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# COLORADO

## WATER SUPPLY CONDITIONS UPDATE

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FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES  
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March 2002

This month's SWSI values dropped as the snowpack figures drop. The March 1 statewide snowpack is 56% of normal, which is a drop from the February 1 figure of 58% of normal. All SWSI values are below last month's values, they are also lower than last year's values. The Rio Grande and San Juan/Dolores River basins show the largest fluctuations from last year.

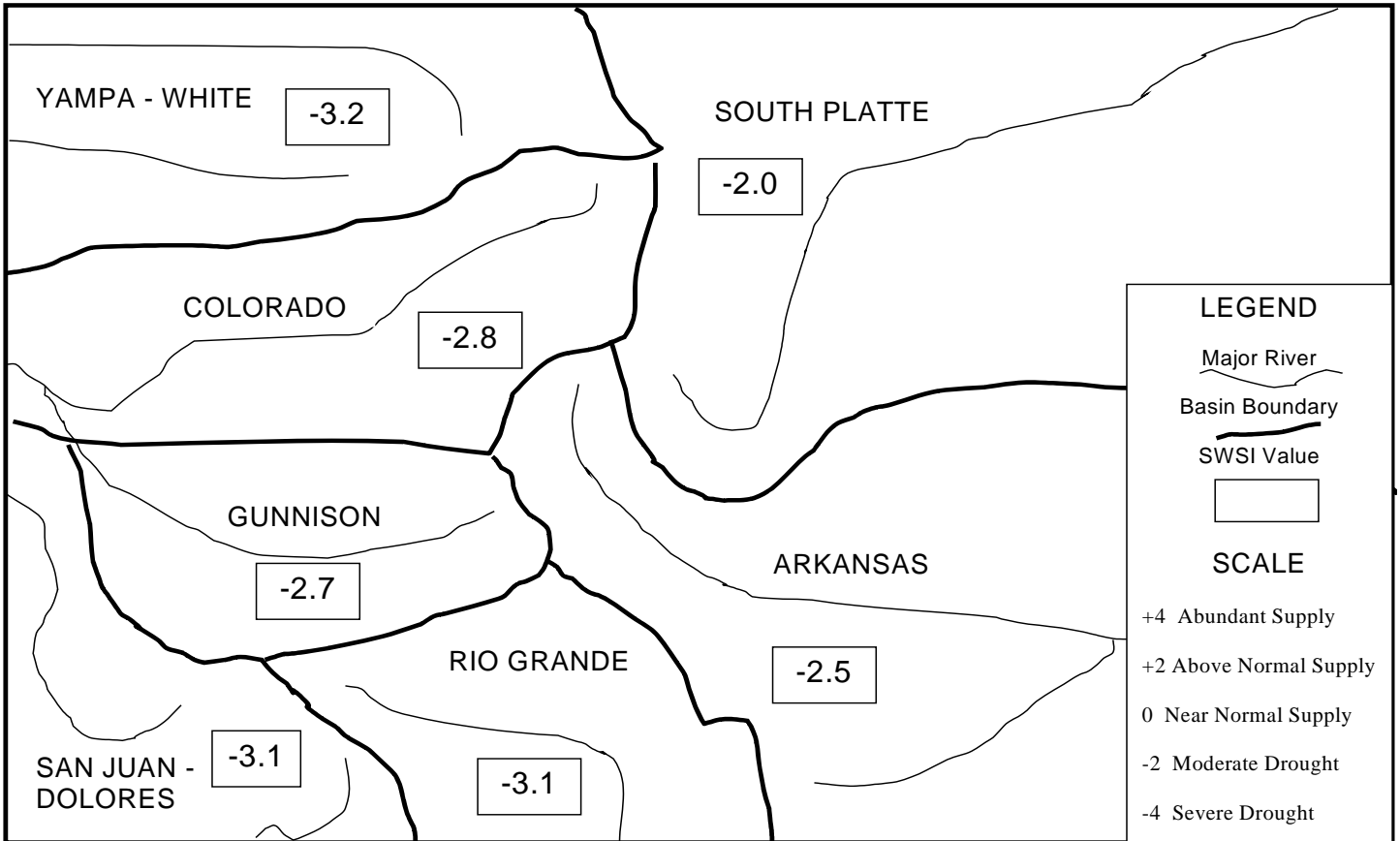
All graphed index stream flows are currently below normal, ranging from 91% of normal for the Uncompahgre River near Ridgeway to 55% of normal for the Colorado River at Dotsero. The NRCS forecasted runoff volumes for this spring and summer are well below average, with most below 70% of normal and many areas in below 50% of normal. Direct flow water users, especially those with junior priorities, should be planning for reduced water supplies this year.

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 March 1, 2002, and reflect the conditions during the month of February.

