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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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February 2007

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.

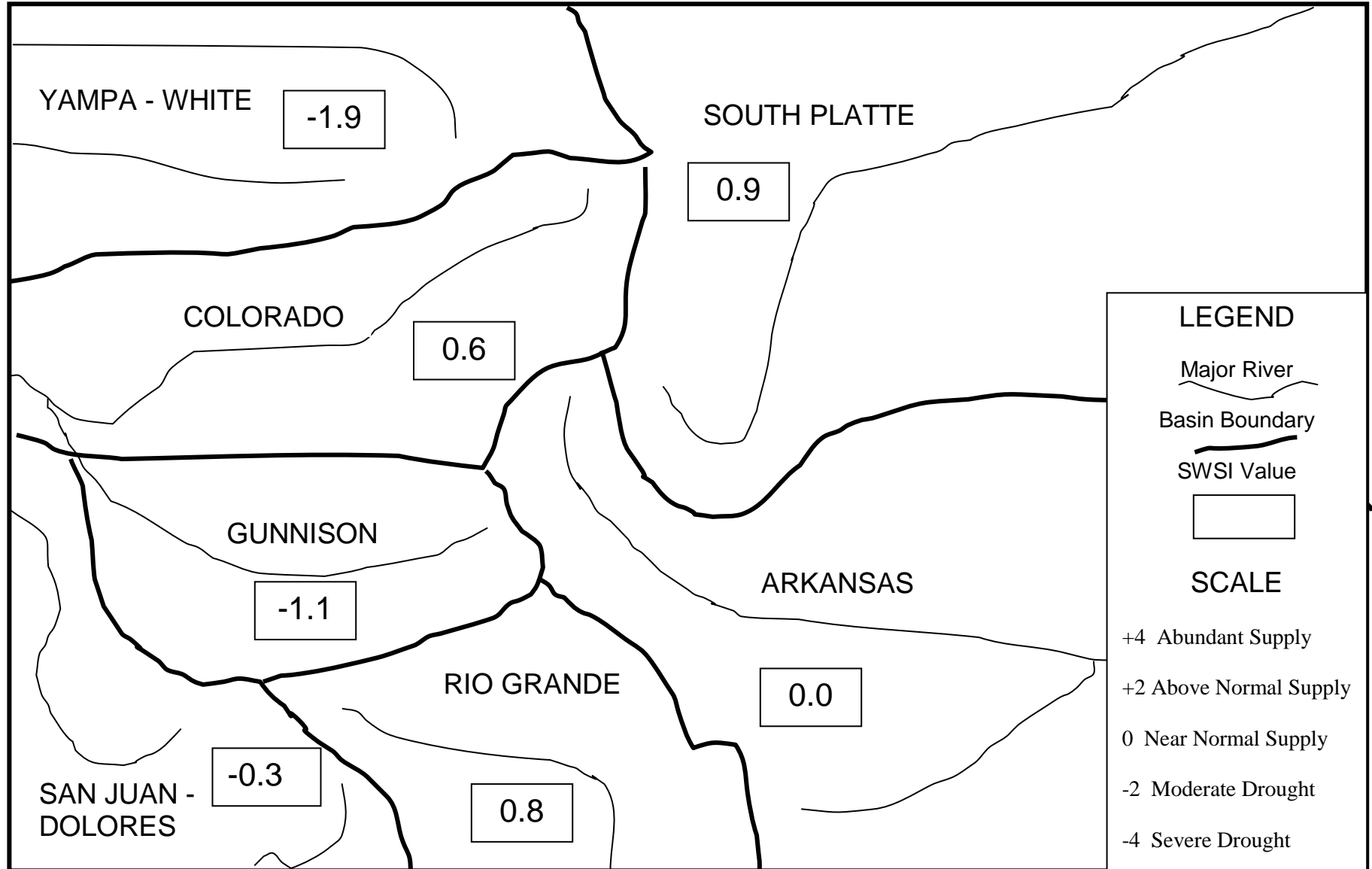
The statewide SWSI values for February range from a high value of 0.9 in the South Platte Basin to a low value of -1.9 in the Yampa/White Basin. Six of the basins (South Platte, Arkansas, Gunnison, Colorado, Yampa/White, and San Juan/Dolores) experienced a loss from the previous month's values. One of the basins (Rio Grande) experienced a gain from the previous month's values.

The following SWSI values were computed for each of the seven major basins for February 1, 2007, and reflect the conditions during the month of January.

