



California Cooperative
Snow Surveys
Bulletin 12-3-01

State of California
The Resources Agency

Department of
Water Resources

Water Conditions in California

Report 3 April 1, 2001



Gray Davis
Governor
State of California

Mary D. Nichols
Secretary for Resources
The Resources Agency

Thomas M. Hannigan
Director
Department of Water Resources

STATE OF CALIFORNIA

Gray Davis, Governor

THE RESOURCES AGENCY

Mary D. Nichols, Secretary for Resources

Department of Water Resources

Thomas M. Hannigan
Director

Raymond D. Hart
Deputy Director

Steve Macaulay
Chief Deputy Director

Jonas M. Minton
Deputy Director

L. Lucinda Chipponeri
Assistant Director for Legislation

Susan N. Weber
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
J. Pierre Stephens Senior Engineer, W.R.
Edward Diamond Associate Engineer, 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
Oroville-Wyandotte Irrigation District
Placer County Water Agency
Sacramento Municipal Utility District
San Joaquin Exchange Contractors Water Association
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 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 April 1, 2001

After a good February, March was disappointing with far below normal precipitation except for some areas in southern California. The month started well with a major storm in the first week which brought high water in Santa Barbara County and nearby areas. But the last half was dry and relatively warm with significant melting of the snowpack near the end of the month. As a result of the dry weather and early snowmelt, runoff forecasts have been lowered by about 15 percent from a month ago. Reservoir storage continues near normal insuring sufficient supplies for many users this year, except for the major State and federal water projects and in northeastern California.

Forecasts of April through July runoff have been lowered to about 55 percent of average, with the highest percentage in the North Coast region and lowest on the east side of the Sierra in the North Lahontan region. Water year forecasts are also at 55 percent statewide compared to actual runoff of 95 percent last year.

Snowpack water content is about 60 percent of average compared to 100 percent last year. The pack peaked early this season in mid-March with significant melting during the later part of the month. The overall water content decreased about ten percent during March.

Precipitation during March was below normal, 70 percent of average statewide with some exceptions in certain southern California areas. As a result seasonal precipitation decreased to about 75 percent statewide compared to 95 percent one year ago. Generally, percentages decrease from south to north.

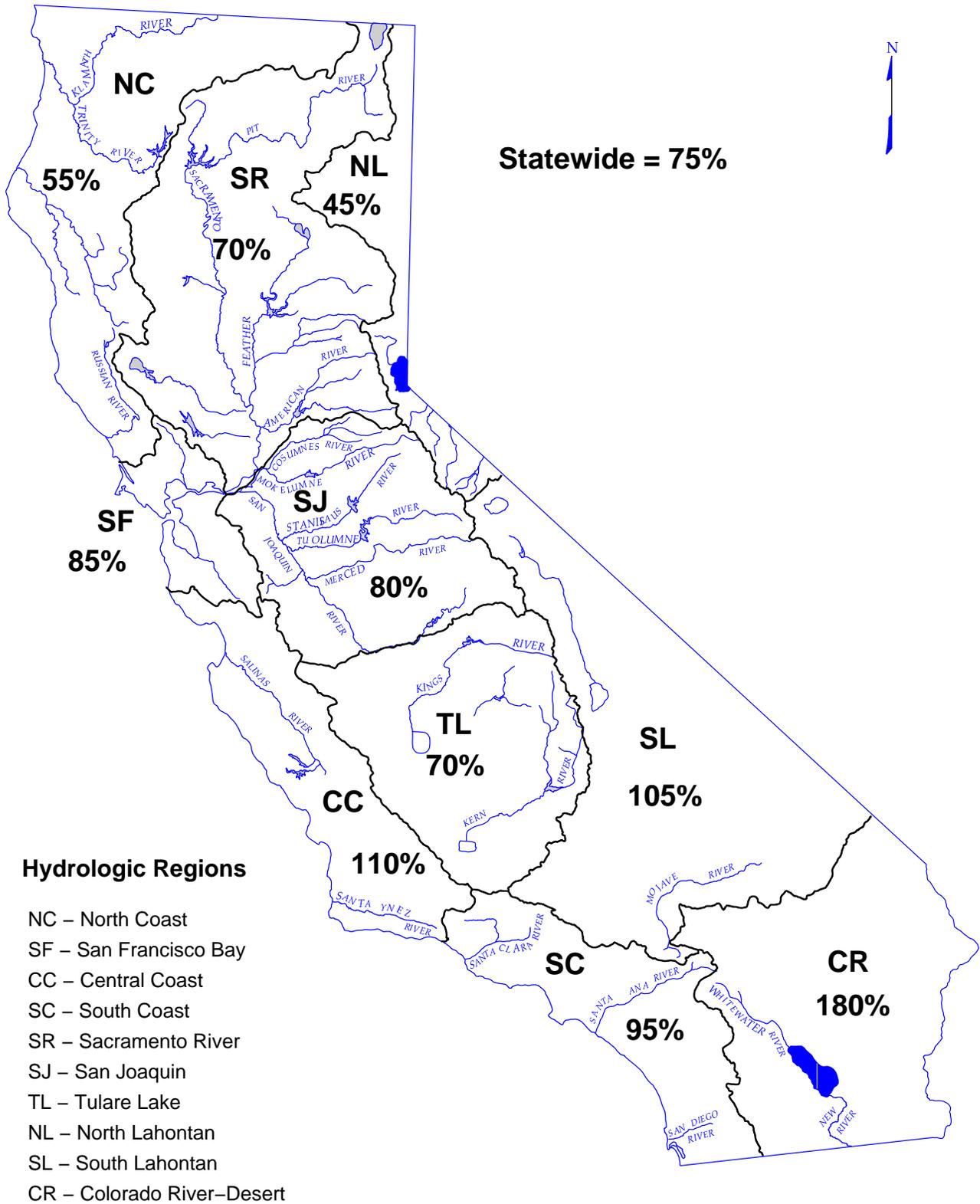
Runoff so far this season has been about 45 percent of average, much less than the 100 percent reported last year at this time. March runoff was approximately 65 percent of average, augmented by some early snowmelt. Estimated runoff of the eight major rivers of the Sacramento and San Joaquin River regions was 2.4 million acre-feet during March.

Reservoir storage increased at a pace slightly more than average during March and is 105 percent of average for this date overall. Last year storage stood at 115 percent. Lake Oroville gained 0.2 million acre-feet during March but remains much below average.

