COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
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APRIL 2000

April 1 SWSI values increased in all basins of the state compared to last month. The biggest increases occurred in the southwest portion of the state, including the Rio Grande, Gunnison, and San Juan/Dolores basins, which had the lowest values last month and needed the additional supplies the most. Increases were due to March precipitation events which boosted the snowpack numbers. Statewide the April 1 snowpack is 90% of average as reported by the Natural Resources Conservation Service. The Rio Grande basin has the lowest snowpack value at 61% of average.

Stream flows have been holding at near normal levels. Lower elevation snowpack may begin to melt in April causing slight increases in stream flows, but significant runoff does not typically begin until sometime in May, with the highest flows occurring in May and June. Reservoir storage remains good, with many reservoirs expected to fill during runoff.

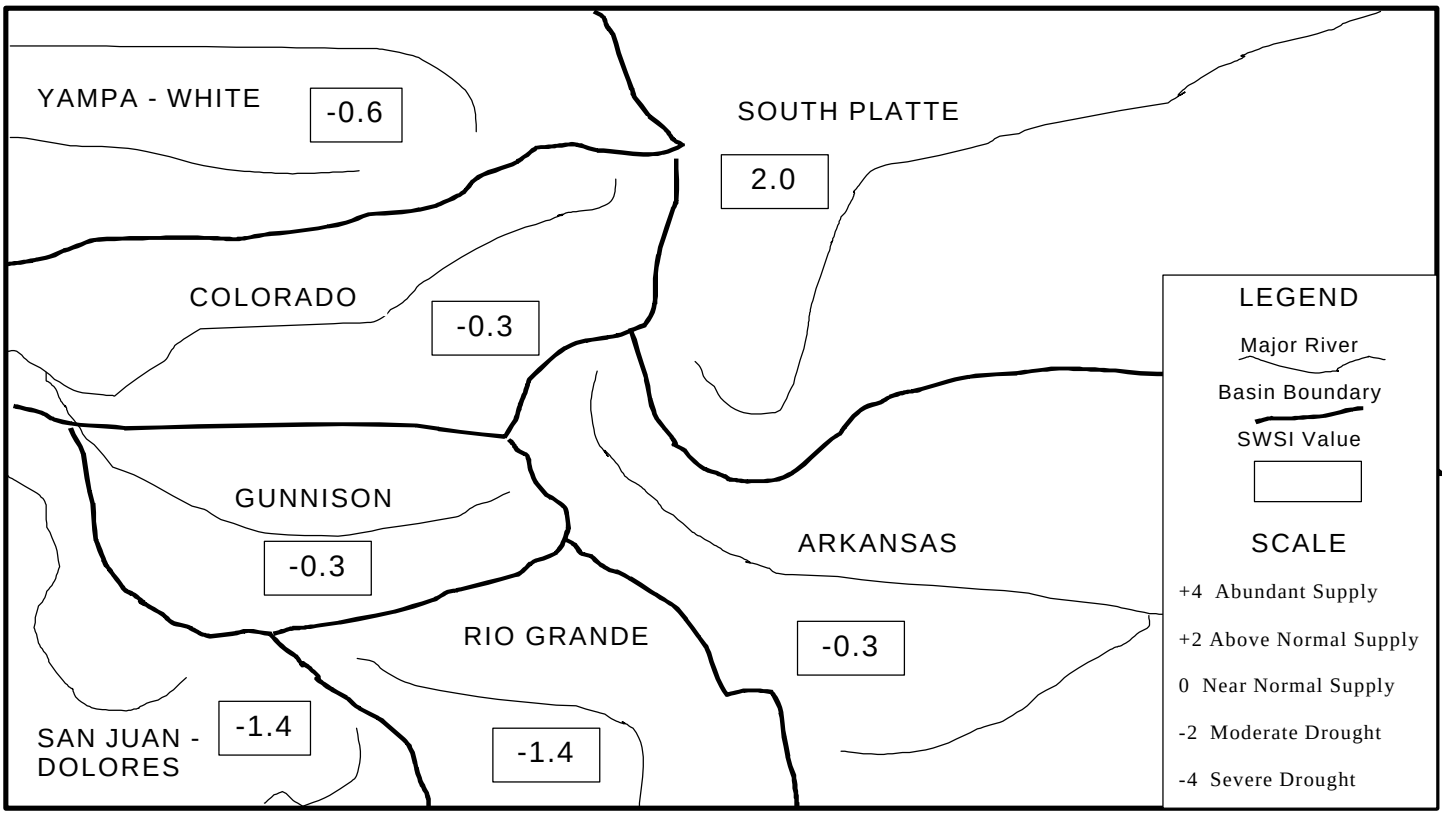
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on snowpack, reservoir storage, and precipitation for the winter period (November through April). During the winter period, snowpack is the primary component in all basins except the South Platte basin where reservoir storage is given the most weight. The following SWSI values were computed for each of the seven major basins for April 1, 2000, and reflect the conditions during the month of March.