<u>Basin</u>	<u>February 1, 2007 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	+0.9	- 0.2	-0.8
Arkansas	+0.0	- 1.4	-2.9
Rio Grande	+0.8	+0.5	+3.3
Gunnison	- 1.1	- 1.6	-2.3
Colorado	+0.6	- 1.7	-1.9
Yampa/White	- 1.9	- 2.3	-4.4
San Juan/Dolores	- 0.3	- 0.5	+1.6

<u>Scale</u>									
-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



February 1, 2007

### Basinwide Conditions Assessment

The SWSI value for the month of January was 0.9. Cumulative storage for the six reservoirs graphed on this page was 112% of normal as of the end of January. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 52% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 90% of capacity. The Natural Resources Conservation Service reports that the February 1 snowpack is 113% of normal. Flow at the gaging station South Platte River near Kersey was 526 cfs, as compared to the long-term average of 656 cfs. Flow at the Colorado/Nebraska state line averaged 210 cfs.

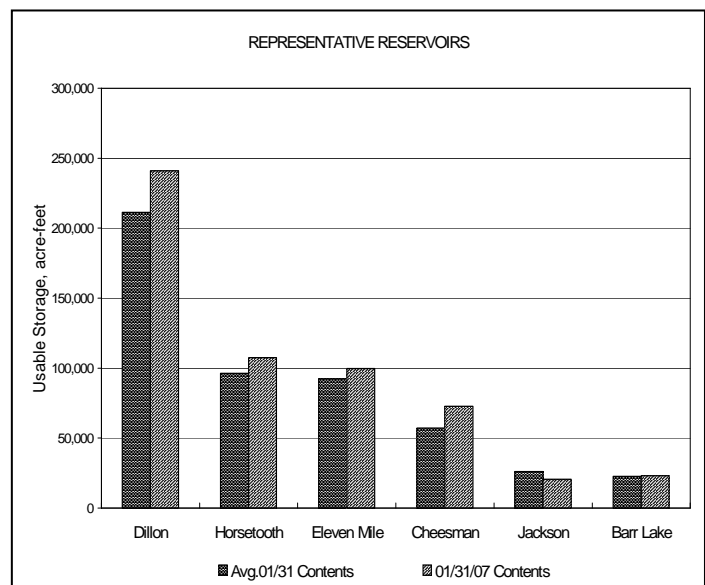
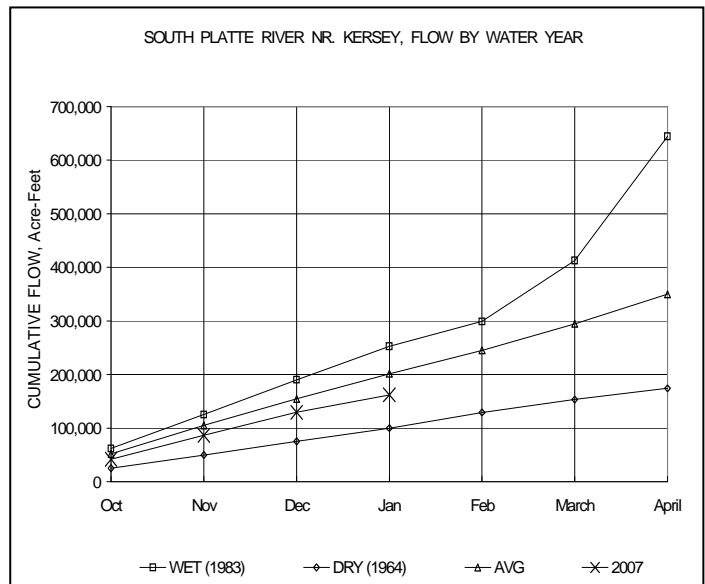
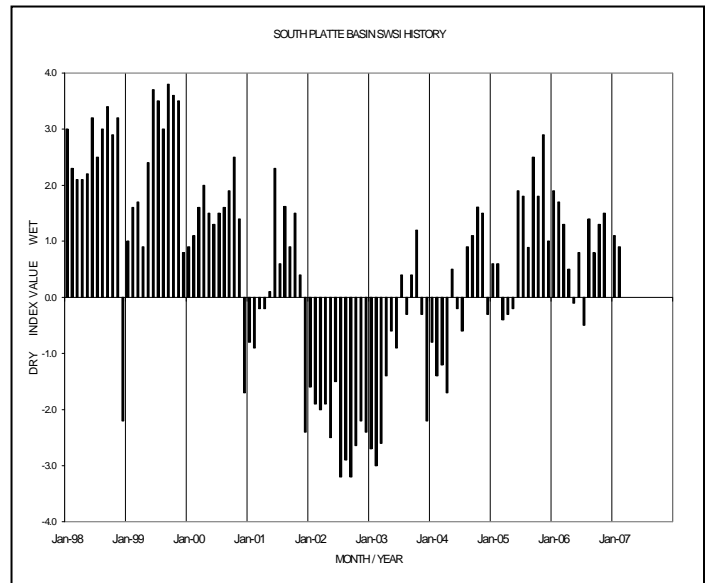
### Outlook

Diversions during January continued to be primarily for municipal purposes or storage for next year's irrigation season. Cold weather conditions kept many reservoir owners from diverting their full decreed allocation both on the plains and on the tributaries. Thus, there were several days of free river during January along the mainstem of the South Platte downstream of the Denver area even with reservoirs still at very low levels on the plains for this time of year due to extensive draw on these reservoirs last summer.