SUMMARY OF WATER CONDITIONS IN PERCENT OF AVERAGE

HYDROLOGIC REGION	PRECIPITATION OCTOBER 1 TO DATE	APRIL 1 SNOW WATER CONTENT	APRIL 1 RESERVOIR STORAGE	RUNOFF OCTOBER 1 TO DATE	APR-JULY RUNOFF FORECAST	WATER YEAR RUNOFF FORECAST
NORTH COAST	55	60	100	30	65	50
SAN FRANCISCO BAY	85	--	100	45	--	--
CENTRAL COAST	110	--	135	75	--	--
SOUTH COAST	95	--	105	30	--	--
SACRAMENTO RIVER	70	55	95	55	55	55
SAN JOAQUIN RIVER	80	70	115	50	60	55
TULARE LAKE	70	65	95	50	55	55
NORTH LAHONTAN	45	50	115	50	40	45
SOUTH LAHONTAN	105	75	110	75	75	75
COLORADO RIVER- DESERT	180	--	--	--	--	--
STATEWIDE	75	60	105	45	55	55

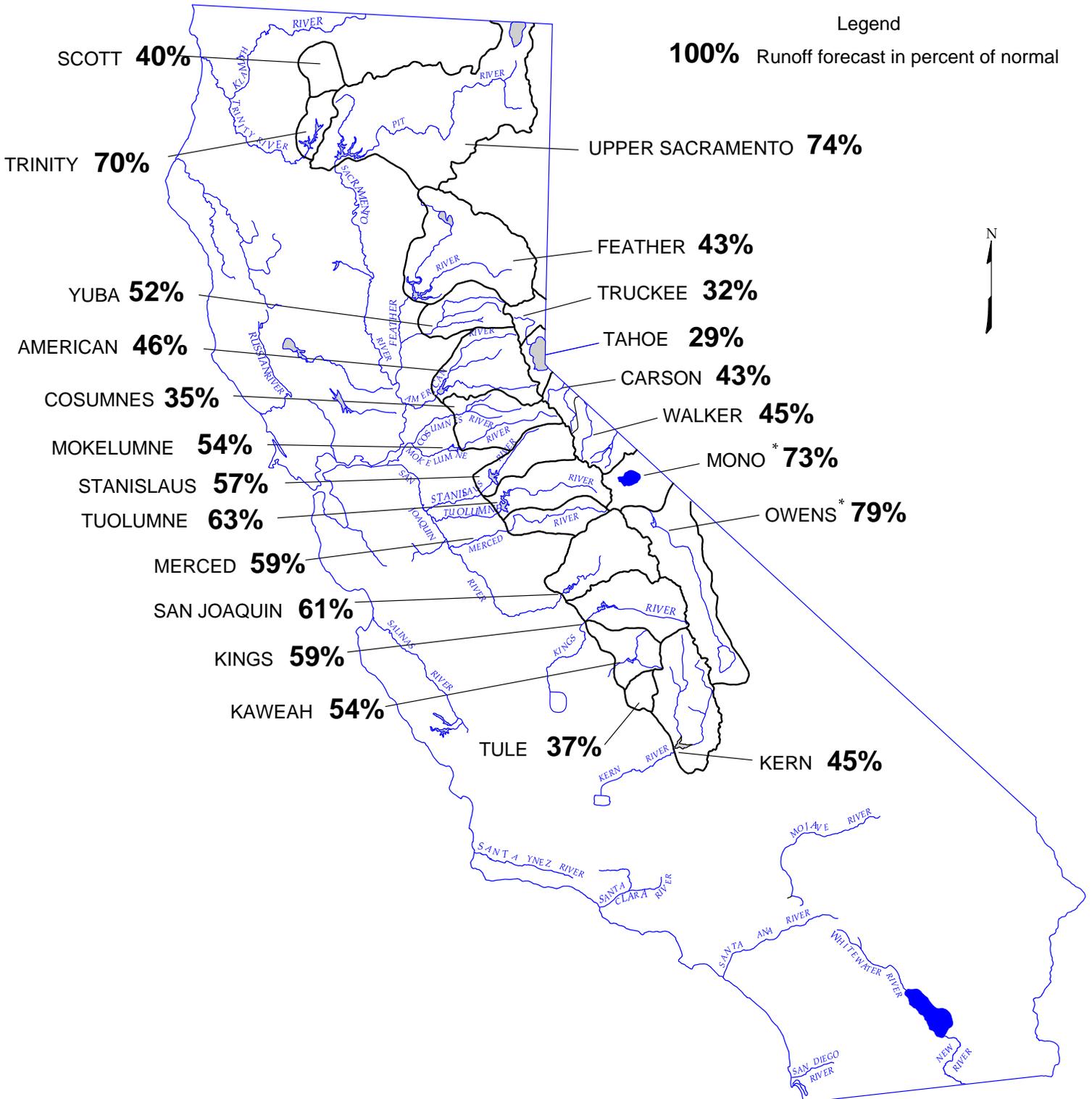
SEASONAL PRECIPITATION
 IN PERCENT OF AVERAGE TO DATE
 October 1, 2000 through March 31, 2001



WATER YEAR IS OCTOBER 1 THROUGH SEPTEMBER 30

FORECAST OF APRIL – JULY UNIMPAIRED SNOWMELT RUNOFF

April 1, 2001



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

**APRIL 1, 2001 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 Shasta Lake (3)	297	702	39	240	81%	
McCloud River at Shasta Lake	392	850	185	310	79%	
Pit River at Shasta Lake	1,056	2,203	480	740	70%	
Total Inflow to Shasta Lake	1,801	3,525	726	1,340	74%	1,100 - 1,980
Sacramento River above Bend Bridge, near Red Bluff	2,451	5,075	943	1,650	67%	1,330 - 2,570
Feather River						
Feather River at Lake Almanor near Prattville (3)	333	675	120	170	51%	
North Fork at Pulga (3)	1,028	2,416	243	450	44%	
Middle Fork near Clio (4)	86	518	4	30	35%	
South Fork at Ponderosa Dam (3)	110	267	13	30	27%	
Total Inflow to Oroville Reservoir	1,831	4,676	392	780	43%	540 - 1,480
Yuba River						
North Yuba below Goodyears Bar (3)	286	647	51	140	49%	
Inflow to Jackson Mdws and Bowman Reservoirs (3)	112	236	25	55	49%	
South Yuba at Langs Crossing (3)	233	481	57	120	52%	
Yuba River at Smartville	1,029	2,424	200	530	52%	380 - 900
American River						
North Fork at North Fork Dam (3)	262	716	43	120	46%	
Middle Fork near Auburn (3)	522	1,406	100	240	46%	
Silver Creek Below Camino Diversion Dam (3)	173	386	37	80	46%	
Total Inflow to Folsom Reservoir	1,261	3,074	229	580	46%	400 - 1,060
SAN JOAQUIN RIVER						
Cosumnes River at Michigan Bar	128	363	8	45	35%	20 - 115
Mokelumne River						
North Fork near West Point (5)	437	829	104	230	53%	
Total Inflow to Pardee Reservoir	459	1,065	102	250	54%	180 - 380
Stanislaus River						
Middle Fork below Beardsley Dam (3)	334	702	64	190	57%	
North Fork Inflow to McKays Point Dam (3)	224	503	34	120	54%	
Total Inflow to New Melones Reservoir	699	1,710	116	400	57%	290 - 620
Tuolumne River						
Cherry Creek & Eleanor Creek near Hetch Hetchy (3)	322	727	97	190	59%	
Tuolumne River near Hetch Hetchy (3)	606	1,392	153	390	64%	
Total Inflow to Don Pedro Reservoir	1,184	2,682	301	740	63%	590 - 1,050
Merced River						
Merced River at Pohono Bridge (3)	362	888	80	220	61%	
Total Inflow to Lake McClure	611	1,587	123	360	59%	290 - 550
San Joaquin River						
San Joaquin River at Mammoth Pool (6)	1,014	2,279	235	620	61%	
Big Creek below Huntington Lake (6)	95	264	11	50	53%	
South Fork near Florence Lake (6)	202	511	58	120	59%	
Total Inflow to Millerton Lake	1,212	3,355	262	740	61%	580 - 1,040
TULARE LAKE						
Kings River						
North Fork Kings River near Cliff Camp (3)	239	565	50	140	59%	
Total Inflow to Pine Flat Reservoir	1,183	3,114	273	700	59%	540 - 960
Kaweah River at Terminus Reservoir	276	814	61	150	54%	115 - 230
Tule River at Success Reservoir	59	259	2	22	37%	12 - 50
Kern River						
Kern River near Kernville (3)	373	1,203	83	170	46%	
Total Inflow to Isabella Reservoir	442	1,657	84	200	45%	160 - 310