Basin	April 1, SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	2.0	+0.4	+1.6
Arkansas	-0.3	+0.9	+0.8
Rio Grande	-1.4	+1.3	+0.2
Gunnison	-0.3	+1.5	+0.9
Colorado	-0.3	+0.6	+0.4
Yampa/White	-0.6	+0.1	+1.5
San Juan/Dolores	-1.4	+1.1	+0.2

Scale

-4	-3	-2	-1	0	1	2	3	4
Severe Drought		Moderate Drought		Near Normal Supply		Above Normal Supply		Abundant Supply

SURFACE WATER SUPPLY INDEX FOR COLORADO



APRIL 1, 2000

Basinwide Conditions Assessment

The SWSI value of 2.0 indicates that for March the basin water supplies were slightly above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 104% of normal as of the end of March. The Natural Resources Conservation Service reports that April 1 snowpack is 98% of normal. Flow at the gaging station South Platte River at Kersey was 837 cfs, as compared to the long-term average of 957 cfs. Flow at the Colorado/Nebraska state line averaged 794 cfs.

Outlook

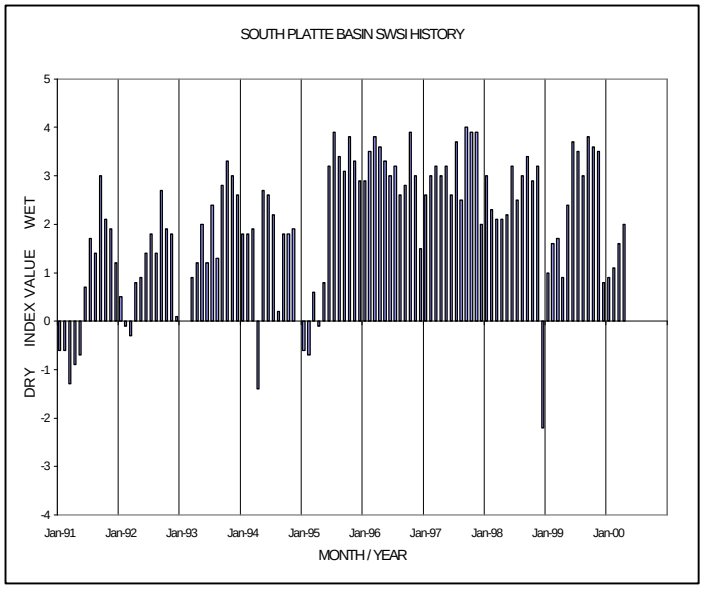
The snowpack conditions remained about average in March throughout the basin. This is in part due to a widespread front late in the month. Conditions are significantly improved from last year when the snowpack was far below average.

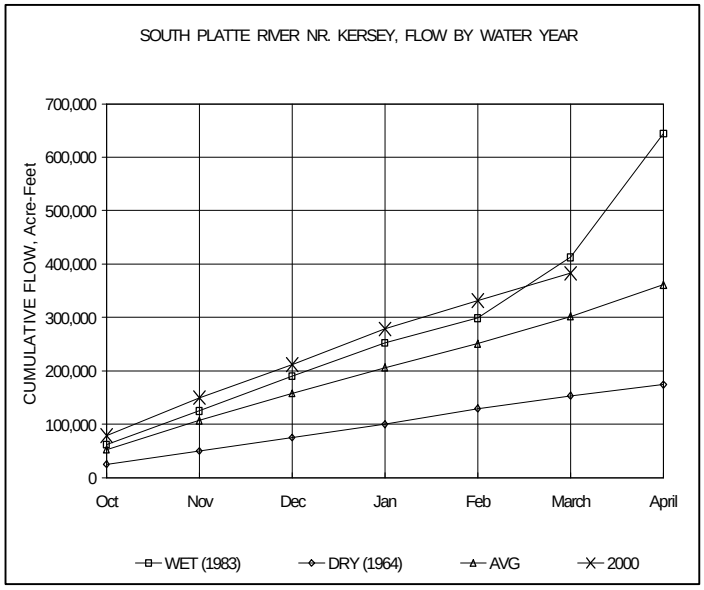
Reservoir levels remain very good and there should not be a problem topping off most reservoirs this spring.

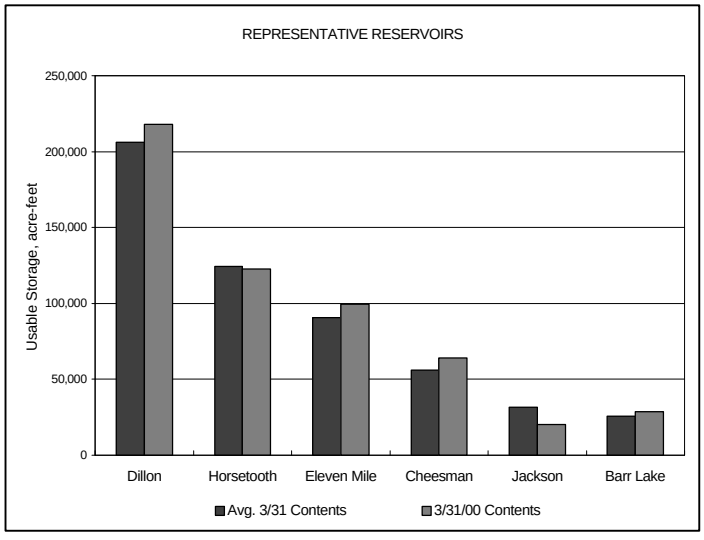
The overall water supply situation looks good for the mainstem and tributaries, provided that this spring's precipitation is not significantly below average.