<u>Basin</u>	<u>March 1, 2002 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	-2.0	-0.1	-1.8
Arkansas	-2.5	-0.3	-0.5
Rio Grande	-3.1	-0.4	-4.6
Gunnison	-2.8	-0.4	-1.1
Colorado	-2.8	-0.2	-1.0
Yampa/White	-3.2	-0.2	-0.2
San Juan/Dolores	-3.1	-0.5	-2.9

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



**MARCH 1, 2002**

Basinwide Conditions Assessment

The SWSI value of -2.0 indicates that for February the basin water supplies were below normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 82% of normal as of the end of February. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 79% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 82% of capacity. The Natural Resources Conservation Service reports that March 1 snowpack is 52% of normal. Flow at the gaging station South Platte River near Kersey was 615 cfs, as compared to the long-term average of 938 cfs. Flow at the Colorado/Nebraska state line averaged 272 cfs.

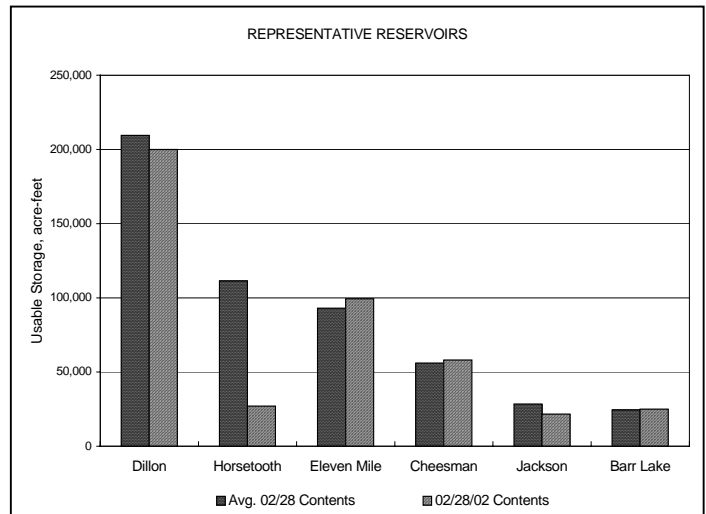
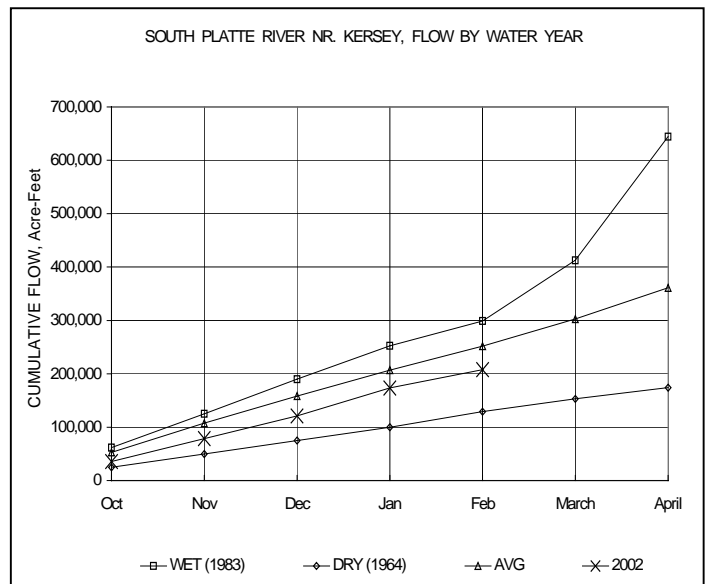
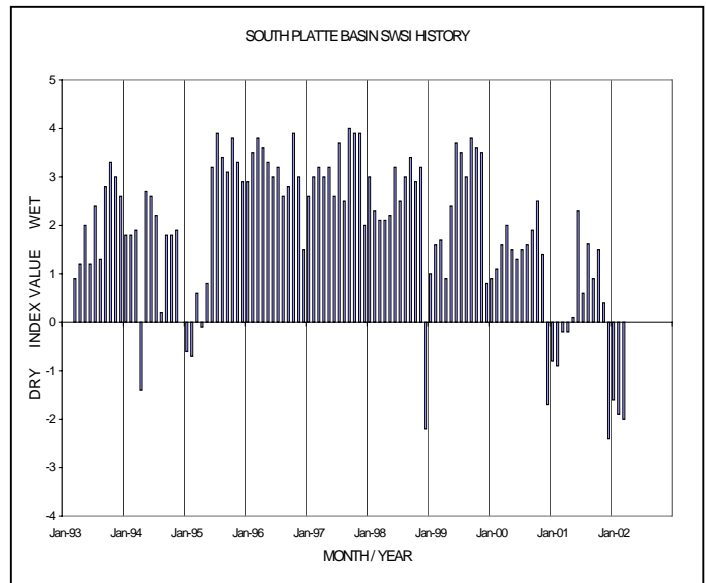
Outlook

Reservoir storage continued in February for those reservoirs that had not reached their winter fill level and whose inlet ditches are capable of carrying water underneath the ice. Despite the dry conditions, it still appears all the major reservoirs that obtain their supplies from the South Platte River will fill. However, there is significant concern whether users in the Cache la Poudre River basin will be able to fill all of their reservoirs. Reservoir levels in this drainage are very low and snowpack continues below average.

Because of the dry conditions which continued in February, the snowpack remained at only slightly more than 59% of average. A storm event the last day of February did help the conditions. Without above average snowfall the next couple of months there could be shortages for direct flow irrigation users who do not have supplemental well or reservoir water.

