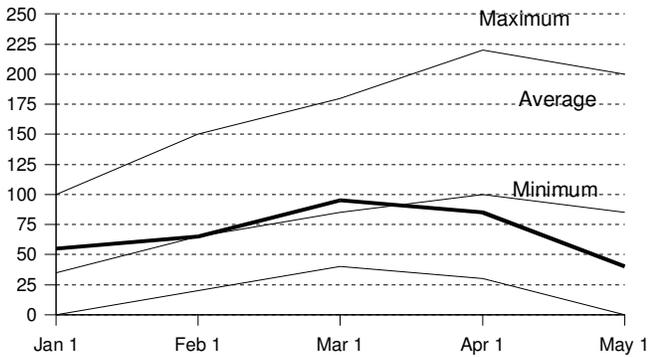
RESERVOIR STORAGE- First of the month storage in 34 **San Joaquin Region** reservoirs was 8.3 million acre-feet which is 110 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 100 percent of average. First of the month storage in 6 **Tulare Lake Region** reservoirs was 993 thousand acre-feet which is 95 percent of average and about 50 percent of available capacity. Storage in these reservoirs at this time last year was 95 percent of average.

RUNOFF- Seasonal runoff of streams draining the **San Joaquin Region** totaled 2.8 million acre-feet which is 75 percent of average for this period. Last year, runoff for the same period was 65 percent of average. Seasonal runoff of streams draining the **Tulare Lake Basin** totaled 963 thousand acre-feet which is 75 percent of average for this period. Last year runoff for this same period was 80 percent of average.

The **San Joaquin Region 60-20-20 Water Supply Index** is forecast to be 2.3 assuming median meteorological conditions. This classifies the year as "dry" in the San Joaquin River Region according to the State Water Resources Control Board.

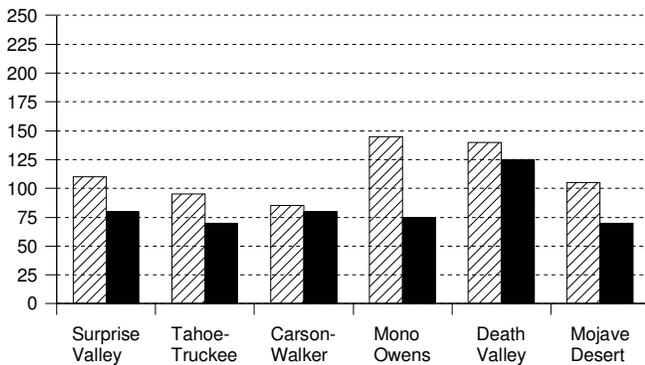
Snowpack Accumulation

Water Content in % of April 1 Average



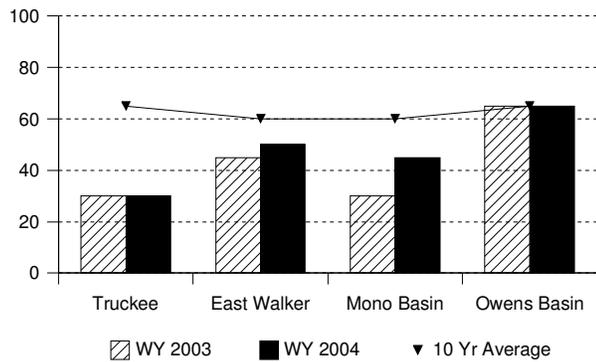
Precipitation

October 1 to date in % of Average



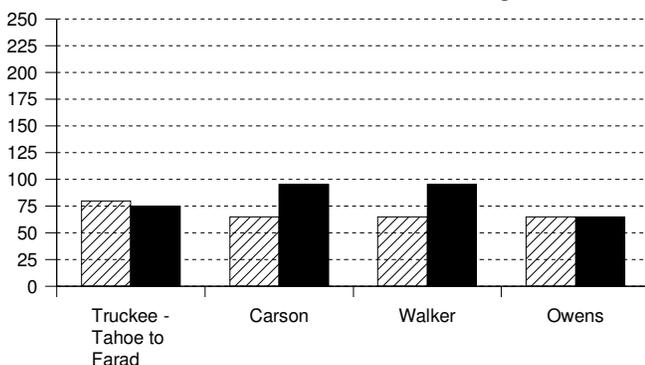
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



NORTH AND SOUTH LAHONTAN REGIONS

SNOWPACK - First of the month measurements made at 5 **North Lahontan Region** snow courses indicate an area wide snow water equivalent of 11.3 inches. This is 40 percent of the seasonal (April 1) average and 50 percent of the May 1 average. Last year at this time the pack was holding 20.5 inches of water. At the same time 2 **South Lahontan** snow courses indicated a basin-wide snow water equivalent of 5 inches which is 35 percent of the seasonal (April 1) average and 40 percent of the May 1 average. Last year at this time the basin was holding 8.2 inches of water.

PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the **North Lahontan Region** was 75 percent of normal. Precipitation last month was about 25 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal. Seasonal precipitation on the **South Lahontan** was 90 percent of normal. Precipitation last month was about 45 percent of the monthly average. Seasonal precipitation at this time last year stood at 130 percent of normal.

RESERVOIR STORAGE - First of the month storage in 5 **North Lahontan** reservoirs was 323 thousand acre-feet which is 50 percent of average. About 30 percent of available capacity was being used. Storage in these reservoirs at this time last year was 50 percent of average. Lake Tahoe was 1 foot above its natural rim on May 1. First of the month storage in 8 **South Lahontan** reservoirs was 263 thousand acre-feet which is 100 percent of average and about 65 percent of available capacity. Storage in these reservoirs at this time last year was 100 percent of average.

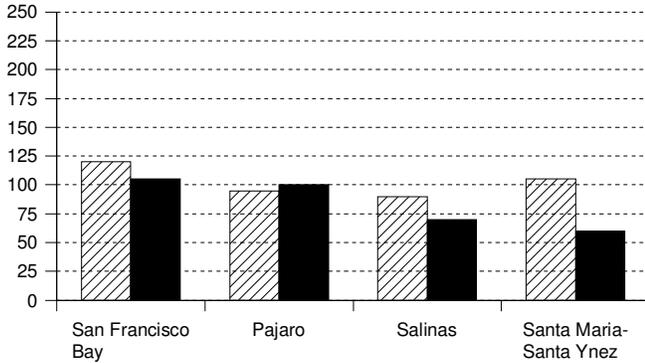
RUNOFF - Seasonal runoff of streams draining the **North Lahontan Region** totaled 381 thousand acre-feet which is 85 percent of average for this period. Last year, runoff for the same period was 75 percent of average.

Seasonal runoff of the Owens River in the **South Lahontan** totaled 51 thousand acre-feet which is 65 percent of average for this period. Last year runoff for this same period was 65 percent of average.

SAN FRANCISCO BAY AND CENTRAL COAST REGIONS

Precipitation

October 1 to date in % of Average

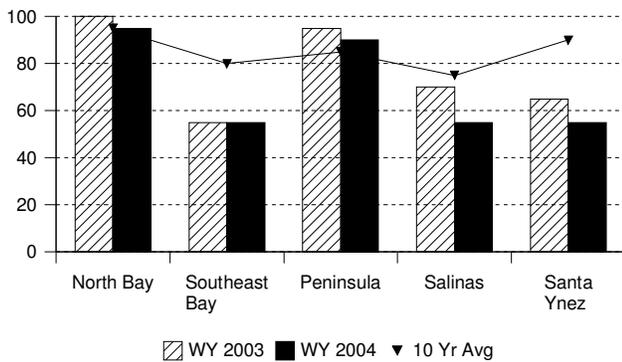


PRECIPITATION - Seasonal precipitation (October 1 through the end of last month) on the **San Francisco Bay Region** was 105 percent of normal. Precipitation last month was about 15 percent of the monthly average. Seasonal precipitation at this time last year stood at 120 percent of normal.

Seasonal precipitation on the **Central Coast Region** was 75 percent of normal. Precipitation last month was about 5 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.