Administrative/Management Concerns

Diversions during March continued primarily for municipal purposes, storage, and recharge. This is the normal situation for this time of year. The only call in the basin was for Denver's water rights above the metropolitan area. This is also common for this time of year.







Basinwide Conditions Assessment

The SWSI value of –0.3 indicates that for March the basin water supplies were near normal. The Natural Resources Conservation Service reports that April 1 snowpack is 81% of normal. Flow at the gaging station Arkansas River near Portland was 473 cfs, as compared to the long-term average of 356 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 189% of normal as of the end of March.

Reservoir storage levels remained high through March. Trinidad Reservoir is essentially full, John Martin Reservoir is just 4,500 acre-feet below the top of the conservation pool, and Pueblo Reservoir is 18,000 acre-feet into the seasonal conservation pool.

Outlook

Entities owning water in Pueblo Reservoir's seasonal conservation pool have until April 15 to evacuate this water. As a result, the river call on the mainstem of the Arkansas should remain relatively junior through the first half of April.

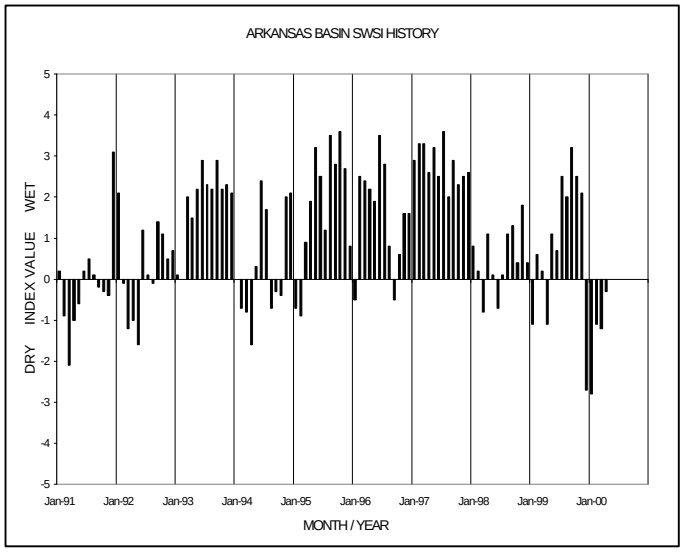
Administrative/Management Concerns

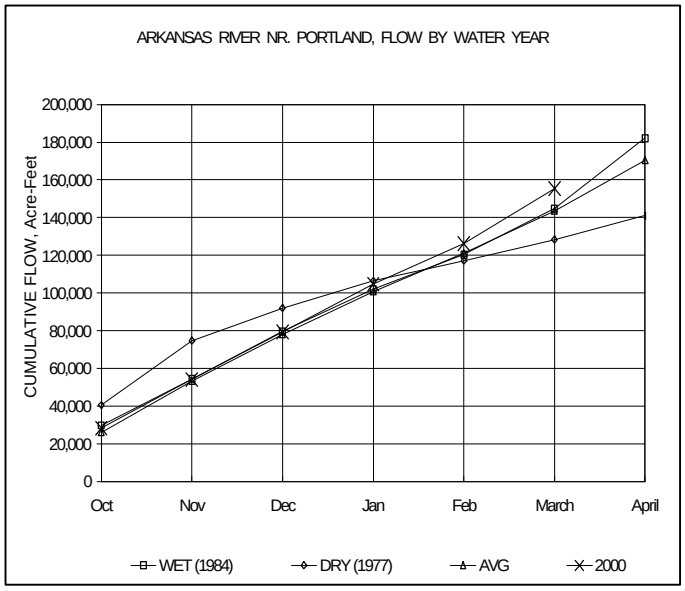
The Winter Water Storage Program ended on March 14, 2000 with a system grand total of 178,519 acre-feet. This year's total is up 3,873 acre-feet as compared to last year's, and up 16,943 acre-feet over the recent 5-year average.

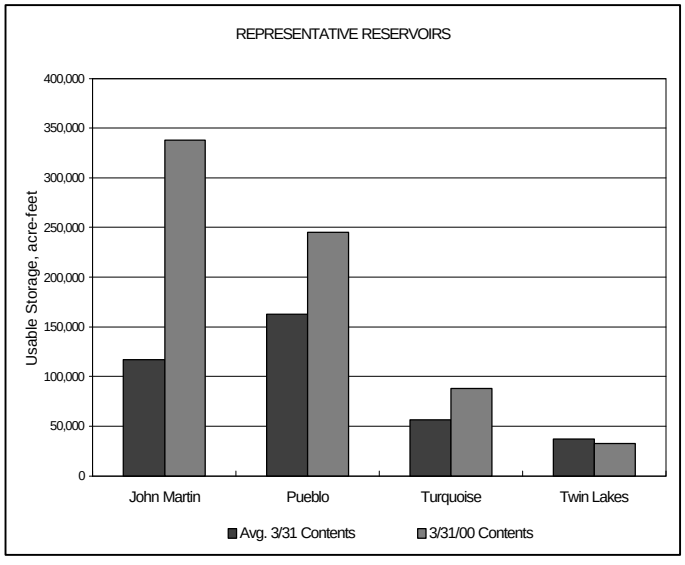
March 1 was the deadline for submittal of well pumping replacement plans under the Ground Water Use Rules, with April 1 being the deadline for their approval.