### Administrative/Management Concerns

It will be difficult to fill all the major plains irrigation reservoirs unless we have excess water during the early irrigation season eliminating the need for irrigators to place a call. With the snow conditions presently, there is a fairly high likelihood that all available water will not be needed early in the spring to irrigate up crops and thus there may be free river. As always is the case, extremely dry conditions the remainder of the winter and early spring may change this situation. At minimum, we anticipate the snow on the plains will provide an excellent supply for winter wheat and early supply to crops.

Storage levels and supply for the major Front Range municipalities, especially those above the Denver Metro area, remain in a very good situation. We do not anticipate any water limitations for these users this water year.



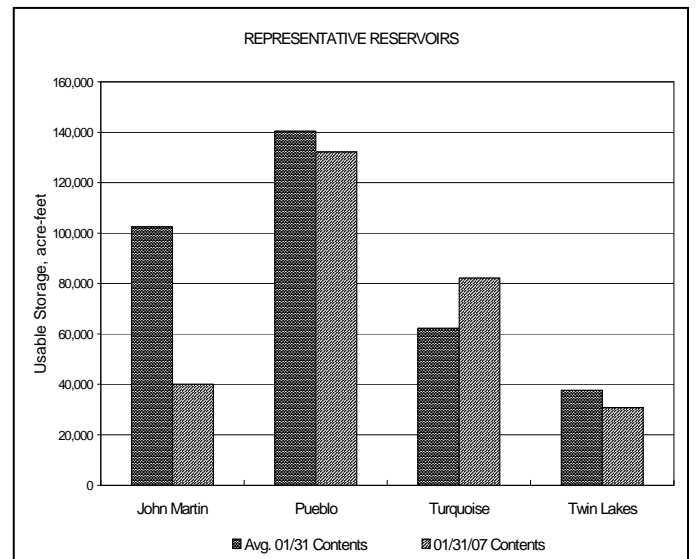
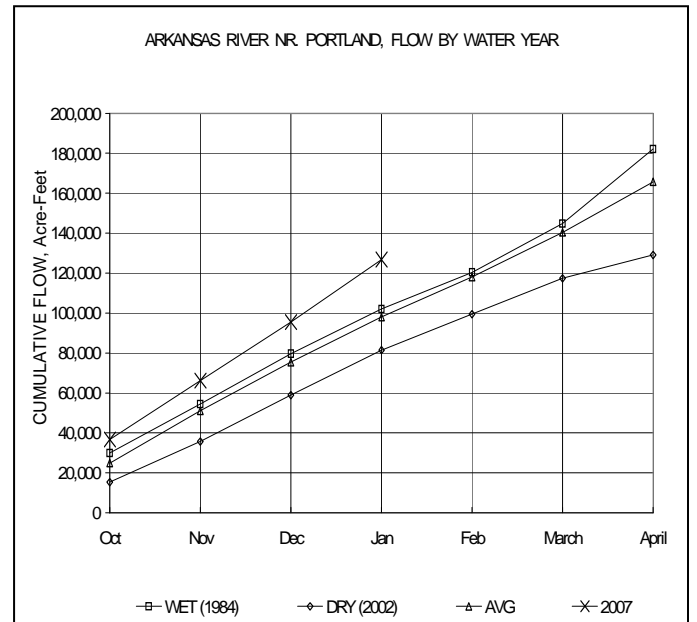
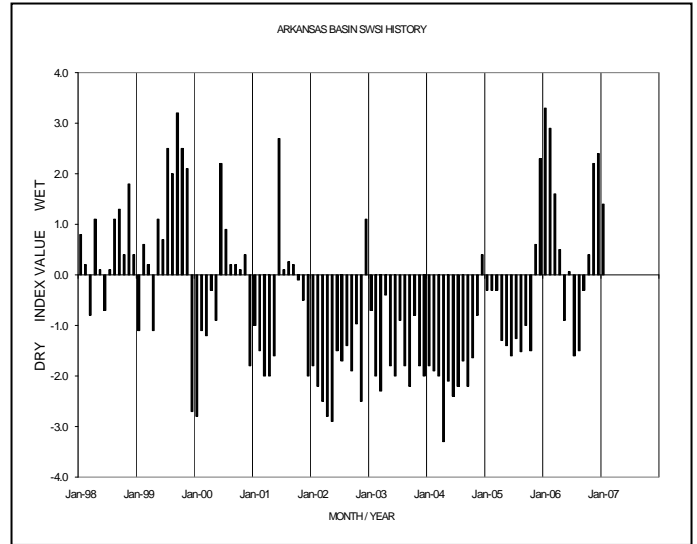
### Basinwide Conditions Assessment