Reservoir Storage

Contents of major reservoirs in % of capacity

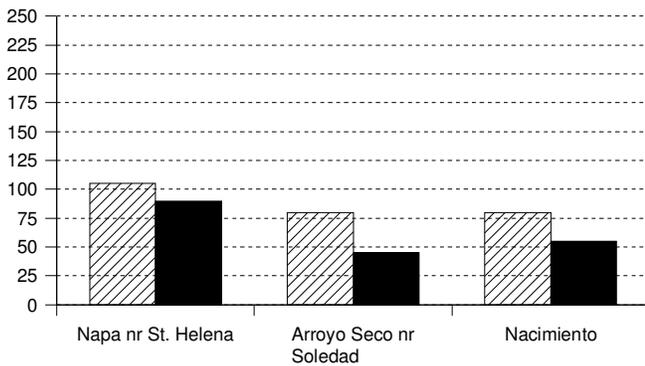


RESERVOIR STORAGE - First of the month storage in 14 **San Francisco Bay Region** reservoirs was 372 thousand acre-feet which is 95 percent of average. About 70 percent of available capacity was being used. Storage in these reservoirs at this time last year was 95 percent of average.

First of the month storage in 6 **Central Coast Region** reservoirs was 527 thousand acre-feet which is 75 percent of average and about 55 percent of available capacity. Storage in these reservoirs at this time last year was 95 percent of average.

Runoff

October 1 to date in % of average



RUNOFF - Seasonal runoff of the Napa River in the **San Francisco Bay Region** totaled 67 thousand acre-feet which is 90 percent of average for this period. Last year, runoff for the same period was 105 percent of average.

Seasonal runoff of streams draining the **Central Coast Region** totaled 160 thousand acre-feet which is 50 percent of average for this period. Last year runoff for this same period was 80 percent of average.

SOUTH COAST AND COLORADO RIVER REGIONS

PRECIPITATION - October through April (seasonal) precipitation on the **South Coast Region** was 60 percent of normal. April precipitation was 40 percent of the monthly average. Seasonal precipitation at this time last year was 105 percent of normal. Seasonal precipitation on the **Colorado River-Desert Region** was 115 percent of normal. Precipitation during April was 400 percent of average. Seasonal precipitation at this time last year stood at 75 percent of average.

RESERVOIR STORAGE - May 1 storage in 29 major **South Coast Region** reservoirs was 1.3 million acre-feet or 85 percent of average. About 65 percent of available capacity was being used. Storage in these reservoirs at this time last year was 85 percent of average. On May 1 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 27 million acre-feet or about 65 percent of average. About 50 percent of available capacity was in use. Last year at this time, these reservoirs were storing 75 percent of average.

RUNOFF - Seasonal runoff from selected **South Coast Region** streams totaled 14 thousand acre-feet which is 30 percent of average. Seasonal runoff from these streams last year was 45 percent of average.

COLORADO RIVER

The April July inflow to Lake Powell is forecast to be 3.8 million acre-feet, which is 48 percent of average. The May 1 snowpack in the Colorado River basin above Lake Powell was 55 percent of average, highest in the San Juan River at 95 percent and lowest in the Upper Green at 40 percent.

CENTRAL VALLEY PROJECT

As of April 30, 2004, CVP storage was 9.2 million acre-feet, which is a decrease of 0.7 million acre-feet compared to one year ago and is approximately 106% of normal for that date.

The Bureau of Reclamation announced updated water year 2004 supply allocations for the CVP contractors on February 13, 2004. Based on a conservative water supply forecast prepared from information available April 1, 2004, and a water year inflow into Shasta Reservoir of 5.7 million acre-feet, water supply allocations remained unchanged. CVP water supplies were: Agricultural contractors North of Delta 100% and South of Delta 65%; Urban contractors North of Delta 100% and South of Delta 90%; Sacramento River water rights and San Joaquin Exchange Contractors 100%; Wildlife Refuges 100%; Friant Contractors 100% of Class 1 and 5% of Class 2. Updated allocations will be announced in mid-May.

The forecast of CVP operations is available on the Mid-Pacific Region's website at www.mp.usbr.gov.

STATE WATER PROJECT

Total storage in the major SWP reservoirs was about 4.65 MAF on April 30, 2004, compared with 4.65 MAF at this time in 2003. On April 30 storage at Lake Oroville was about 3.05 MAF as compared to about 3.07 MAF last year. The State's share of San Luis Reservoir storage at the end of April was 939 TAF, as compared to about 920 TAF at this time last year. The combined storage of SWP's southern reservoirs was about 664 TAF on April 30 as compared to 658 TAF at this time last year.

SWP water deliveries through April 2004 were about 1.05 MAF. This is a combination of project, transfer, and exchange waters. This was about 246 TAF more than through April 2003. Due to extremely dry conditions continuing into April, the Department's SWP allocation remained unchanged at 65% (2.68 MAF).