Administrative/Management Concerns

Basin administrators are also concerned about a recent Colorado Supreme Court decision that stated the State Engineer could not approve substitute water supply plans for wells. The State Engineer had historically approved these plans allowing junior wells to operate primarily for irrigation purposes. Under the plans, well user groups had provided water to senior water right holders to replace the out-of-priority depletions created by well pumping. In response to the decision the State Engineer is looking at submitting new Rules and Regulations to the Greeley Water Court that would allow for his approval of replacement plans for existing wells. In addition, there may be legislation proposed that would provide the State Engineer authority to approve replacement plans under other limited circumstances, such as water needs for new highway construction.



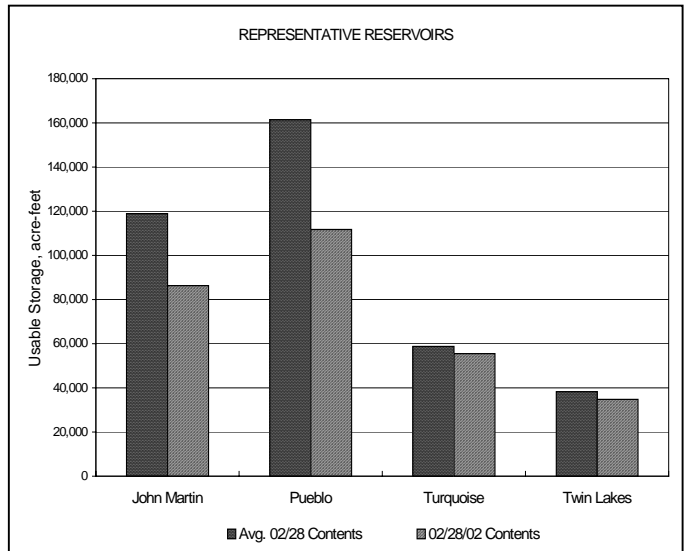
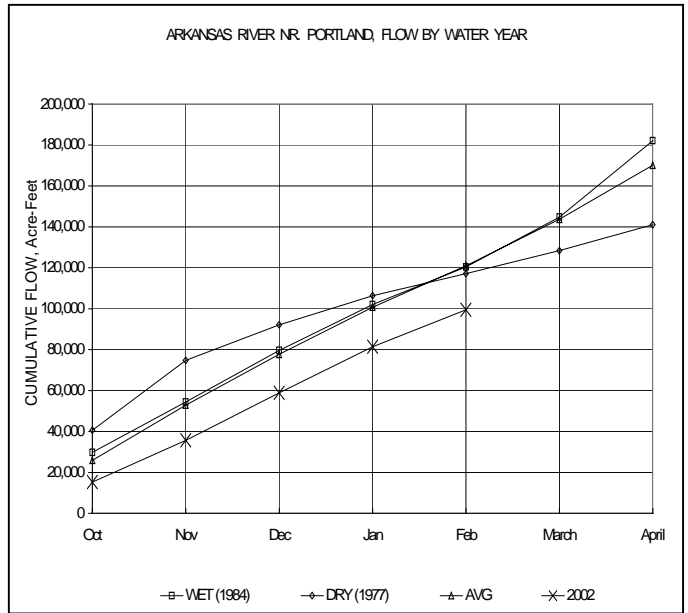
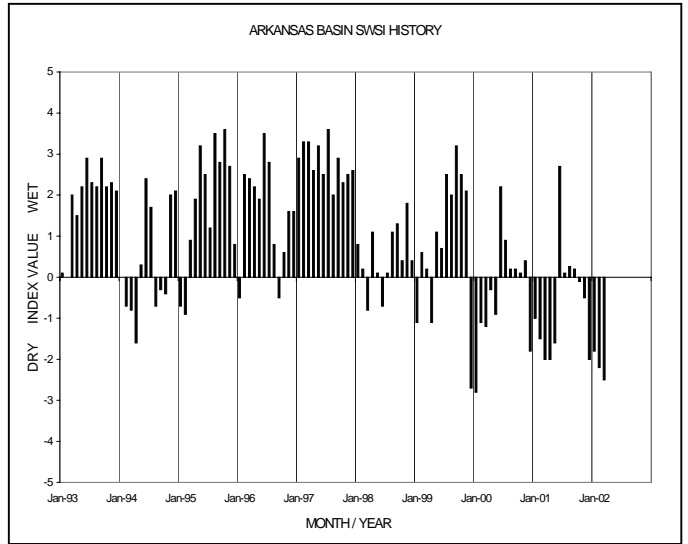
Basinwide Conditions Assessment

The SWSI value of -2.5 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 62% of normal. Flow at the gaging station Arkansas River near Portland was 325 cfs, as compared to the long-term average of 361 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 76% of normal as of the end of February.

Administrative/Management Concerns

Preparations continued during February for a potential drought year with final organization of several drought planning workshops by the major well associations and the Division of Water Resources on March 1 and 2 in La Junta and Pueblo.

The dry year forecasts have facilitated cooperative discussions between DWR and Southeastern Colorado Water Conservancy District in order to ensure that allocations of limited Fryingpan-Arkansas Project water are made equitably and the impact of reduced allocations of water is anticipated by DWR and well owners.