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1946-1995 unless otherwise not

(3) 50 year average based on years 1941-9

(4) 44 year average based on years 1936-79

(5) 36 year average based on years 1936-7

(6) 45 year average based on years 1936-8

**APRIL 1, 2001 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)	
856	1,964	165												
1,184	2,353	577												
3,078	5,647	1,484												
5,896	10,796	2,479	1,210	555	650	480	370	270	220	425	4,180	71%	3,860	- 4,930
8,518	17,180	3,294	1,645	920	1,050	640	440	310	260	495	5,760	68%	5,360	- 6,840
780	1,269	366												
2,417	4,400	666												
219	637	24												
291	562	32												
4,526	9,492	994	495	220	400	350	230	120	80	125	2,020	45%	1,760	- 2,820
564	1,056	102												
181	292	30												
379	565	98												
2,337	4,926	369	165	95	205	230	210	70	20	25	1,020	44%	860	- 1,410
616	1,234	66												
1,070	2,575	144												
318	705	59												
2,674	6,381	349	180	105	230	270	240	60	10	5	1,100	41%	920	- 1,590
378	1,253	20	19	21	32	25	15	4	1	1	118	31%	90	- 190
626	1,009	197												
736	1,800	129	35	15	60	90	125	30	5	0	360	49%	280	- 500
471	929	88												
1,131	2,952	155	65	35	110	150	170	65	15	10	620	55%	510	- 850
461	1,147	123												
770	1,661	258												
1,857	4,430	383	90	60	175	230	330	150	30	15	1,080	58%	920	- 1,400
461	1,020	92												
952	2,859	150	40	30	90	120	160	65	15	5	525	55%	450	- 720
1,337	2,964	308												
112	298	14												
248	653	71												
1,753	4,642	362	80	40	125	190	310	180	60	35	1,020	58%	860	- 1,330
284	607	58												
1,647	4,294	383	70	35	100	180	300	180	40	25	930	56%	760	- 1,200
431	1,402	92	25	13	32	50	65	30	5	5	225	52%	180	- 310
135	615	16	12	7	10	11	7	3	1	1	52	39%	40	- 85
558	1,577	163												
694	2,309	175	50	20	35	55	70	55	20	20	325	47%	280	- 450

* Unimpaired runoff in prior months based on measured flow:

**APRIL 1, 2001 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
NORTH COAST					
Trinity River Total Inflow to Lewiston Lake	642	1,593	80	450	70%
Scott River Near Fort Jones	200	n/a	n/a	80	40%
Klamath River Total inflow to Upper Klamath Lake (3)	509	758	280	160	31%
<hr/>					
NORTH LAHONTAN					
Truckee River Lake Tahoe to Farad accretions	264	713	58	85	32%
Lake Tahoe Rise (assuming gates closed, in feet)	1.4	3.6	0.2	0.4	29%
Carson River West Fork at Woodfords	54	135	12	22	41%
East Fork near Gardnerville	183	407	43	80	44%
Walker River West Fork near Coleville	143	330	35	70	49%
East Fork near Bridgeport	61	209	7	22	36%
<hr/>					
SOUTH LAHONTAN					
Owens River Total tributary flow to Owens River (4)	226	579	96	179	79%

(1) See inside back cover for definition

(2) All 50 year averages are based on years 1946-1995 unless otherwise not

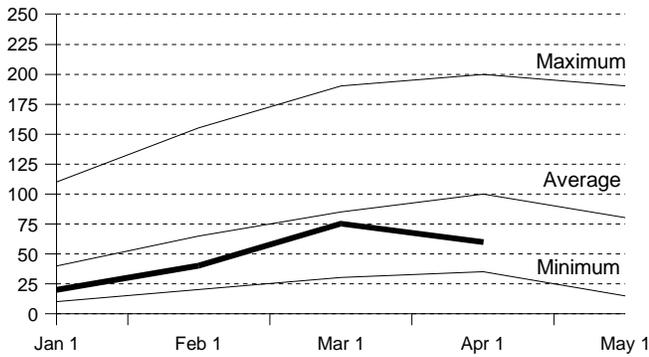
(3) Forecast by U.S. Natural Resources Conservation Service and National Weather Service California-Nevada River Forecast Center
April through September forecast, 30 year average based on years 1961-199

(4) Forecast by Department of Water and Power, City of Los Angeles

NORTH COAST REGION

Snowpack Accumulation

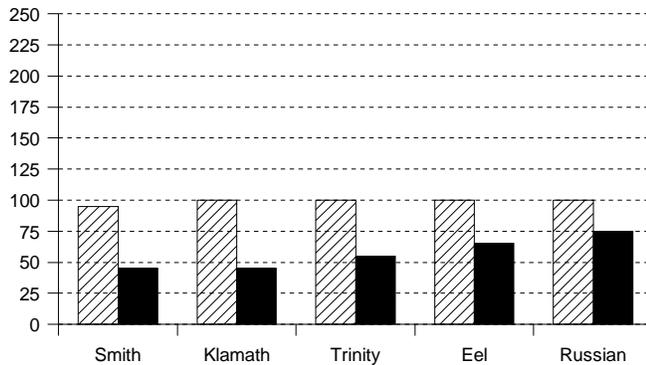
Water Content in % of April 1 Average



SNOWPACK– First of the month measurements made at 18 snow courses indicate an area wide snow water equivalent of 19.7 inches. This is 60 percent of the April 1 average. Last year at this time the pack was holding 35.2 inches of water.

Precipitation

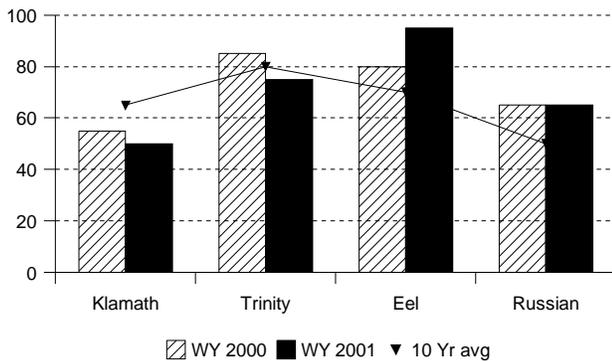
October 1 to date in % of Average



PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on this area was 55 percent of normal. Precipitation last month was about 60 percent of the monthly average. Seasonal precipitation at this time last year stood at 100 percent of normal.

Reservoir Storage

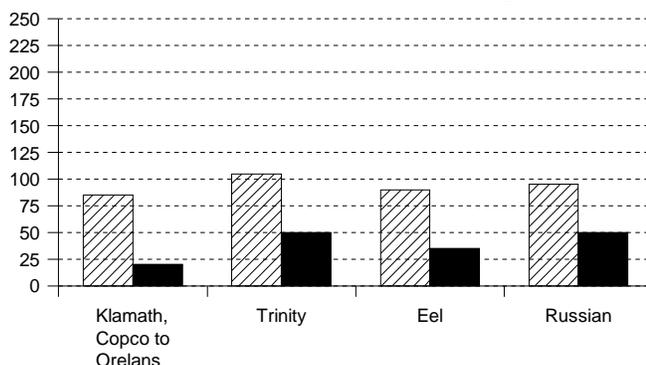
Contents of major reservoirs in % of capacity



RESERVOIR STORAGE– First of the month storage in 7 reservoirs was 2.4 million acre–feet which is 100 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 110 percent of average.