Public Use Impacts

The gaging station Arkansas River at Nepesta is scheduled to be relocated to the Nepesta Road bridge. The new location will provide improved discharge readings over a range of flows and act as a flood flow early warning station for down stream communities. Cooperators in the project include the Colorado Division of Water Resources, the Colorado Water Conservation Board, Otero County, Pueblo County, the US Geological Survey, and the Corps of Engineers.



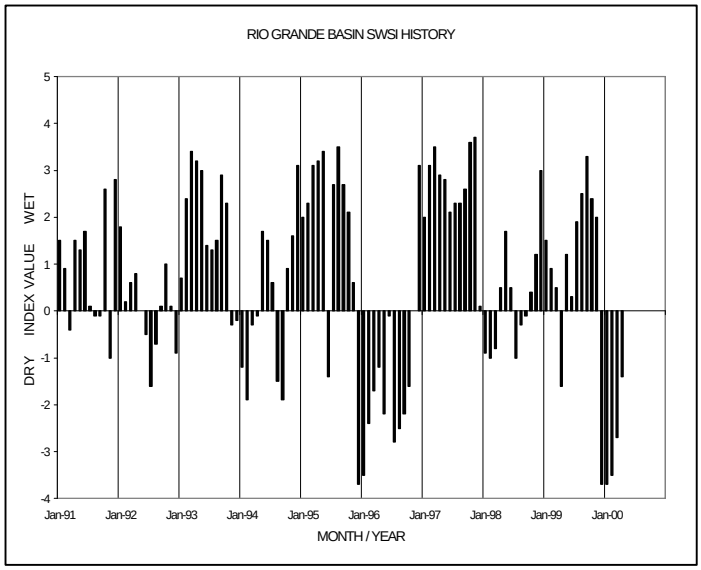




Basinwide Conditions Assessment

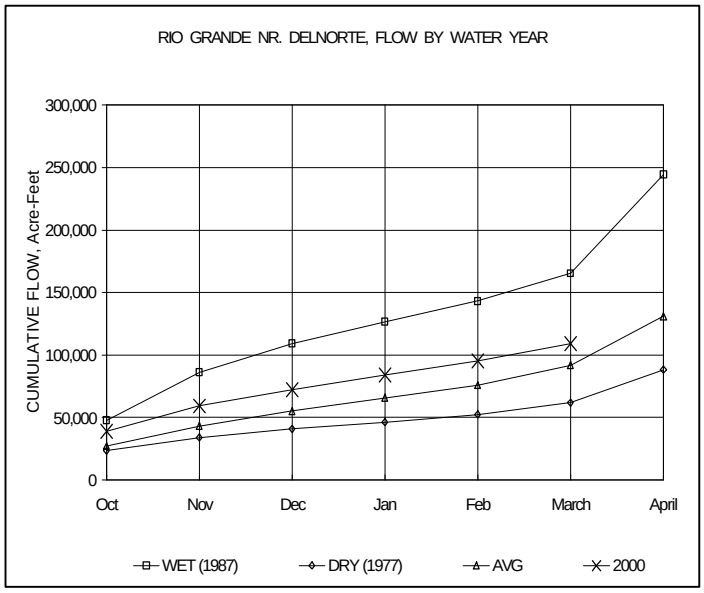
The SWSI value of –1.4 indicates that for March the basin water supplies were below normal. The Natural Resources Conservation Service reports that April 1 snowpack is 61% of normal. Flow at the gaging station Rio Grande near Del Norte was 227 cfs, as compared to the long-term average of 250 cfs. The Conejos River near Mogote had a mean flow of 62 cfs (79% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 119% of normal as of the end of March.

Weather conditions in the San Luis Valley were once again warmer and drier than normal until a significant snow storm on March 31. Alamosa received a near average 0.52 inches of precipitation during the month.



Outlook

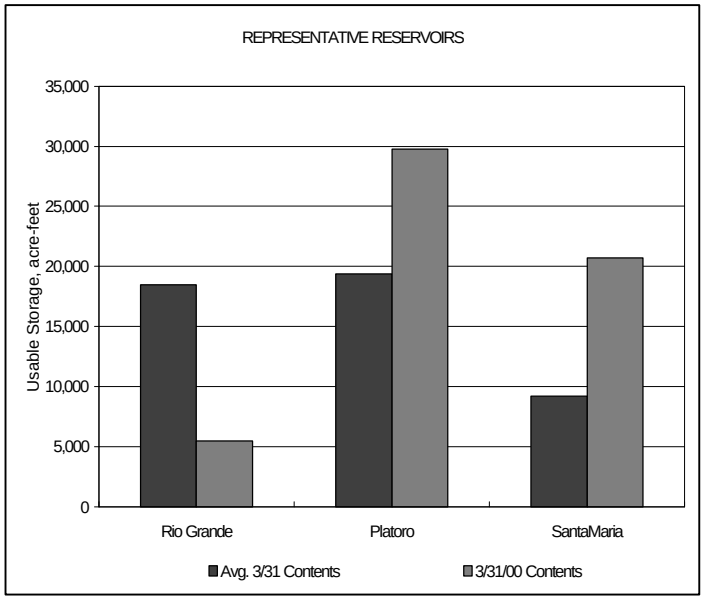
The snowstorm on the last day of March slowed the quick melt the basin was about to experience and added valuable snow pack. However, current NRCS forecasts still predict runoff to be only 69% of average for the Rio Grande near Del Norte, and 67% of average for the Conejos River near Mogote.