Basinwide Conditions Assessment

The SWSI value of -3.1 indicates that for February the basin water supplies were well below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 43% of normal. Flow at the gaging station Rio Grande near Del Norte was 156 cfs (79% of normal). The Conejos River near Mogote had a mean flow of 34 cfs (66% of normal). Flow to the state line was 83% of normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 80% of normal as of the end of February.

Temperatures were nearly 3°F below normal in the San Luis Valley during February, the first month with below normal temperatures in the last 15 months. Alamosa received 0.23 inches of precipitation during the month, just 0.02 inches above normal.

Outlook

When measured as percent of average, snowpack conditions dropped significantly during February. However, with the two snowiest months yet to come, basin administrators still have some hope the snowpack can recover to some degree.

Recent NRCS stream flow forecasts are calling for well below average conditions in the entire upper Rio Grande basin this year. The expected April through September runoff is just 40% of normal for the Rio grand near Del Norte and the Conejos River near Mogote.

Carryover storage in basin reservoirs cannot counteract the effects of low runoff for most water users and activities dependent on higher flows.

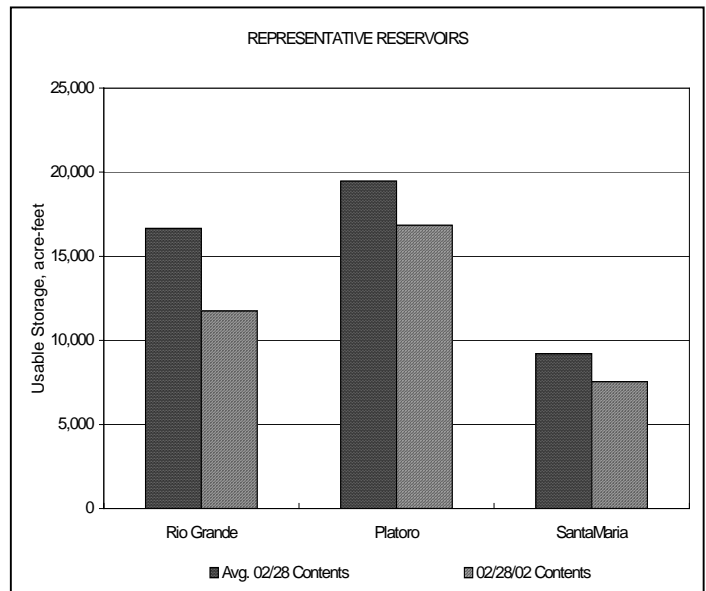
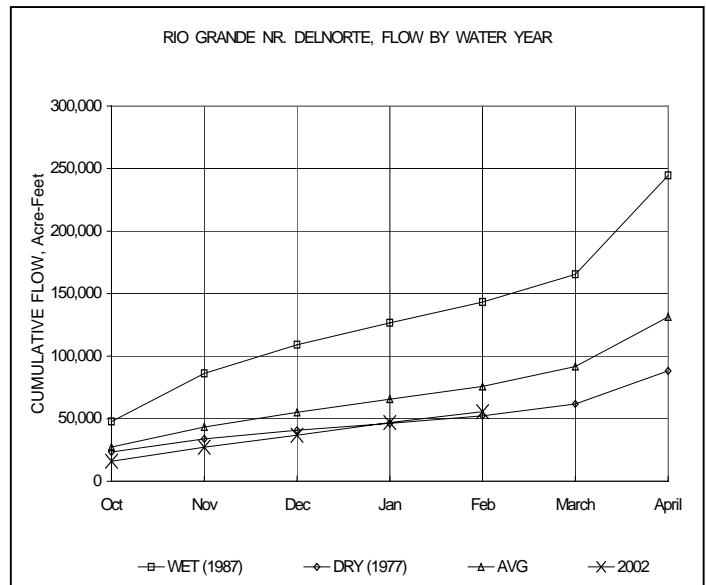
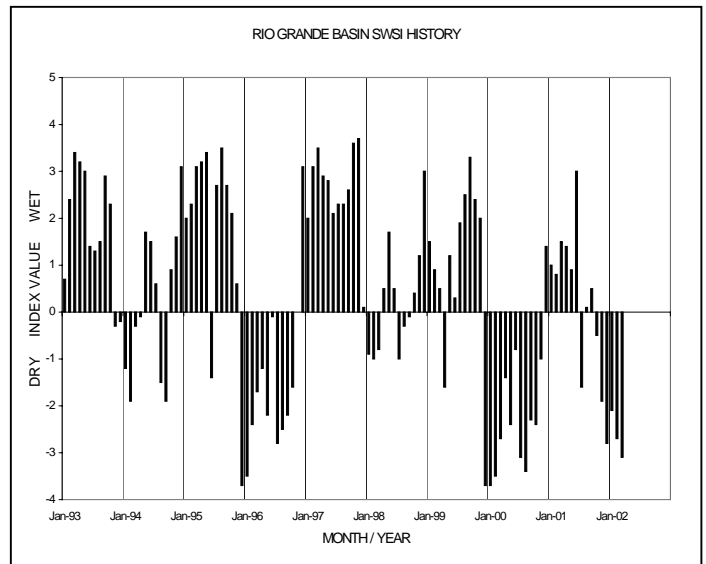
Administrative/Management Concerns

The annual meeting of the Rio Grande Compact Commission will be held in Santa Fe, New Mexico in the Old Senate Chambers located on the 2<sup>nd</sup> floor of the Bataan Office Building on March 21, 2002, at 9:00 am. The public is invited to attend.