The SWSI value for the month of January was 0.0. The Natural Resources Conservation Service reports that the February 1 snowpack is 121% of normal. Flow at the gaging station Arkansas River near Portland was 508 cfs, as compared to the long-term average of 368 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 83% of normal as of the end of January.

### Administrative/Management Concerns

Reservoir storage in the Pueblo Winter Water Program totaled 102,795 acre-feet as of the end of January. This storage amount is significantly higher than last year's storage to date of 76,893 acre-feet and represents 148% of the past five-year average. Conservation storage in John Martin Reservoir has accumulated 20,553 acre-feet versus 10,766 acre-feet as of the end of January last year, also a noticeable improvement.

Deliveries to off-channel reservoirs and measurements at river gages were impacted by ice effects as cold temperatures prevailed throughout much of January.



### Basinwide Conditions Assessment

The SWSI value for the month of January was 0.8. The Natural Resources Conservation Service reports that the February 1 snowpack is 105% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 204 cfs (107% of normal). The Conejos River near Mogote had a mean flow of 52 cfs (106% of normal). Precipitation in Alamosa was 0.48 inches, which is nearly twice the normal precipitation amount of 0.25 inches. The mean temperature for the month was 8.5 degrees Fahrenheit, which is a significant 6.2 degrees below average. Alamosa had 27 days in January in which the low temperature was below zero. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 89% of normal as of the end of January.

### Outlook

The San Luis Valley and surrounding mountains received good snowfall during January with 125% of average precipitation basinwide. However, the area did not get hit by the brunt of the blizzards that paralyzed the Front Range and eastern plains.

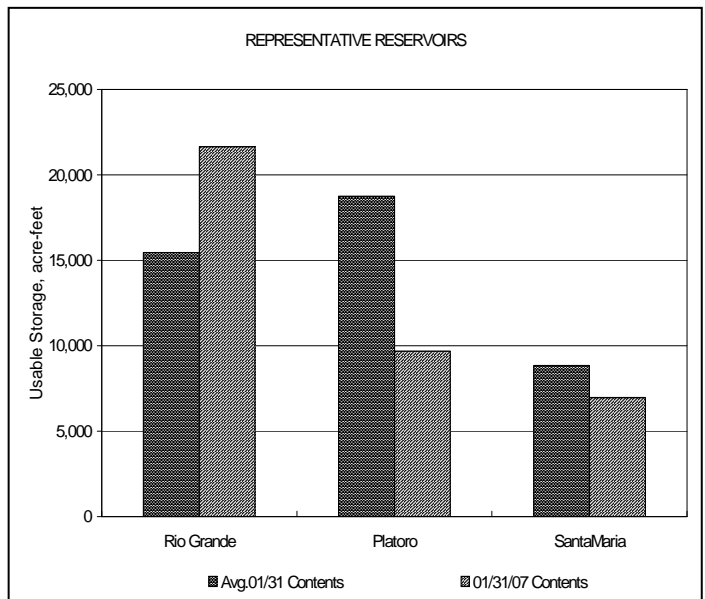
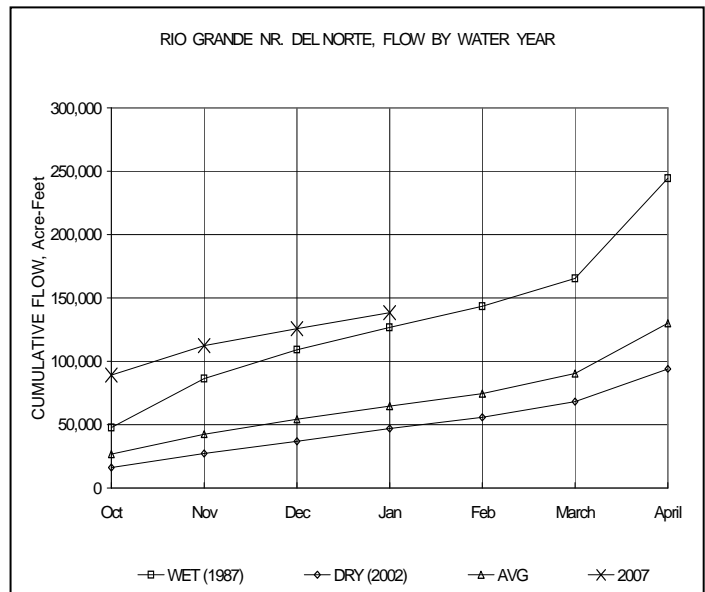
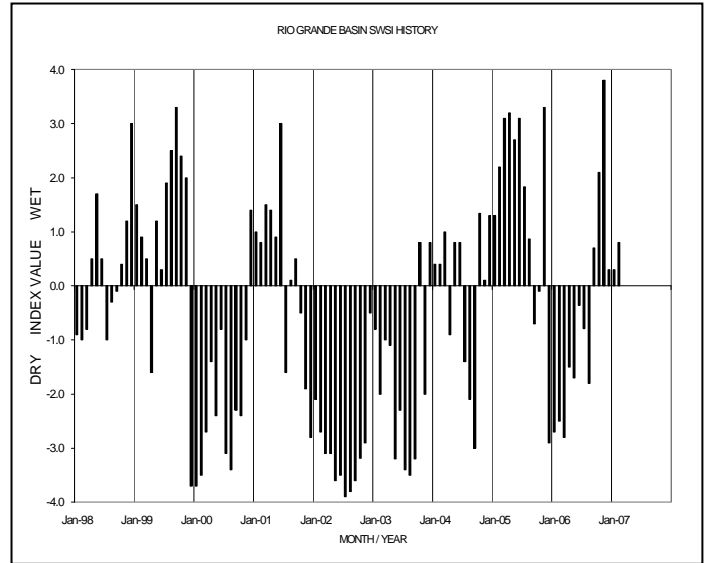
The Natural Resources Conservation Service forecasts are predicting streamflow in area streams to be near average during the 2007 irrigation season, ranging from 125% of average for Sangre de Cristo Creek to 92% of average for the San Antonio River.