Administrative/Management Concerns

Rio Grande Compact accounting for the calendar year 1999 was approved at the Compact meeting held in El Paso, Texas in Late March. Colorado over-delivered 7,500 acre-feet to the state line last year. As of January 1, 2000, Colorado has an accrued credit of 17,700 acre-feet in Elephant Butte Reservoir. This credit will reduce the requirement to bypass water past needy Colorado diverters this year.

Based on the current forecast, there will likely be little or no curtailment of water rights on the Rio Grande or Conejos River for compact purposes this irrigation season.



Public Use Impacts

Due to the dry conditions and anticipated low runoff, diversions from area streams for irrigation began very early this year.

Basinwide Conditions Assessment

The SWSI value of –0.3 indicates that for March the basin water supplies were near normal. The Natural Resources Conservation Service reports that April 1 snowpack is 91% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 51 cfs, as compared to the long-term average of 61 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 109% of normal as of the end of March.

Outlook

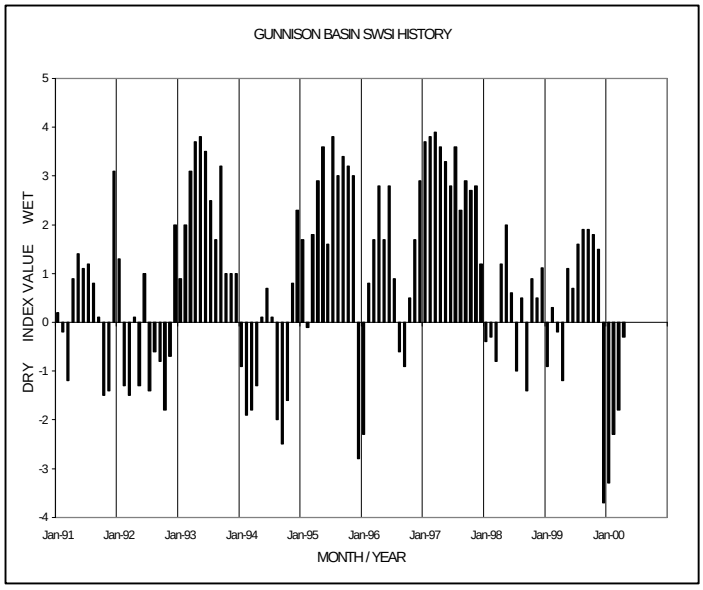
With minimal lower elevation snowpack, there may be a period where the runoff will decrease until the higher elevation snowpack begins to make its descent. Overall, stream flow should be fair into July.