The Division Engineer expects early calls for irrigation water this year. Diversions from the Rio Grande and Conejos River will begin in mid to late March.

Public Use Impacts

Winter sports enthusiasts reliant on snow cover suffered through another disappointing month.



Basinwide Conditions Assessment

The SWSI value of -2.7 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 58% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 41 cfs, as compared to the long-term average of 45 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 92% of normal as of the end of February.

Stream flows in the North Fork drainage are extremely low. In the Leroux Creek system near Hotchkiss, which has numerous diversions for both winter stock watering and municipal use, low flows are making it very difficult to fill the stock watering diversions. Because of these system demands the reservoirs haven't been able to store water this winter, which will only add to an already critical situation.

Outlook

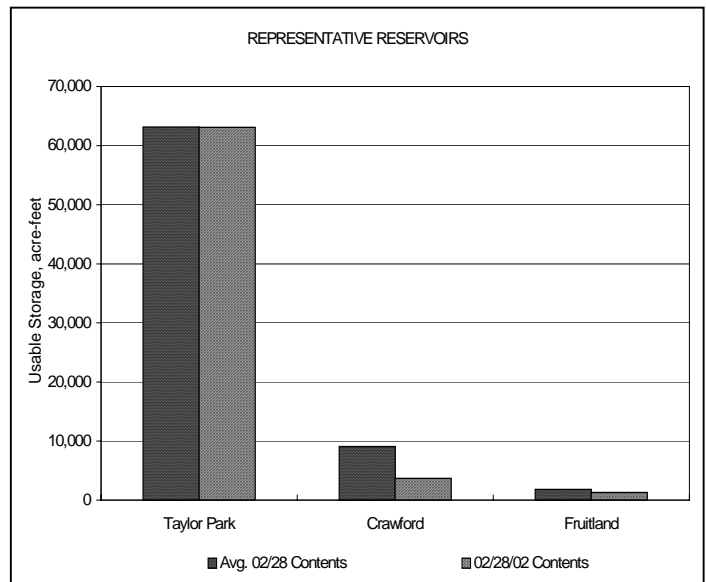
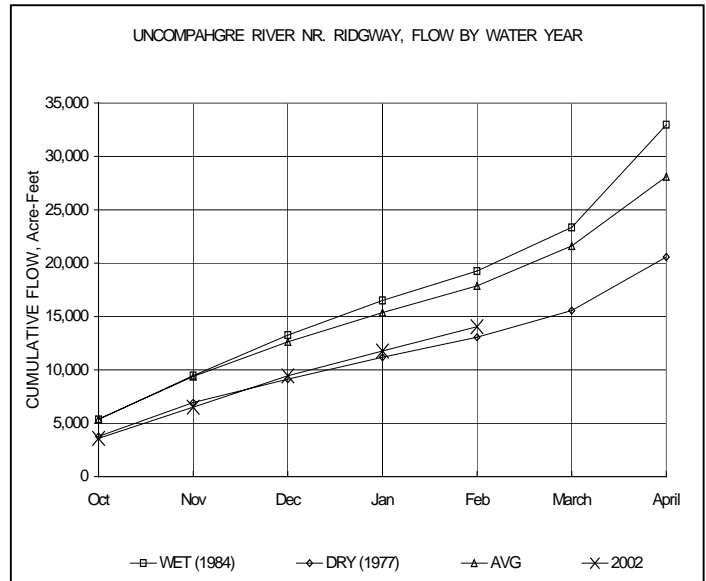
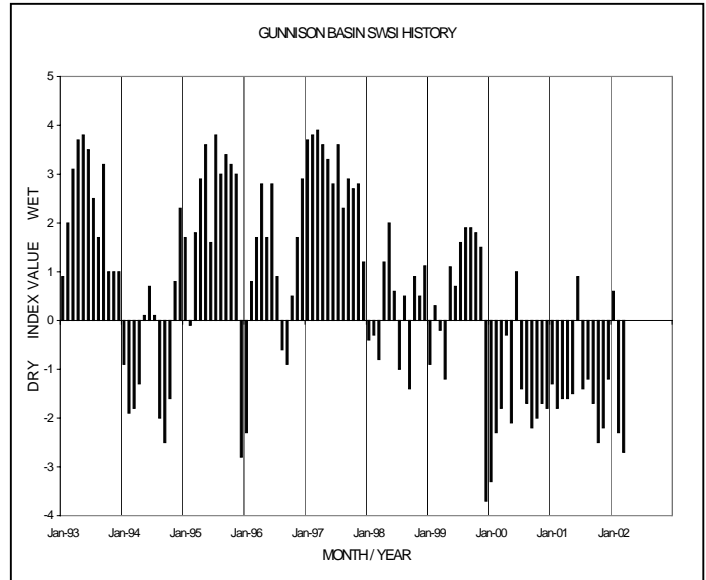
With the low base flows in the rivers and the poor snowpack, many irrigators are starting to become concerned that there will be severe shortages in water supplies this summer.