### Administrative/Management Concerns

Water managers are hopeful that significant snow will continue to fall during the next several months, allowing the area's rivers and streams to flow at or above normal levels.

### Public Use Impacts

Snowfall on the valley floor has been higher than usual, resulting in snow cover during the entire month of January. Other than transportation difficulties, area water users and winter sports enthusiasts are enjoying the wintery conditions.



### Basinwide Conditions Assessment

The SWSI value for the month of January was -1.1. The Natural Resources Conservation Service reports that the February 1 snowpack is 81% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 49 cfs, as compared to the long-term average of 45.1 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 125% of normal as of the end of January.

### Outlook

The first week of February brought no relief as the expected snowstorm slid past the basin without much snowfall. Current snowpack conditions in the separate sub-basins vary widely. The Surface Creek drainage stands at only 64 percent of average, the upper Gunnison is at 73 percent, and the Uncompahgre reports at an encouraging 89 percent of normal.

The most recent Natural Resources Conservation Service forecasted runoffs vary from a low of 82 percent of normal for the Gunnison River near Gunnison, Surface Creek at Cedaredge, and the North Fork of the Gunnison near Somerset to a high of 98 percent for the Lake Fork at Gateview. All forecasted streamflow points dropped from 5 to 18 percent during the past month.

There is still plenty of time for additional snowfall in the basin to make up the shortfall. The early April forecast is the most important one for administrators and users.