Runoff

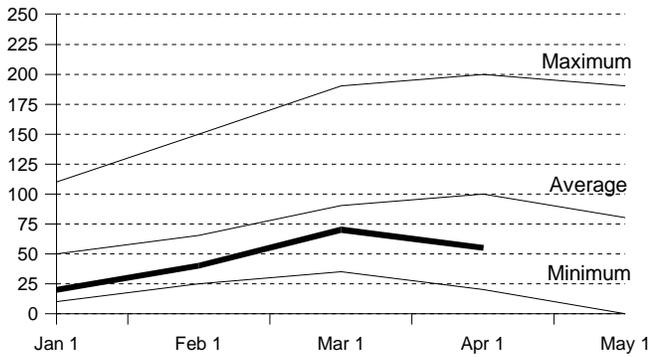
October 1 to date in % of average



RUNOFF –Seasonal runoff of streams draining the area totaled 3.0 million acre–feet which is 30 percent of the average for this period. Last year, runoff for the same period was 90 percent of average.

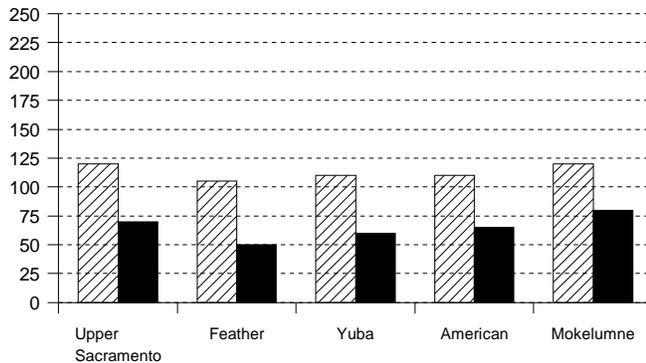
Snowpack Accumulation

Water Content in % of April 1 Average



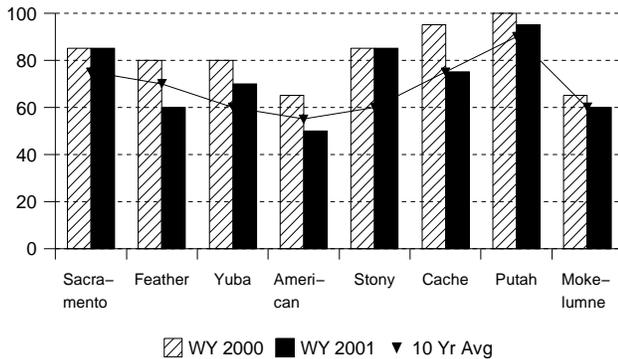
Precipitation

October 1 to date in % of Average



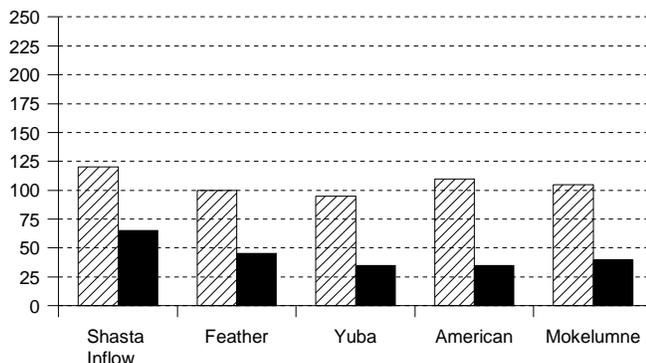
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SACRAMENTO RIVER REGION

SNOWPACK– First of the month measurements made at 81 snow courses indicate an area wide snow water equivalent of 18.0 inches. This is 55 percent of the April 1 average. Last year at this time the pack was holding 30.2 inches of water.

PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on this area was 70 percent of normal. Precipitation last month was about 65 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 11.5 million 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 110 percent of average.

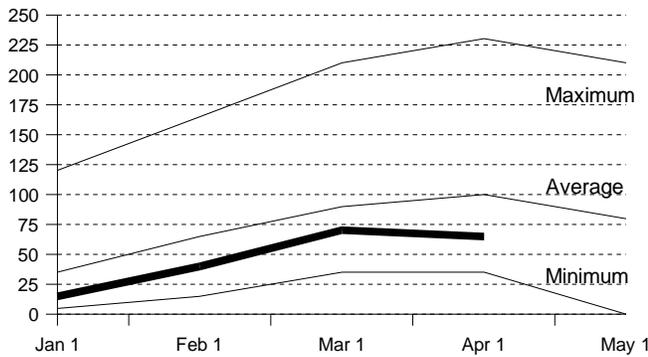
RUNOFF – Seasonal runoff of streams draining the area totaled 5.7 million acre–feet which is 55 percent of average for this period. Last year, runoff for the same period was 110 percent of average.

The **Sacramento Region 40–30–30 Water Supply Index** is forecast to be 5.8 assuming median meteorological conditions for the remainder of the year. This classifies the year as "dry" in the Sacramento Valley according to the State Water Resources Control Board.

SAN JOAQUIN RIVER AND TULARE LAKE REGIONS

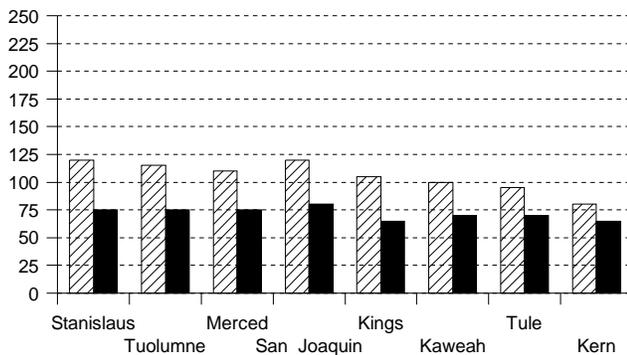
Snowpack Accumulation

Water Content in % of April 1 Average



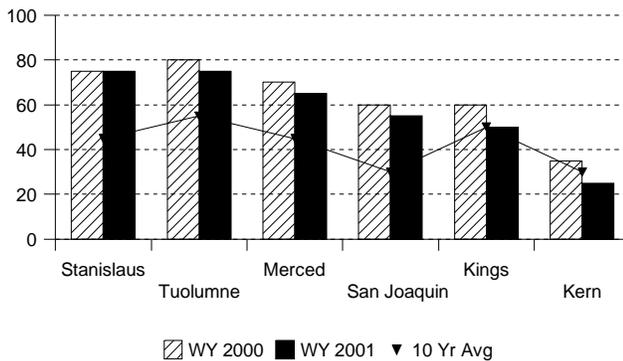
Precipitation

October 1 to date in % of Average



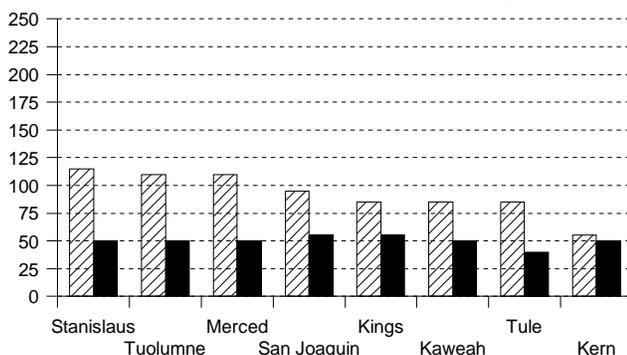
Reservoir Storage

Contents of major reservoirs in % of capacity



Runoff

October 1 to date in % of average



SNOWPACK– First of the month measurements made at 68 **San Joaquin Region** snow courses indicate an area wide snow water equivalent of 21.2 inches. This is 70 percent of the April 1 average. Last year at this time the pack was holding 31.2 inches of water.