Administrative/Management Concerns

Flows in the Gunnison River below the Redlands Water and Power Canal diversion are running approximately 200 cfs, which is considerably lower than the norm. This low flow could trigger a call from the Redlands Canal, which would call out water rights junior to 1959 in the Entire Gunnison basin.

Public Use Impacts

The snowpack in the Crested Butte area is down, but the skiing remains fairly decent.



Basinwide Conditions Assessment

The SWSI value of -2.8 indicates that for February the basin water supplies were below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 58% of normal. Flow at the gaging station Colorado River near Dotsero was 546 cfs, as compared to the long-term average of 985 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 99% of normal as of the end of February.

February precipitation was about 60% of average for the entire Colorado River basin, but less than 50% of average in the lower part of the basin around the Flat Tops and Grand Mesa area. Similarly, while snowpack was less than 70% of average for the entire basin, the lower basin areas have only 50-60% of average.

Outlook

NRCS March 1 forecasts predict the April through July Colorado River mainstem runoff to be 69% of average at the Dotsero gage and 63% of average at the Cameo gage. On key tributaries, the NRCS forecast Plateau Creek runoff to be only 43% of average, the Roaring Fork River 63% of average, and Muddy Creek (near Kremmling) to be 60% of average.

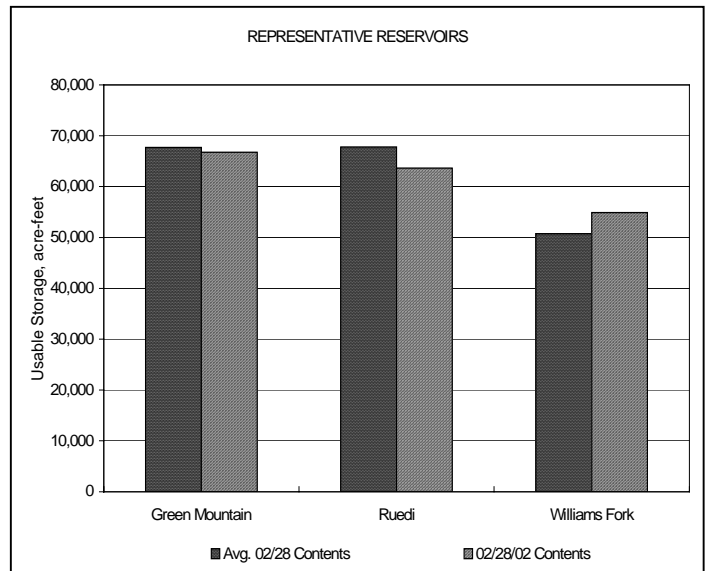
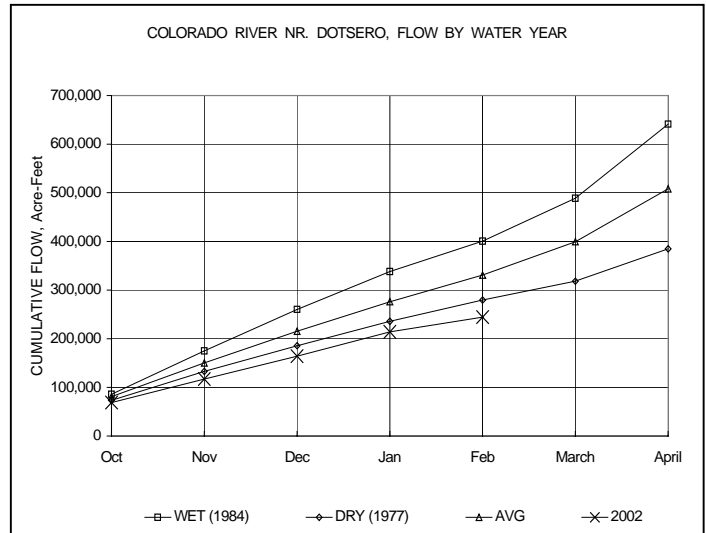
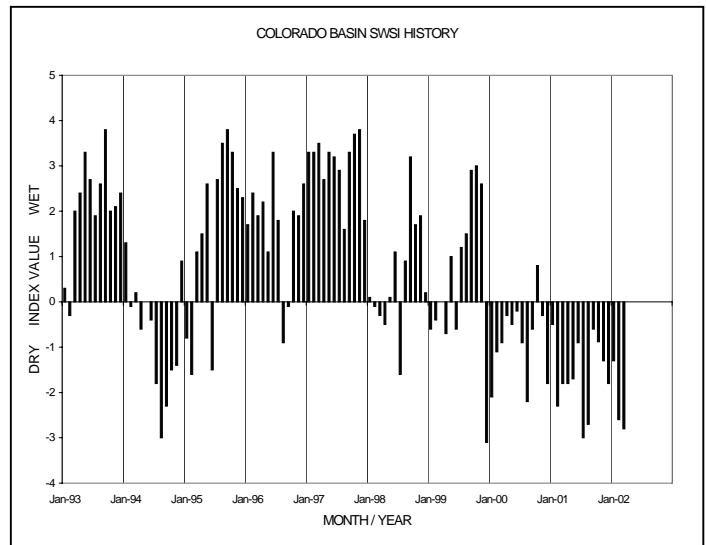
A "pineapple express" weather pattern may bring increased snowfall in March, but any effects from an El Nino weather pattern will not be felt until July or August.