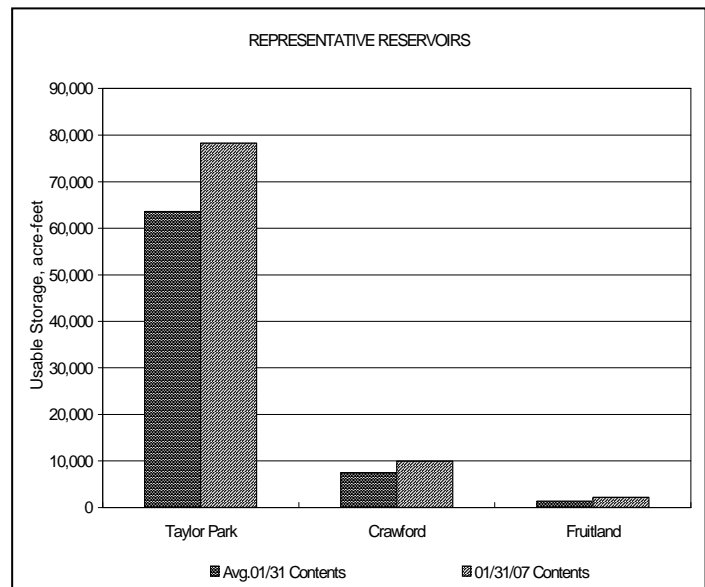
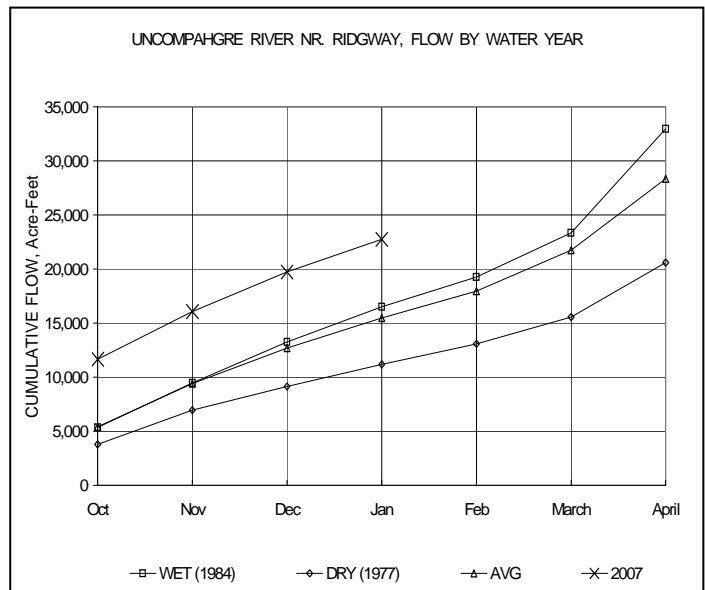
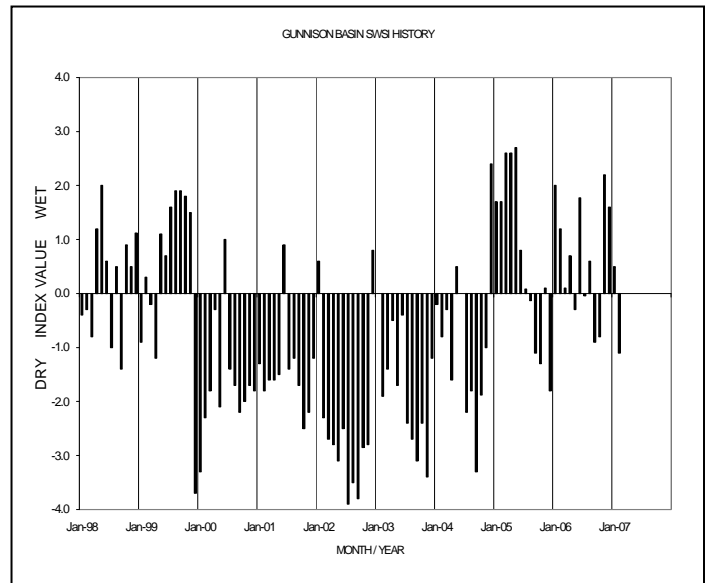
### Administrative/Management Concerns

The rains of last fall will continue to show great benefit to the basin in 2007 as soil moisture conditions remain good and reservoir storage as of the end of January was excellent when compared to long-term averages.

At the Aspinall Unit operations meeting during January, the USBR forecasted that they could fill Blue Mesa Reservoir this year. Blue Mesa Reservoir is at a lower level than last year, but currently 106% of average. Due to the declining snowpack conditions, the USBR decreased releases out of Crystal Reservoir at the beginning of February from 1500 cfs to 1100 cfs.

### Public Use Impacts

While winter-time activities dependent on snowpack were suffering, the cold temperatures during January did ice things up, making ice-fishermen and climbers happy but creating some difficulty with unsafe road conditions. The sporadic snowfall raised the level of concern for the approaching runoff season.



### Basinwide Conditions Assessment

The SWSI value for the month of January was 0.6. The Natural Resources Conservation Service reports that the February 1 snowpack is 92% of normal. Flow at the gaging station Colorado River near Dotsero was 1985 cfs, as compared to the long-term average of 974 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 114% of normal as of the end of January.