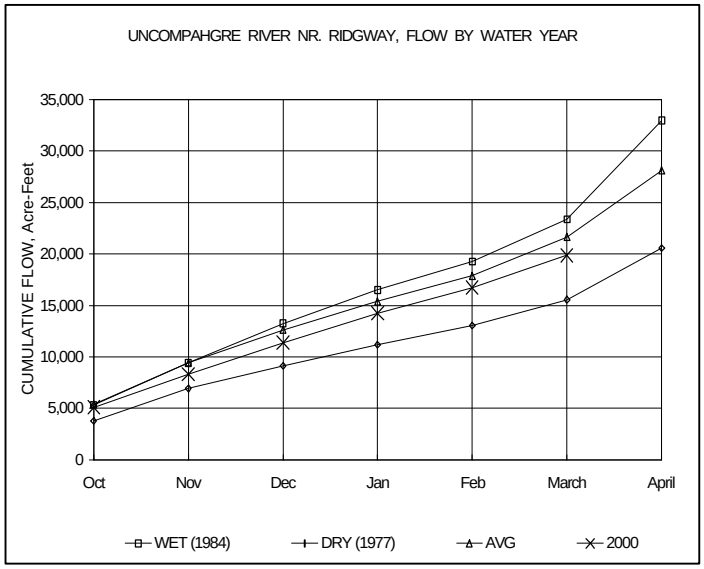
Administrative/Management Concerns

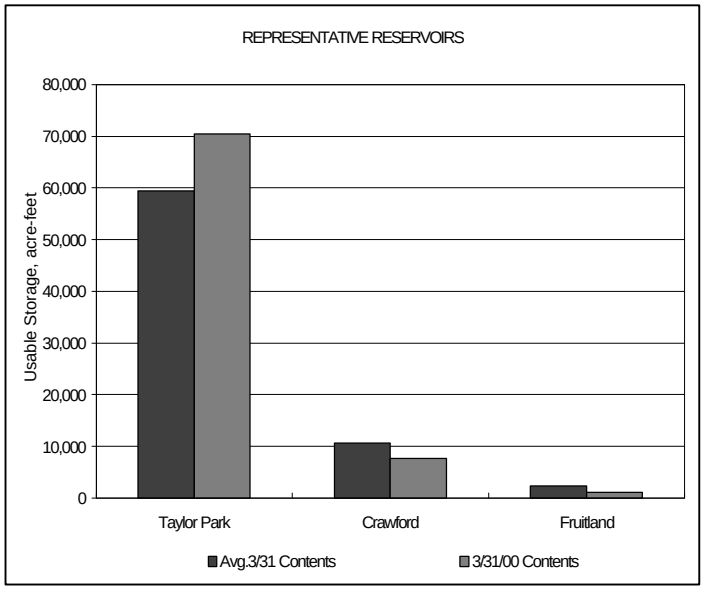
The lower Kannah Creek drainage (in Mesa County) is experiencing low water conditions, impacting springs and shallow wells. This is a growing issue in that area due to the prospect of further development with attending increased water demands.

Public Use Impacts

The Lake City area felt adverse economic affect from the lack of winter snow. The holiday season suffered as people stayed away from winter recreation activities. Not until March did the snowpack increase, bringing in people to prevent a total season loss.







Basinwide Conditions Assessment

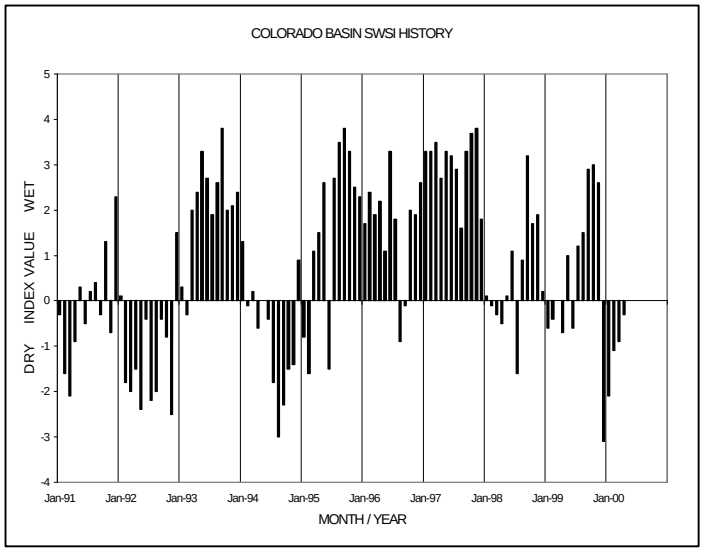
The SWSI value of –0.3 indicates that for March the basin water supplies were near normal. The Natural Resources Conservation Service reports that April 1 snowpack is 97% of normal. Flow at the gaging station Colorado River near Dotsero was 1,012 cfs, as compared to the long-term average of 1,088 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 120% of normal as of the end of March.