**MAJOR WATER DISTRIBUTION PROJECTS
RESERVOIR STORAGE**

(AVERAGES BASED ON 1951-2000 OR PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	2003 1,000 AF	STORAGE AT END OF April		
				2004 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
<i>STATE WATER PROJECT</i>						
Lake Oroville	3,538	2,967	3,073	3,049	103%	86%
San Luis Reservoir (SWP)	1,062	983	920	939	95%	88%
Lake Del Valle	77	39	41	41	106%	53%
Lake Silverwood	73	68	72	72	106%	99%
Pyramid Lake	171	163	162	161	99%	94%
Castaic Lake	324	286	298	310	108%	96%
Perris Lake	132	117	126	121	104%	92%
<i>CENTRAL VALLEY PROJECT</i>						
Trinity Lake	2,448	2,045	2,216	2,226	109%	91%
Lake Shasta	4,552	3,950	4,537	4,060	103%	89%
Whiskeytown Lake	241	231	248	232	100%	96%
Folsom Lake	977	728	831	630	87%	65%
New Melones Reservoir	2,420	1,446	1,427	1,471	102%	61%
Millerton Lake	520	352	502	473	134%	91%
San Luis Reservoir (CVP)	971	880	898	830	94%	85%
<i>COLORADO RIVER PROJECT</i>						
Lake Mead	26,159	20,374	16,287	14,866	73%	57%
Lake Powell	25,002	19,267	12,243	10,193	53%	41%
Lake Mohave	1,810	1,672	1,686	1,680	100%	93%
Lake Havasu	619	588	592	558	95%	90%
<i>EAST BAY MUNICIPAL UTILITY DISTRICT</i>						
Pardee Res	198	182	189	176	97%	89%
Camanche Reservoir	417	258	312	357	138%	86%
East Bay (4 res.)	147	136	139	138	102%	94%
<i>CITY AND COUNTY OF SAN FRANCISCO</i>						
Hetch-Hetchy Reservoir	360	157	238	260	165%	72%
Cherry Lake	268	145	204	248	171%	93%
Lake Eleanor	26	15	10	26	179%	101%
South Bay/Peninsula (4 res.)	225	182	162	149	82%	66%
<i>CITY OF LOS ANGELES (D.W.P.)</i>						
Lake Crowley	183	124	128	120	97%	66%
Grant Lake	48	26	18	23	91%	49%
Other Aqueduct Storage (6 res.)	95	75	64	54	72%	57%

TELEMETERED SNOW WATER EQUIVALENTS

May 1, 2004

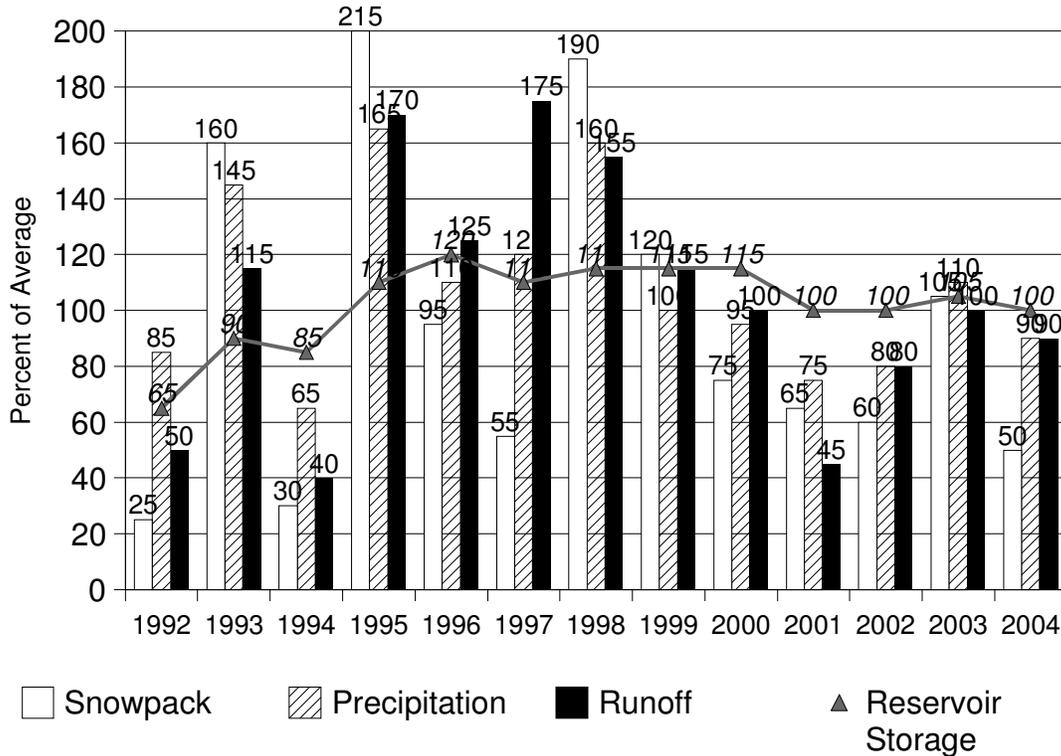
(AVERAGES BASED ON PERIOD RECORD)