### Outlook

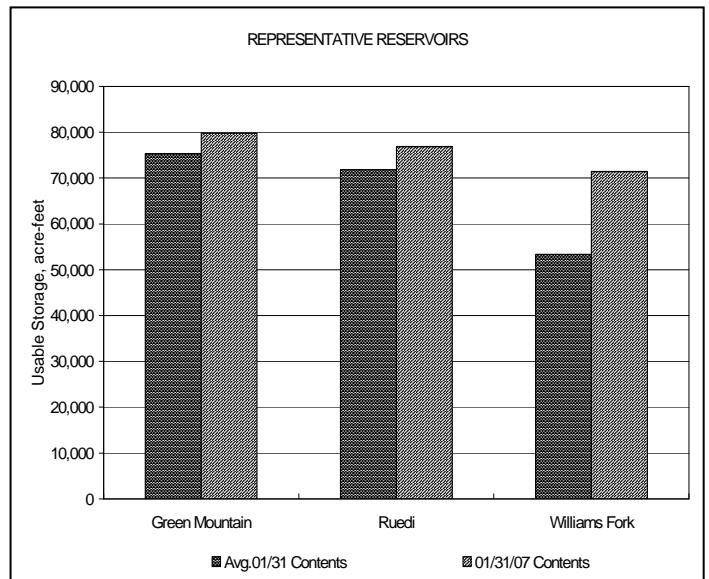
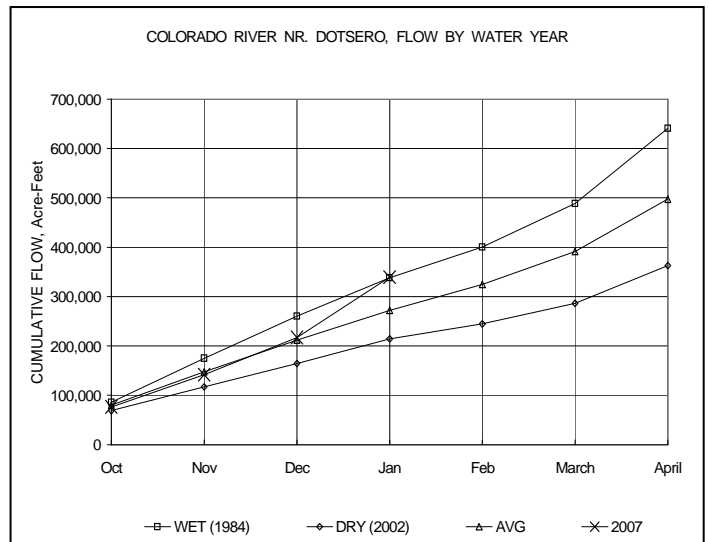
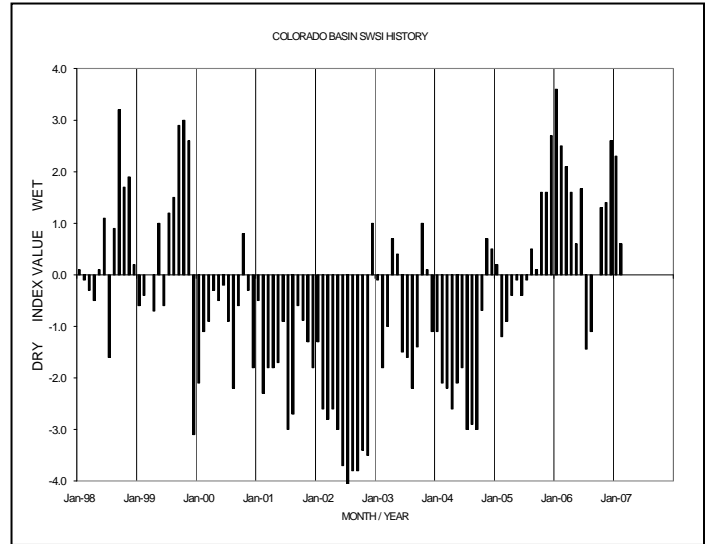
Most reservoirs are expected to fill from spring runoff. Anticipated to fill include Dillon, Green Mountain, Williams Fork and Ruedi Reservoirs. Granby Reservoir is not expecting to fill and is projecting at least a 100,000 acre-feet shortage.

### Administrative/Management Concerns

The senior Shoshone right is set at 700 cfs during their winter maintenance. During the early part of the year, they start overhauling one of the two turbines. Depending on winter weather conditions, it varies whether the right will be satisfied by natural flows or by reservoir releases. Usually by late February or early March, both turbines are overhauled and put back on line. The right is then set for 1,250, which calls out the entire basin until spring runoff.

### Public Use Impacts

The X Games were held at the Buttermilk ski area in Aspen the weekend of January 27<sup>th</sup>. International competition included snowboarding, snowmobiles, mono-skiers and boarder-cross, to name a few. With approximately a 36" base to start, the ski area added 34 acre-feet of snowmaking to enhance the slopes



### Basinwide Conditions Assessment

The SWSI value for the month of January was -1.9. Flow at the gaging station Yampa River at Steamboat was 194 cfs, as compared to the long-term average of 99.2 cfs.