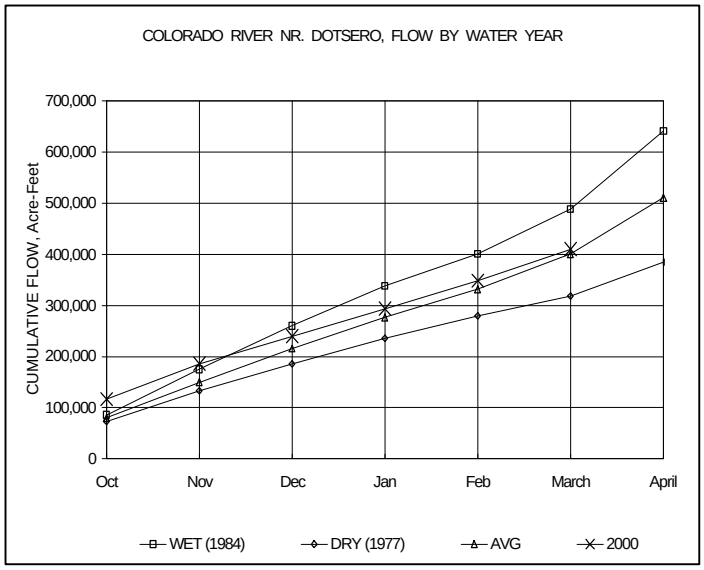
Outlook

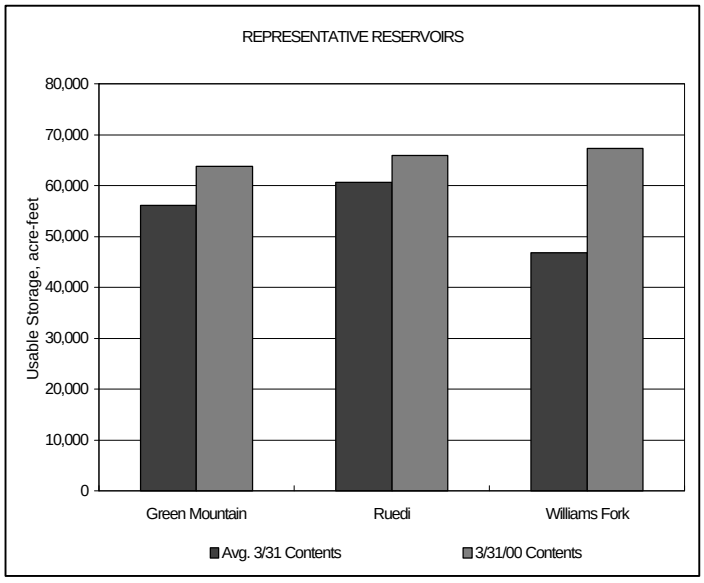
Flows continue to drop on the mainstem, giving rise to possible calls from the Shoshone Power Plant and irrigators in the lower valley. Reservoir operators are using the near 100% snowpack figure and runoff estimates to determine fill and spill dates for their reservoirs.

Administrative/Management Concerns

Forecasters for east slope users are anticipating full reservoirs. Consequently, reservoirs in the Colorado River drainage that store transmountain water – such as Granby, Willow Creek, and Ruedi – may release high flows to the Colorado drainage in June and July after they fill.



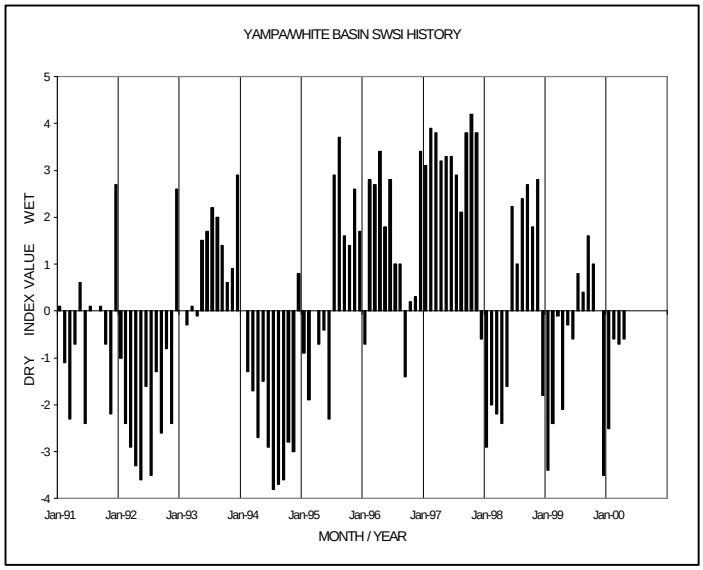




Basinwide Conditions Assessment

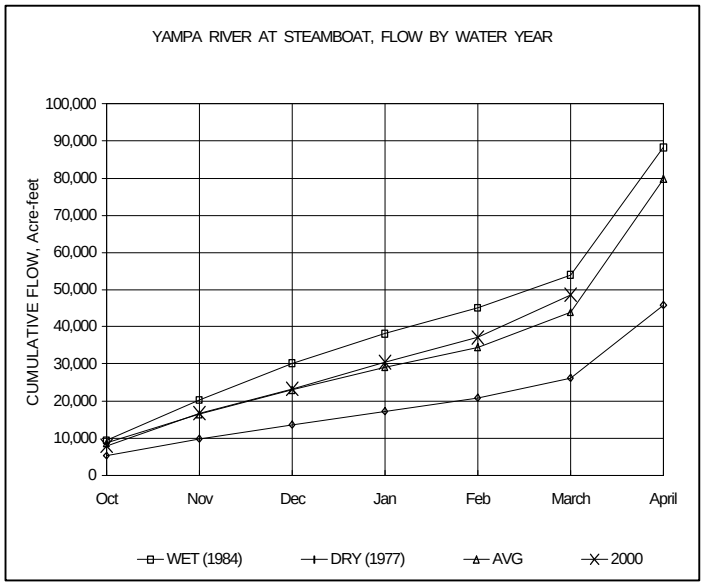
The SWSI value of –0.6 indicates that for March the basin water supplies were near normal. The Natural Resources Conservation Service reports that April 1 snowpack is 101% of normal. Flow at the gaging station Yampa River at Steamboat was 187 cfs, as compared to the long-term average of 145 cfs.

Temperatures in March were above average for most of the basin. Precipitation however was below normal. Despite the lower than normal snow fall, the snowpack as a percent of average remained stable. The April 1 snowpack for the Yampa and North Platte rivers was slightly above 100% of average, while on the White and Little Snake drainages it was about 93% of average.



Outlook

Runoff forecasts for the basin are essentially the same as last month. The April 1 runoff forecasts range from a low of 81% on the Little Snake River to 104% on the North Platte. The Yampa River is predicted to see a slightly above average runoff.



Administrative/Management Concerns

None at this time.

Public Use Impacts

Winter activities are winding down. Warm temperatures and rising stream flows have brought the first kayakers of the season to the Yampa River. Rivers are running muddy as the early spring runoff starts. Reservoirs are starting to show open water, except those as the highest elevations.

Basinwide Conditions Assessment

The SWSI value of –1.4 indicates that for March the basin water supplies were slightly below normal. The Natural Resources Conservation Service reports that April 1 snowpack is 83% of normal. Flow at the gaging station Animas River near Durango was 235 cfs, as compared to the long-term average of 292 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 123% of normal as of the end of March.