BASIN NAME	ELEV	APRIL 1 AVERAGE	INCHES OF WATER EQUIVALENT			
			PERCENT May 1 OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS	
TRINITY RIVER						
Peterson Flat	7150'	29.2	17.3	59.4	18.2	23.0
Red Rock Mountain	6700'	39.6	43.3	109.4	44.0	48.6
Bonanza King	6450'	40.5	—	—	—	33.0
Shimmy Lake	6400'	40.3	—	—	—	—
Middle Boulder 3	6200'	28.3	13.4	47.2	14.0	17.3
Highland Lakes	6030'	29.9	—	—	—	—
Scott Mountain	5900'	16.0	9.0	56.2	10.0	16.3
Mumbo Basin	5650'	22.4	10.2	45.6	11.9	19.7
Big Flat	5100'	15.8	9.8	62.0	11.0	17.5
SACRAMENTO RIVER						
Cedar Pass	7100'	18.1	2.4	13.3	3.5	9.7
Blacks Mountain	7050'	12.7	14.7	115.6	14.7	16.8
Sand Flat	6750'	42.4	31.5	74.4	32.5	38.4
Medicine Lake	6700'	32.6	29.6	90.9	30.6	36.0
Adin Mountain	6200'	13.6	0.0	0.0	0.0	1.0
Snow Mountain	5950'	27.0	18.7	69.3	19.8	26.3
Slate Creek	5700'	29.0	15.0	51.7	16.5	18.3
Stouts Meadow	5400'	36.0	30.9	85.9	32.0	37.9
FEATHER RIVER						
Kettle Rock	7300'	25.5	2.8	10.8	4.0	12.6
Grizzly Ridge	6900'	29.7	6.6	22.2	7.7	13.8
Pilot Peak	6800'	52.6	11.0	21.0	12.1	18.1
Gold Lake	6750'	36.5	29.6	81.2	30.4	35.0
Humbug	6500'	28.0	29.2	104.3	30.4	36.4
Rattlesnake	6100'	14.0	0.0	0.0	0.0	5.8
Bucks Lake	5750'	44.7	41.2	92.1	42.8	50.5
Four Trees	5150'	20.0	0.0	0.0	0.0	1.5
EEL RIVER						
Noel Spring	5100'	—	0.0	—	0.0	0.0
YUBA & AMERICAN RIVERS						
Lake Lois	8600'	39.5	32.7	82.8	33.1	36.1
Schneiders	8750'	34.5	24.6	71.4	26.1	30.8
Caples Lake	8000'	30.9	9.5	30.6	10.3	15.9
Alpha	7600'	35.9	1.6	4.3	2.8	11.0
Meadow Lake	7200'	55.5	33.9	61.1	34.6	41.0
Silver Lake	7100'	22.7	0.0	0.0	0.0	1.8
Central Sierra Snow Lab	6900'	33.6	5.9	17.6	7.3	14.9
Huysink	6600'	42.6	20.5	48.2	21.2	25.9
Van Vleck	6700'	35.9	—	—	—	—
Robbs Saddle	5900'	21.4	0.0	0.0	0.0	7.0
Greek Store	5600'	21.0	0.0	0.0	0.0	6.8
Blue Canyon	5280'	9.0	0.0	0.0	0.0	0.0
Robbs Powerhouse	5150'	5.2	0.0	0.0	0.0	0.0
MOKELUMNE & STANISLAUS RIVERS						
Deadman Creek	9250'	37.2	17.2	46.2	17.7	22.1
Highland Meadow	8700'	47.9	28.8	60.1	29.4	32.4
Gianelli Meadow	8400'	55.5	25.5	46.0	26.3	29.5
Lower Relief Valley	8100'	41.2	21.2	51.4	22.0	26.4
Blue Lakes	8000'	33.1	21.6	65.3	22.0	25.4
Mud Lake	7900'	44.9	32.1	71.4	33.0	37.5
Stanislaus Meadow	7750'	47.5	25.4	53.5	26.4	31.0
Bloods Creek	7200'	35.5	—	—	—	—
Black Springs	6500'	32.0	10.9	34.2	12.0	18.3
TUOLUMNE & MERCED RIVERS						
Tioga Pass Entrance	9945'	—	—	—	—	—
Dana Meadows	9800'	27.7	13.7	49.5	14.5	19.1
Slide Canyon	9200'	41.1	27.5	67.0	28.2	36.0
Lake Tenaya	8150'	33.1	14.2	42.8	14.9	19.5
Tuolumne Meadows	8600'	22.6	0.0	0.0	0.0	6.1
Horse Meadow	8400'	48.6	23.6	48.5	23.6	29.5
Ostrander Lake	8200'	34.8	7.8	22.4	9.1	14.3
Paradise Meadow	7650'	41.3	21.4	51.7	22.0	29.9
Gin Flat	7050'	34.2	4.6	13.3	5.8	12.7
Lower Kibbie Ridge	6700'	27.4	0.0	0.0	0.0	0.0