At the same time 46 **Tulare Lake Region** snow courses indicated a basin-wide snow water equivalent of 15.7 inches which is 65 percent of the average for April 1. Last year at this time the basin was holding 23.2 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 70 percent of the monthly average. Seasonal precipitation at this time last year stood at 115 percent of normal. Seasonal precipitation on the **Tulare Lake Region** was 70 percent of normal. Precipitation last month was about 30 percent of the monthly average. Seasonal precipitation at this time last year stood at 95 percent of normal.

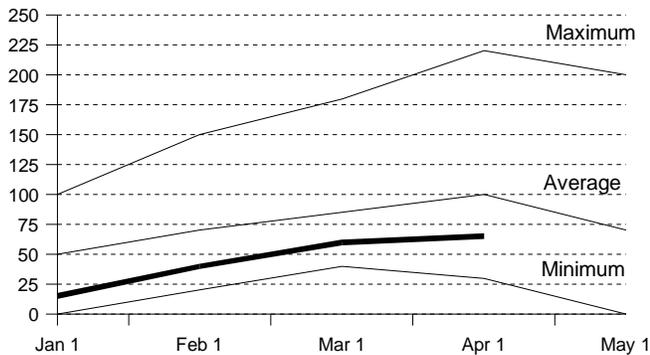
RESERVOIR STORAGE– First of the month storage in 34 **San Joaquin Region** reservoirs was 8.4 million acre-feet which is 115 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 125 percent of average. First of the month storage in 6 **Tulare Lake Region** reservoirs was 827 thousand acre-feet which is 95 percent of average and about 40 percent of available capacity. Storage in these reservoirs at this time last year was 120 percent of average.

RUNOFF– Seasonal runoff of streams draining the **San Joaquin Region** totaled 1.1 million acre-feet which is 50 percent of average for this period. Last year, runoff for the same period was 110 percent of average. Seasonal runoff of streams draining the **Tulare Lake Basin** totaled 413 thousand acre-feet which is 50 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 2.2 assuming median meteorological conditions. This classifies the year as "dry" in the San Joaquin Region according to the State Water Resources Control Board.

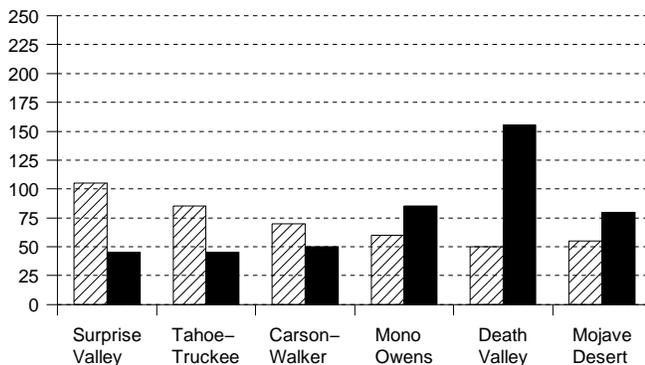
Snowpack Accumulation

Water Content in % of April 1 Average



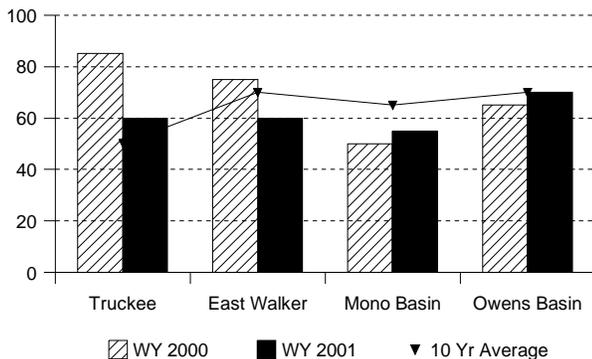
Precipitation

October 1 to date in % of Average



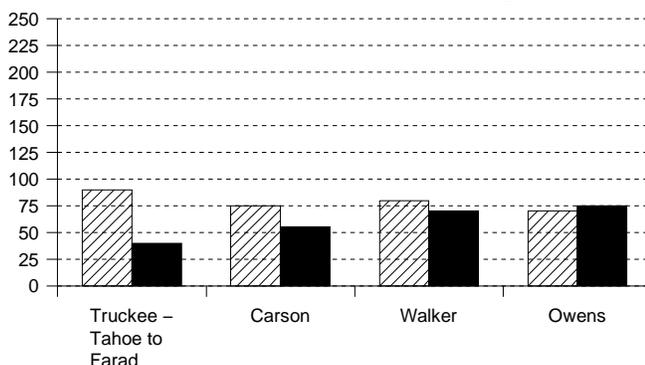
Reservoir Storage

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 17 **North Lahontan snow** courses indicate an area wide snow water equivalent of 14.6 inches. This is 50 percent of the April 1 average. Last year at this time the pack was holding 23.6 inches of water. At the same time 22 **South Lahontan Region** snow courses indicated a basin-wide snow water equivalent of 15.8 inches which is 75 percent of the average for April 1. Last year at this time the basin was holding 19.6 inches of water.

PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on the **North Lahontan** was 45 percent of normal. Precipitation last month was about 65 percent of the monthly average. Seasonal precipitation at this time last year stood at 85 percent of normal. Seasonal precipitation on the **South Lahontan** was 105 percent of normal. Precipitation last month was about 95 percent of the monthly average. Seasonal precipitation at this time last year stood at 55 percent of normal.

RESERVOIR STORAGE– First of the month storage in 5 **North Lahontan** reservoirs was 633 thousand acre-feet which is 115 percent of average. About 60 percent of available capacity was being used. Storage in these reservoirs at this time last year was 165 percent of average. Lake Tahoe was 3.3 feet above its natural rim on April 1. First of the month storage in 8 **South Lahontan** reservoirs was 290 thousand acre-feet which is 110 percent of average and about 70 percent of available capacity. Storage in these reservoirs at this time last year was 110 percent of average.

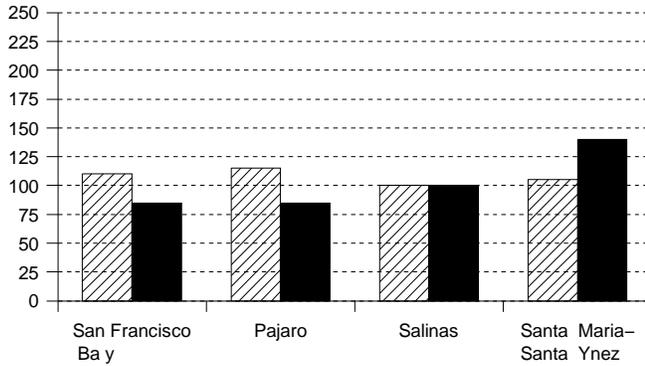
RUNOFF– Seasonal runoff of streams draining the **North Lahontan Region** totaled 144 thousand acre-feet which is 50 percent of average for this period. Last year, runoff for the same period was 85 percent of average.

Seasonal runoff of the Owens River in the **South Lahontan** totaled 49 thousand acre-feet which is 75 percent of average for this period. Last year runoff for this same period was 70 percent of average.