March brought some relief from the dry spell of the past fall and winter. Precipitation was much above normal across the San Juan basin. A series of snow storms came through the area, from the 5th to the 7th, on the 9th, from the 20th to the 22nd, on the 28th, and from the 30th to the 31st. Durango received a total of 4.21 inches of moisture from these storms. This did not quite break the record of 4.37 inches set in 1938, but was 246% of normal for Durango. For the water year, 68% of normal precipitation has fallen in Durango.

Temperatures continued to remain unseasonably warm. In Durango the average low was over 2.5° higher than typical, with the highs averaging 0.9° above normal.

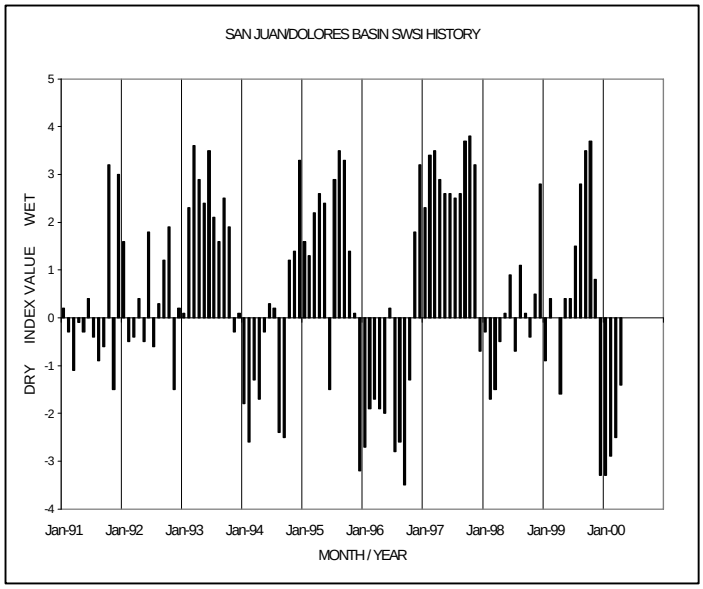
Stream flows continued slightly below normal. Reservoirs continued to contain extra carry over.

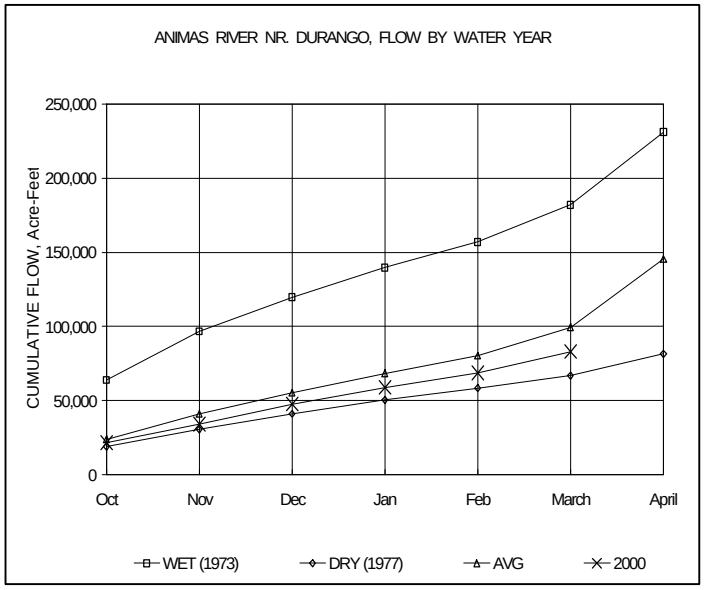
Outlook

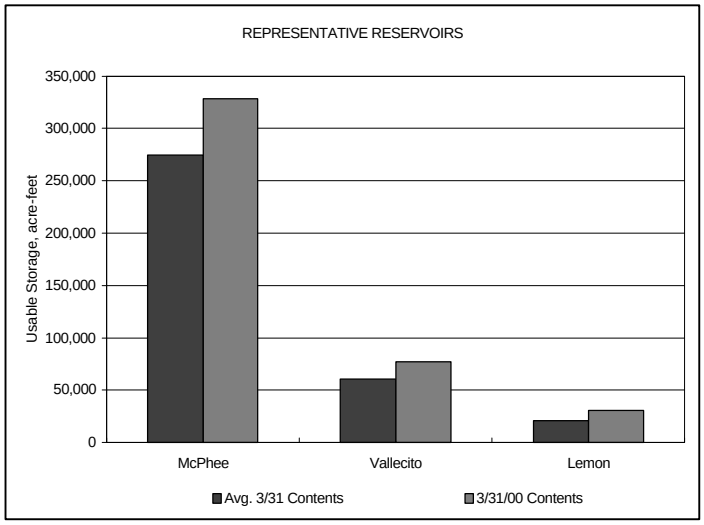
The runoff picture brightened considerably during March. The extra reservoir storage currently appears to be critical for stream supplies.

Public Use Impacts

Winter recreation was salvaged by the additional storms in the mountains.







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