BASIN NAME	STATION NAME	ELEV	INCHES OF WATER EQUIVALENT				
			APRIL 1 AVERAGE	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS	
SAN JOAQUIN RIVER							
	Volcanic Knob	10050'	30.1	17.0	56.5	17.7	20.3
	Agnew Pass	9450'	32.3	4.8	14.8	5.4	13.3
	Kaiser Point	9200'	37.8	2.3	6.1	3.9	11.0
	Green Mountain	7900'	30.8	0.0	0.0	0.0	6.0
	Tamarack Summit	7550'	30.5	0.0	0.0	0.0	2.5
	Chilkoot Meadow	7150'	38.0	5.5	14.5	7.3	16.2
	Huntington Lake	7000'	20.1	0.0	0.0	0.0	0.5
	Graveyard Meadow	6900'	18.8	0.0	0.0	0.0	0.0
	Poison Ridge	6900'	28.9	—	—	—	—
KINGS RIVER							
	Bishop Pass	11200'	34.0	20.7	60.8	21.3	22.0
	Charlotte Lake	10400'	27.5	19.2	69.8	20.0	24.0
	State Lakes	10300'	29.0	13.2	45.5	14.3	22.9
	Mitchell Meadow	9900'	32.9	—	—	—	—
	Blackcap Basin	10300'	34.3	21.0	61.2	21.4	22.5
	Upper Burnt Corral	9700'	34.6	17.1	49.5	17.8	21.0
	West Woodchuck Meadow	9100'	32.8	0.0	0.0	0.0	9.5
	Big Meadows	7600'	25.9	0.0	0.0	0.0	3.6
KAWEAH & TULE RIVERS							
	Farewell Gap	9500'	34.5	16.9	48.9	17.6	22.3
	Quaking Aspen	7200'	21.0	0.0	0.0	0.0	0.0
	Giant Forest	6650'	10.0	0.0	0.0	0.0	0.0
KERN RIVER							
	Upper Tyndall Creek	11400'	27.7	15.8	57.0	16.2	19.6
	Crabtree Meadow	10700'	19.8	6.8	34.6	7.3	10.0
	Chagoopa Plateau	10300'	21.8	7.2	33.0	7.2	10.5
	Pascoes	9150'	24.9	6.5	26.1	8.0	14.1
	Tunnel Guard Station	8900'	15.6	0.0	0.0	0.0	0.0
	Wet Meadows	8950'	30.3	—	—	—	—
	Casa Vieja Meadows	8300'	20.9	0.0	0.0	0.0	1.4
	Beach Meadows	7650'	11.0	0.0	0.0	0.0	0.0
SURPRISE VALLEY AREA							
	Dismal Swamp	7050'	29.2	23.5	80.5	24.3	26.8
TRUCKEE RIVER							
	Mount Rose Ski Area	8900'	38.5	23.5	61.0	24.0	29.2
	Independence Lake	8450'	41.4	42.8	103.4	42.9	44.8
	Big Meadows	8700'	25.7	0.0	0.0	0.7	7.0
	Squaw Valley	8200'	46.5	27.5	59.1	28.1	35.6
	Independence Camp	7000'	21.8	0.0	0.0	0.0	0.0
	Independence Creek	6500'	12.7	0.0	0.0	0.0	0.0
	Truckee 2	6400'	14.3	0.0	0.0	0.0	0.0
LAKE TAHOE BASIN							
	Heavenly Valley	8800'	28.1	4.6	16.4	5.7	11.8
	Hagans Meadow	8000'	16.5	0.0	0.0	0.0	0.0
	Marlette Lake	8000'	21.1	4.6	21.8	5.6	12.1
	Echo Peak 5	7800'	39.5	12.7	32.2	14.0	21.9
	Rubicon Peak 2	7500'	29.1	13.5	46.4	14.3	18.5
	Tahoe City Cross	6750'	16.0	0.0	0.0	0.0	0.0
	Ward Creek 3	6750'	39.4	17.4	44.2	18.5	25.1
	Fallen Leaf Lake	6250'	7.0	0.0	0.0	0.0	0.0
CARSON RIVER							
	Ebbetts Pass	8700'	38.8	19.4	50.0	20.3	26.9
	Poison Flat	7900'	16.2	0.0	0.0	0.0	0.0
	Monitor Pass	8350'	—	0.0	—	0.0	0.8
	Spratt Creek	6150'	4.5	0.0	0.0	0.0	0.0
WALKER RIVER							
	Leavitt Lake	9600'	—	54.0	—	54.6	55.5
	Virginia Lakes	9300'	20.3	11.5	56.7	11.9	14.7
	Loddell Lake	9200'	17.3	0.0	0.0	0.0	4.7
	Sonora Pass Bridge	8750'	26.0	14.5	55.8	15.3	19.9
	Leavitt Meadows	7200'	8.0	0.0	0.0	0.0	0.0
OWENS RIVER/MONO LAKE							
	Gem Pass	10750'	31.7	25.4	80.0	25.5	28.9
	Sawmill	10200'	19.4	5.0	25.8	5.8	8.7
	Cottonwood Lakes	10150'	11.6	0.0	0.0	0.0	1.7
	Big Pine Creek	9800'	17.9	6.1	33.9	6.7	10.7
	South Lake	9600'	16.0	3.6	22.5	3.6	8.4
	Mammoth Pass	9300'	42.4	25.1	59.2	25.9	30.2
	Rock Creek Lakes	10000'	14.0	0.0	0.0	0.0	0.2