SAN FRANCISCO BAY AND CENTRAL COAST REGIONS

Precipitation

October 1 to date in % of Average

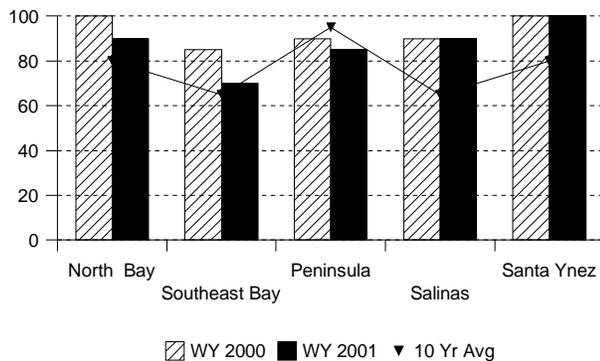


PRECIPITATION – Seasonal precipitation (October 1 through the end of last month) on the **San Francisco Bay Region** was 85 percent of normal. Precipitation last month was about 55 percent of the monthly average. Seasonal precipitation at this time last year stood at 110 percent of normal.

Seasonal precipitation on the **Central Coast Region** was 110 percent of normal. Precipitation last month was about 145 percent of the monthly average. Seasonal precipitation at this time last year stood at 105 percent of normal.

Reservoir Storage

Contents of major reservoirs in % of capacity

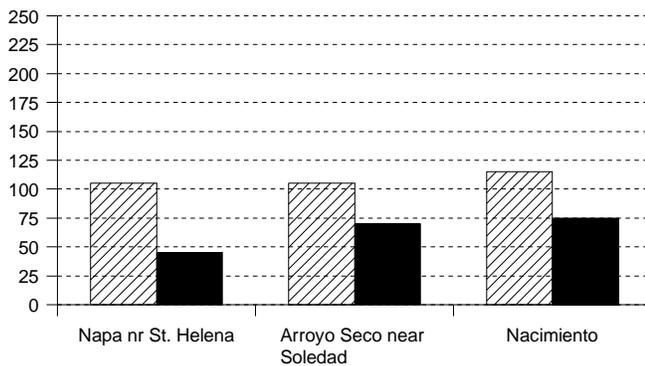


RESERVOIR STORAGE– First of the month storage in 18 **San Francisco Bay Region** reservoirs was 529 thousand acre–feet which is 100 percent of average. About 75 percent of available capacity was being used. Storage in these reservoirs at this time last year was 120 percent of average.

First of the month storage in 6 **Central Coast Region** reservoirs was 890 thousand acre–feet which is 135 percent of average and about 90 percent of available capacity. Storage in these reservoirs at this time last year was 135 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 28 thousand acre–feet which is 45 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 200 thousand acre–feet which is 75 percent of average for this period. Last year runoff for this same period was 110 percent of average.

SOUTH COAST AND COLORADO RIVER REGIONS

PRECIPITATION – October through March (seasonal) precipitation on the **South Coast Region** is 95 percent of normal. March precipitation was 65 percent of the monthly average. Seasonal precipitation at this time last year was 65 percent of normal. Seasonal precipitation on the **Colorado River–Desert Region** is 180 percent of normal. March precipitation was 190 percent of the monthly average. Seasonal precipitation at this time last year stood at 20 percent of average.

RESERVOIR STORAGE – April 1 storage in 29 major **South Coast Region** reservoirs is 1.4 million acre–feet or 105 percent of average. About 70 percent of available capacity is being used. Storage in these reservoirs at this time last year was 110 percent of average. On March 31 combined storage in Lakes Powell, Mead, Mohave and Havasu was about 43 million acre–feet or about 109 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 Region** streams totaled 9 thousand acre–feet which is 30 percent of average. Seasonal runoff from these streams last year was 15 percent of average.

COLORADO RIVER – The April –July inflow to Lake Powell is forecast to be 5.8 million acre–feet, which is 75 percent of average. The April 1 snowpack in the Colorado River basin above Lake Powell is 80 percent of average, lowest in the Green at 69 percent and highest in the San Juan at 100 percent.

CENTRAL VALLEY PROJECT

As of March 31, 2001 CVP storage was 9.3 million acre–feet which is a decrease of 0.2 million acre feet compared to one year ago, and is approximately 116% of normal for that date.

The Bureau of Reclamation announced updated water allocations for the CVP contractors on March 15, 2001. Based on a conservative water supply forecast prepared from information available March 1, 2001, and a water year inflow into Shasta Reservoir of 3.8 million acre–feet, CVP water allocations were: Agricultural contractors North of Delta 60% and South of Delta 40%; Urban contractors North of Delta 85% and South of Delta 75%; Sacramento River water rights and San Joaquin Exchange Contractors 100%; Wildlife Refuges 100%; Friant Contractors will be 85 percent of Class 1 and 0 (zero) percent of Class 2. Updated allocations will be announced in mid–April. 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 3.8 MAF on March 31, 2001, compared with 4.67 MAF at this time in 2000. On March 31 storage at Lake Oroville was about 2.05 MAF as compared to about 2.84 MAF last year.

The State’s share of San Luis Reservoir storage at the end of March was 997 TAF, as compared to about 1.06 MAF at this time last year. The CVP share of San Luis Reservoir filled on January 28, 2001.

The combined storage of SWP’s southern reservoirs was about 639 TAF on March 31 as compared to 653 TAF at this time last year.

SWP water deliveries through March 2001 were about 372 TAF. This is a combination of project, transfer, and exchange waters. This was about 275 TAF less than for the same time period in 2000.

Due to better than average precipitation in February the Department increased its allocation from 25% (1.03 MAF) to 30% (1.33 MAF) for most long–term SWP contractors.

**MAJOR WATER DISTRIBUTION PROJECTS
RESERVOIR STORAGE**

(AVERAGES BASED ON 1946-95 OR PERIOD RECORD)

RESERVOIR	CAPACITY 1,000 AF	AVERAGE STORAGE 1,000 AF	2000 1,000 AF	STORAGE AT END OF March		
				2001 1,000 AF	PERCENT AVERAGE	PERCENT CAPACITY
<i>STATE WATER PROJECT</i>						
Lake Oroville	3,538	2,768	2,839	2,048	74%	58%
San Luis Reservoir (SWP)	1,062	966	1,062	997	103%	94%
Lake Del Valle	77	37	39	35	95%	45%
Lake Silverwood	73	67	91	72	108%	98%
Pyramid Lake	171	161	165	168	105%	98%
Castaic Lake	324	270	299	293	109%	91%
Perris Lake	131	118	119	106	90%	80%
<i>CENTRAL VALLEY PROJECT</i>						
Clair Engle Lake	2,448	1,934	2,093	1,882	97%	77%
Lake Shasta	4,552	3,697	3,752	3,956	107%	87%
Whiskeytown Lake	241	213	214	205	96%	85%
Folsom Lake	977	623	674	602	97%	62%
New Melones Reservoir	2,420	1,419	2,011	1,921	135%	79%
Millerton Lake	520	330	462	376	114%	72%
San Luis Reservoir (CVP)	971	854	965	981	115%	101%
<i>COLORADO RIVER PROJECT</i>						
Lake Mead	26,159	19,797	24,659	22,154	112%	85%
Lake Powell	25,002	17,729	20,819	18,865	106%	75%
Lake Mohave	1,810	1,645	1,658	1,711	104%	95%
Lake Havasu	619	562	535	585	104%	94%
<i>EAST BAY MUNICIPAL UTILITY DISTRICT</i>						
PARDEE RESERVOIR	198	180	187	181	101%	92%
Camanche Reservoir	417	254	281	268	106%	64%
East Bay (4 res.)	151	132	137	135	102%	90%
<i>CITY AND COUNTY OF SAN FRANCISCO</i>						
Hetch-Hetchy Reservoir	360	123	172	191	155%	53%
Cherry Lake	268	113	208	129	114%	48%
Lake Eleanor	26	11	25	10	90%	36%
Souty Bay/Peninsula (4 res.)	225	176	213	182	103%	81%
<i>CITY OF LOS ANGELES (D.W.P.)</i>						
Lake Crowley	183	128	132	142	112%	78%
Grant Lake	48	25	37	38	149%	80%
Other Aqueduct Storage (6 res.)	83	77	64	60	78%	72%