Administrative/Management Concerns

March 1 estimates are calling for a 30,000 acre-feet hole in Green Mountain Reservoir to fill this year. Granby Reservoir will not fill. Dillon and Williams Fork Reservoir will probably not fill this year.

Public Use Impacts

Recreational opportunities will be affected at all major reservoirs that do not fill. Marinas at some reservoirs may be adversely affected by low level conditions.



Basinwide Conditions Assessment

The SWSI value of -3.2 indicates that for February the basin water supplies were well below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 64% of normal. Flow at the gaging station Yampa River at Steamboat was 85 cfs, as compared to the long-term average of 98 cfs.

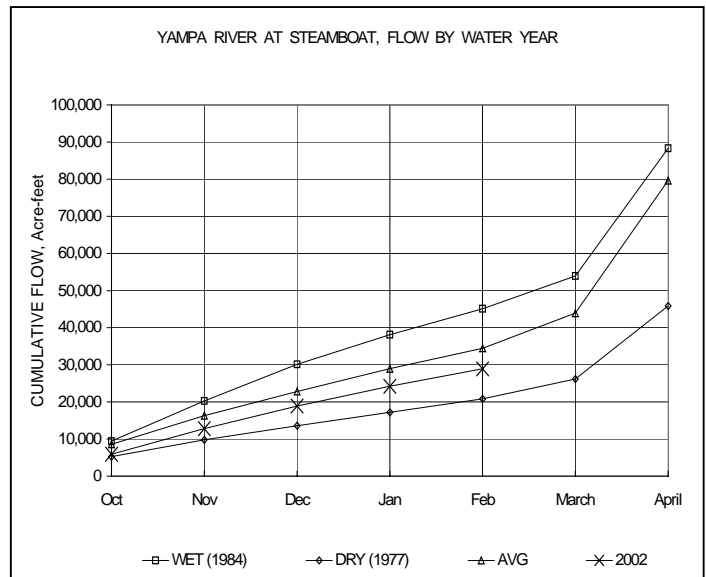
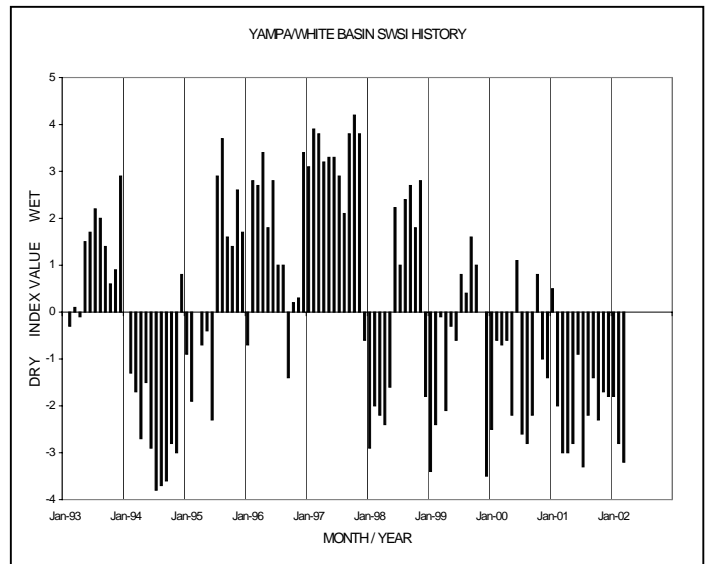
February was another dry month in the basin. Basin wide precipitation, as measured at the area SNOWTEL sites, was only 71% of average for the month. Snowpack ranged from a high of 69% for the Little Snake River to a low of 53% for the White River.

Outlook

The March 1 runoff forecast, provided by the NCRS, estimates the most probable spring time runoff on the various major drainages will range from 49% of average on the North Platte near Northgate to 64% of average on the White River near Meeker. The forecast for the Yampa River near Maybell is 65% of average, and the Little Snake near Dixon is forecasted to be 56% of average. These forecasts are essentially the same as a month ago.

Administrative/Management Concerns

The forecast numbers indicate the basin continues to be in a drought condition. If the weather patterns that have been seen so far this winter continue, administration of water rights may begin earlier than normal in many parts of the basin. Without substantial spring rains, water users could potentially see lower peak flows during the runoff, coupled with a shorter runoff duration. Along with the dire runoff predictions, budgetary cuts may affect the agency's ability to provide adequate levels of administration for the rest of this fiscal year.





Basinwide Conditions Assessment

The SWSI value of -3.1 indicates that for February the basin water supplies were well below normal. The Natural Resources Conservation Service reports that March 1 snowpack is 45% of normal. Flow at the gaging station Animas River near Durango was 155 cfs, as compared to the long-term average of 212 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 75% of normal as of the end of February.