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

This year's annual meeting of the California Cooperative Snow Survey program will be its 75th anniversary. The meeting will be held this coming fall. Please plan on attending this event. Details will be posted on cdec.water.ca.gov/snow as they are available.

April did not provide the boost to Spring snowpack that it did last year. <http://www.wrh.noaa.gov/cnrfc/snowmelt.pdf> has the latest 5 to 20 day spring snowmelt forecasts along with the day on which a river peaked.

On this month's cover is the final in the series of historic scenes of early snow surveys in the San Joaquin drainage courtesy of Gene Rose. In this photograph Ed Steen is shown with "illegal skies" on a 1927 survey along Big Creek. Perhaps skies were too avant garde for that era. Note the pistol, apparently snow surveys were more dangerous back then.

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 1951-2000 (50 years, except for data sites established after 1951).

PRECIPITATION -Averages are based on April 1 data for the period 1951-2000 (50 years, except for data sites established after 1951).

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 1951-2000

Reservoir storage averages are based on the period from 1951(or beginning of operation) to 2000.

For more details contact California Cooperative Snow Surveys, P.O. Box 219000, Sacramento, CA 95821-9000, (916) 574-2635 or gridley@water.ca.gov.

INDICES OF WATER AVAILABILITY

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 Sacramento Valley Water Year Hydrologic Classification (40-30-30 Index). The values 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 San Joaquin Valley Water Year Hydrologic Classification (60-20-20 Index). In a similar manner the values 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.

Runoff of the eight major river of the Sacramento and San Joaquin Regions is the sum of the runoff in the eight major rivers used in the two above indices.

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

First Class