TELEMETERED SNOW WATER EQUIVALENTS

April 1, 2001

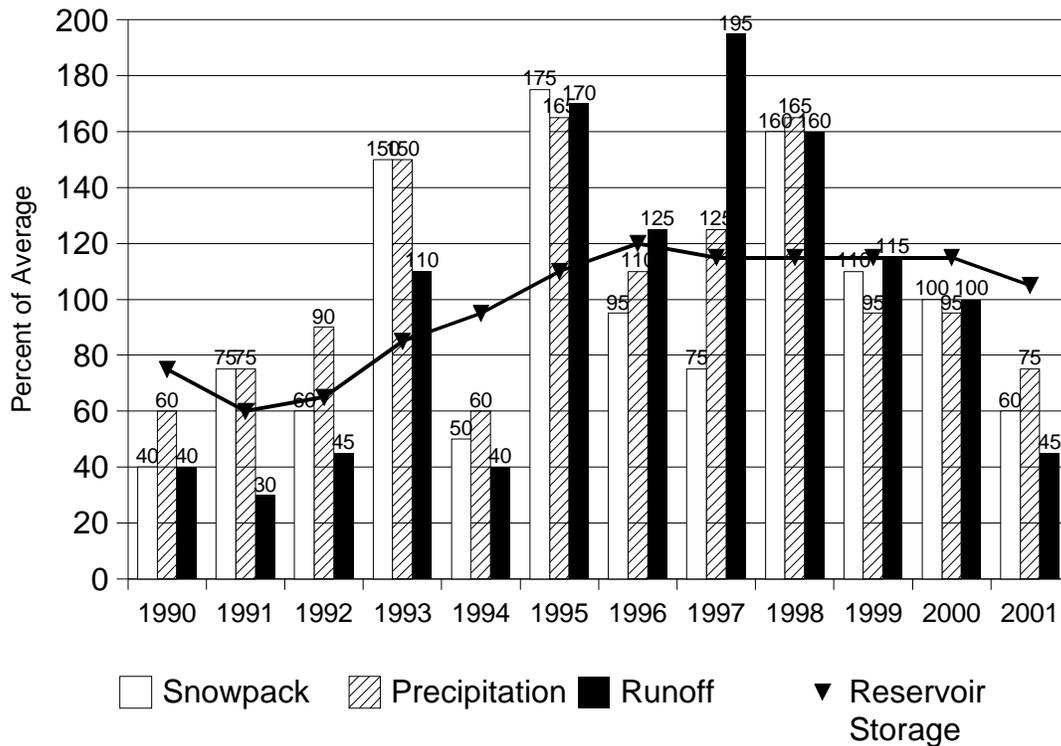
(AVERAGES BASED ON PERIOD RECORD)

BASIN NAME	STATION NAME	ELEV	INCHES OF WATER EQUIVALENT				
			APRIL 1 AVERAGE	APR 1 OF AVERAGE	PERCENT OF AVERAGE	24 HRS PREVIOUS	1 WEEK PREVIOUS
TRINITY RIVER							
	Peterson Flat	7150'	29.2	14.4	49.5	14.9	16.8
	Red Rock Mountain	6700'	39.6	—	—	—	—
	Bonanza King	6450'	40.5	31.8	78.5	32.2	33.1
	Shimmy Lake	6400'	40.3	—	—	—	—
	Middle Boulder 3	6200'	28.3	20.4	72.2	21.1	23.7
	Highland Lakes	6030'	29.9	30.2	101.1	31.9	35.1
	Scott Mountain	5900'	16.0	16.6	103.5	16.9	19.7
	Mumbo Basin	5650'	22.4	16.2	72.3	16.7	19.3
	Big Flat	5100'	15.8	12.2	77.2	12.6	14.8
SACRAMENTO RIVER							
	Cedar Pass	7100'	18.1	13.2	72.9	13.4	13.7
	Blacks Mountain	7050'	12.7	3.4	26.5	4.0	6.5
	Sand Flat	6750'	42.4	24.6	58.0	25.3	27.7
	Medicine Lake	6700'	32.6	14.2	43.4	14.2	15.8
	Adin Mountain	6200'	13.6	4.0	29.4	4.6	7.4
	Snow Mountain	5950'	27.0	13.0	48.0	13.7	17.0
	Slate Creek	5700'	29.0	44.9	154.8	45.5	46.2
	Stouts Meadow	5400'	36.0	24.1	67.0	24.4	26.9
FEATHER RIVER							
	Kettle Rock	7300'	25.5	8.6	33.9	9.5	13.0
	Grizzly Ridge	6900'	29.7	12.2	41.2	12.7	15.7
	Pilot Peak	6800'	52.6	20.2	38.3	21.0	25.2
	Gold Lake	6750'	36.5	26.0	71.3	26.3	27.0
	Humbug	6500'	28.0	30.2	108.0	31.2	34.1
	Rattlesnake	6100'	14.0	10.7	76.3	11.4	16.0
	Bucks Lake	5750'	44.7	38.3	85.6	38.9	42.4
	Four Trees	5150'	20.0	23.3	116.4	24.4	30.7
EEL RIVER							
	Noel Spring	5100'	—	2.5	—	3.9	10.0
YUBA & AMERICAN RIVERS							
	Lake Lois	8600'	39.5	17.6	44.7	18.3	18.9
	Schneiders	8750'	34.5	22.1	64.1	22.5	24.4
	Caples Lake	8000'	30.9	14.6	47.4	15.2	17.3
	Alpha	7600'	35.9	17.3	48.2	18.0	21.8
	Forni Ridge	7600'	37.0	20.2	54.5	20.5	22.9
	Meadow Lake	7200'	55.5	28.4	51.2	29.0	30.5
	Silver Lake	7100'	22.7	8.4	37.0	9.0	12.4
	Central Sierra Snow Lab	6900'	33.6	13.7	40.8	14.4	18.9
	Huysink	6600'	42.6	20.4	47.9	20.8	23.8
	Van Vleck	6700'	35.9	18.3	51.0	19.0	22.0
	Robbs Saddle	5900'	21.4	12.1	56.5	12.5	15.4
	Greek Store	5600'	21.0	20.2	96.0	20.9	24.4
	Blue Canyon	5280'	9.0	—	—	—	—
	Robbs Powerhouse	5150'	5.2	1.1	20.4	2.2	8.1
MOKELUMNE & STANISLAUS RIVERS							
	Deadman Creek	9250'	37.2	16.6	44.5	16.8	19.0
	Highland Meadow	8700'	47.9	24.8	51.8	24.8	28.4
	Gianelli Meadow	8400'	55.5	26.6	48.0	26.9	29.5
	Lower Relief Valley	8100'	41.2	22.7	55.1	23.3	26.6
	Blue Lakes	8000'	33.1	17.9	54.1	18.2	18.9
	Mud Lake	7900'	44.9	31.3	69.7	31.8	33.4
	Stanislaus Meadow	7750'	47.5	23.8	50.0	24.5	27.0
	Bloods Creek	7200'	35.5	17.3	48.7	18.0	20.2
	Black Springs	6500'	32.0	20.0	62.6	20.5	22.3
TUOLUMNE & MERCED RIVERS							
	Dana Meadows	9800'	27.7	13.7	49.5	13.7	15.7
	Slide Canyon	9200'	41.1	21.6	52.6	21.6	22.3
	Lake Tenaya	8150'	33.1	20.0	60.4	20.7	21.3
	Tuolumne Meadows	8600'	22.6	11.4	50.4	11.8	13.6
	Horse Meadow	8400'	48.6	23.6	48.5	24.2	26.9
	Ostrander Lake	8200'	34.8	20.2	58.2	21.5	24.2
	Paradise Meadow	7650'	41.3	—	—	—	—
	Gin Flat	7050'	34.2	22.4	65.6	22.8	25.6
	Lower Kibbie Ridge	6700'	27.4	9.7	35.3	9.7	14.3