February is typically one of the snowiest months for southwest Colorado, with an average precipitation in Durango of about 1.64 inches. This year only 0.17 inch was recorded in Durango, making it the 5<sup>th</sup> driest February on record. This follows the driest January in 108 years of record keeping.

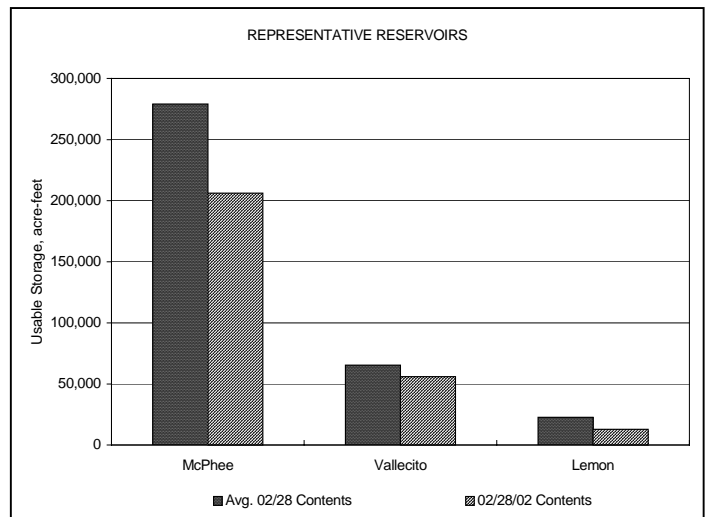
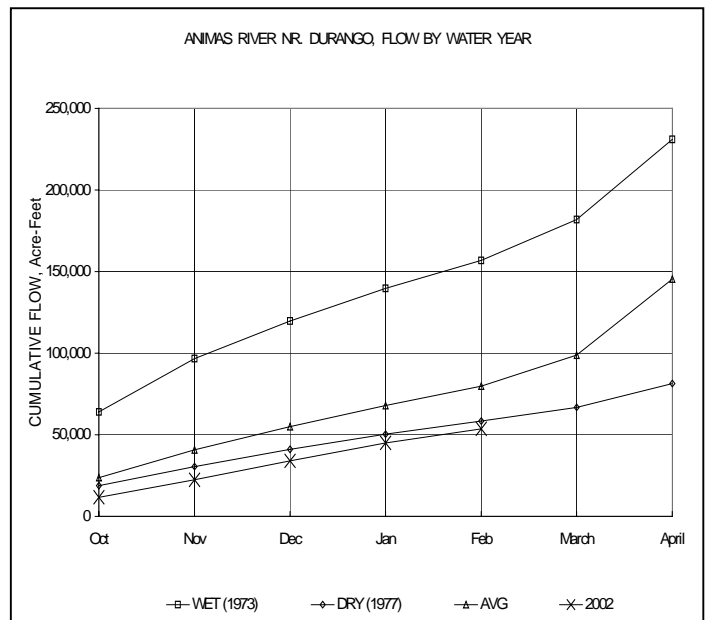
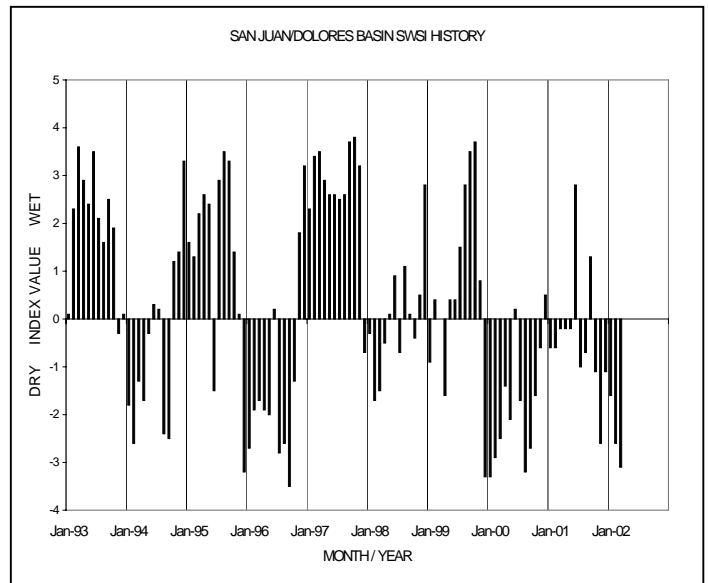
The snowpack continued to remain well below normal. It stood at 43% of average across the San Juan and Dolores River drainages, with the most snowpack in the upper Dolores drainage. The San Juan River snow courses were at 31% of normal. Basin wide SNOWTEL precipitation for the water year to date is at 49%.

River flows continue to be below normal. The Animas River in Durango was only 147 cfs at the end of February. Reservoir storage remained stable but still well below normal, except at Vallecito Reservoir which was at 105% of normal. Lemon Reservoir was at 63% of normal with 12,876 acre-feet in storage, and McPhee Reservoir held 203,226 acre-feet which was 75% of normal.

Average high temperatures were 0.8°F above normal and average low temperatures were 1.4°F below normal in Durango during February.

Outlook

Prospects are not good for the upcoming irrigation season for areas without storage reservoirs. A major change in the prevailing weather pattern for the whole state is needed soon for any hope of a near normal irrigation season.



# NOTICE

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