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	13.7	45.6	14.4	15.0
	Agnew Pass	9450'	32.3	13.7	42.5	14.1	17.3
	Kaiser Point	9200'	37.8	14.9	39.4	15.4	18.3
	Green Mountain	7900'	30.8	15.8	51.4	16.1	18.7
	Tamarack Summit	7550'	30.5	18.8	61.8	19.6	23.8
	Chilkoot Meadow	7150'	38.0	32.0	84.3	32.5	35.6
	Huntington Lake	7000'	20.1	13.6	67.5	14.3	17.0
	Graveyard Meadow	6900'	18.8	14.5	77.2	15.0	18.5
	Poison Ridge	6900'	28.9	22.3	77.2	23.2	28.1
KINGS RIVER							
	Bishop Pass	11200'	34.0	20.7	60.8	21.3	21.3
	Charlotte Lake	10400'	27.5	14.2	51.5	14.8	17.5
	State Lakes	10300'	29.0	14.2	49.0	14.5	16.3
	Mitchell Meadow	9900'	32.9	23.5	71.4	23.8	24.5
	Blackcap Basin	10300'	34.3	21.6	62.9	21.6	22.9
	Upper Burnt Corral	9700'	34.6	23.4	67.6	24.0	25.3
	West Woodchuck Meadow	9100'	32.8	14.4	43.9	15.0	17.8
	Big Meadows	7600'	25.9	19.3	74.6	19.9	21.6
KAWEAH & TULE RIVERS							
	Farewell Gap	9500'	34.5	26.1	75.5	26.6	28.4
	Quaking Aspen	7200'	21.0	8.9	42.3	9.4	13.3
	Giant Forest	6650'	10.0	4.3	43.0	5.5	9.6
KERN RIVER							
	Upper Tyndall Creek	11400'	27.7	13.9	50.2	14.1	15.0
	Crabtree Meadow	10700'	19.8	10.5	53.0	10.6	11.2
	Chagoopa Plateau	10300'	21.8	12.8	58.9	12.8	15.5
	Pascoes	9150'	24.9	16.4	65.9	16.8	19.4
	Tunnel Guard Station	8900'	15.6	4.2	27.1	4.9	8.2
	Wet Meadows	8950'	30.3	16.8	55.4	17.5	20.2
	Casa Vieja Meadows	8300'	20.9	11.2	53.4	11.2	13.8
	Beach Meadows	7650'	11.0	0.0	0.0	0.5	7.3
SURPRISE VALLEY AREA							
	Dismal Swamp	7050'	29.2	14.8	50.7	15.4	16.2
TRUCKEE RIVER							
	Mount Rose Ski Area	8900'	38.5	17.9	46.5	17.9	18.4
	Independence Lake	8450'	41.4	21.7	52.4	21.9	22.6
	Big Meadows	8700'	25.7	6.8	26.5	7.2	9.1
	Squaw Valley	8200'	46.5	23.6	50.8	24.1	27.8
	Independence Camp	7000'	21.8	5.5	25.2	6.1	8.4
	Independence Creek	6500'	12.7	4.9	38.6	5.3	7.0
	Truckee 2	6400'	14.3	5.8	40.6	6.2	8.7
LAKE TAHOE BASIN							
	Heavenly Valley	8800'	28.1	9.5	33.8	9.8	11.8
	Hagans Meadow	8000'	16.5	3.9	23.6	4.6	7.0
	Marlette Lake	8000'	21.1	9.4	44.5	9.8	11.5
	Echo Peak 5	7800'	39.5	14.8	37.5	15.6	19.5
	Rubicon Peak 2	7500'	29.1	12.4	42.6	12.8	14.6
	Tahoe City Cross	6750'	16.0	1.1	6.9	1.5	5.3
	Ward Creek 3	6750'	39.4	18.6	47.2	19.3	23.8
	Fallen Leaf Lake	6250'	7.0	0.0	0.0	0.0	0.4
CARSON RIVER							
	Ebbetts Pass	8700'	38.8	21.2	54.6	21.8	23.4
	Poison Flat	7900'	16.2	14.1	87.0	14.5	15.2
	Monitor Pass	8350'	—	8.3	—	8.6	11.0
	Spratt Creek	6150'	4.5	0.0	0.0	0.0	0.0
WALKER RIVER							
	Leavitt Lake	9600'	—	35.6	—	35.6	36.3
	Virginia Lakes	9300'	20.3	9.9	48.8	10.0	10.6
	Loddell Lake	9200'	17.3	8.0	46.2	8.4	10.1
	Sonora Pass Bridge	8750'	26.0	15.5	59.6	15.5	15.5
	Leavitt Meadows	7200'	8.0	4.2	52.5	5.1	8.0
OWENS RIVER/MONO LAKE							
	Gem Pass	10750'	31.7	21.4	67.5	21.4	23.4
	Sawmill	10200'	19.4	13.4	68.9	14.0	14.0
	Cottonwood Lakes	10150'	11.6	15.9	136.9	16.1	17.0
	Big Pine Creek	9800'	17.9	11.7	65.1	11.7	13.6
	South Lake	9600'	16.0	11.5	71.6	11.9	13.3
	Mammoth Pass	9300'	42.4	25.1	59.2	25.3	27.1
	Rock Creek Lakes	10000'	14.0	5.0	35.4	5.3	6.5

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%	

April 1 Statewide Conditions



SNOWLINES

Its not too late to register for the 2001 Western Snow Conference annual meeting. It will be held April 16–19 at Sun Valley, Idaho. For further information regarding the Western Snow Conference contact Frank Gehrke at 916–574–2635 or gridley@water.ca.gov. Information is available on the web at <http://snobear.colorado.edu/WSC/WSC.html>.

Depicted on this month's cover is Frank Gehrke preparing to replace the solar panel at the Crabtree snow sensor in the Kern river drainage after a midwinter power failure. Photo by Dave Hart, DWR.

The four sites with the Sandia Snow Detectors, Pascoe, Gin Flat, Big Meadows and Crabtree are all performing well. The snow water contents computed using the detectors are the event reporting snow water content.

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 1941-1990 (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 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 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 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 rivers 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