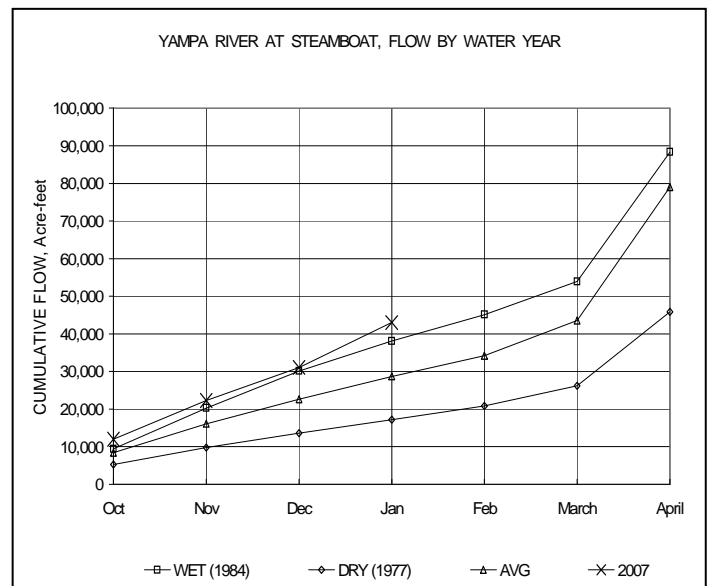
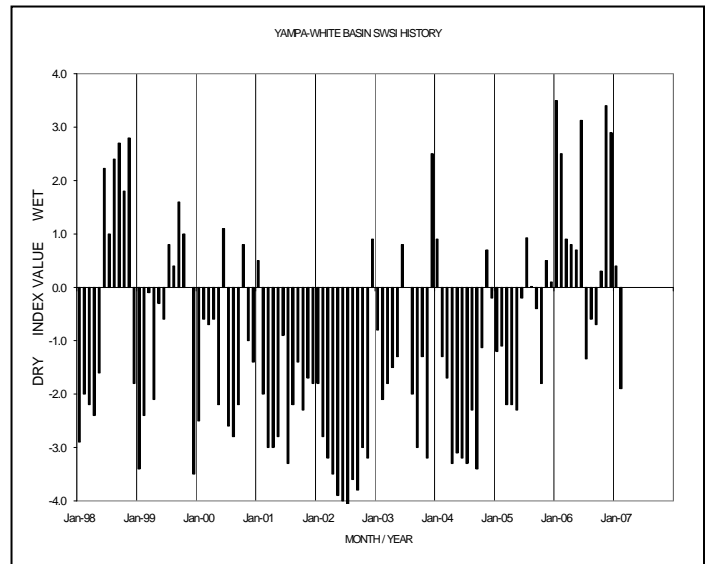
As with the previous month, January precipitation was well below average for the basin. Precipitation for the month as measured at the SNOTEL sites operated by the NRCS averaged 53% of normal for the Yampa, White, and North Platte River basins combined. The precipitation for the Yampa and White River Basins was 51% of average and the North Platte River basin was also 51% of average. The snow water equivalent as of January 31, 2007 for the Yampa and White River Basins was 68% of average and for the Laramie and North Platte River Basins it was 77% of average. The latest runoff forecasts from the NRCS for the April through July period are 91% of average for the North Platte River at Northgate, 87% of average for the Yampa River near Maybell, 79% of average for the Little Snake River near Lily and 84% of average for the White River near Meeker.

### Outlook

Fish Creek Reservoir storage, leveled out in the month of January and ended the month at approximately 84% of capacity. Yamcolo Reservoir storage levels at the end of January were approximately 87% of capacity. Officials are taking the opportunity at Elkhead Reservoir to store as much inflow as possible releasing just a minimal amount. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Reservoir for municipal, recreation, and potential fish recovery releases.

### Public Use Impacts

Area reservoirs are frozen, with good ice fishing reported. Elkhead Reservoir remains closed to all recreational activities.





### Basinwide Conditions Assessment

The SWSI value for the month of January was -0.3. The Natural Resources Conservation Service reports that the February 1 snowpack is 78% of normal.

Flows at the Animas River at Durango averaged 274 cfs (135% of normal) with a maximum average daily peak flow of 310 cfs on Jan. 5<sup>th</sup>. The Dolores River at Dolores was estimated to average 55 cfs (106% of normal). The La Plata River at Hesperus averaged 7.9 cfs (114% of normal) with a maximum average daily peak flow of 9.1 cfs on Jan. 5<sup>th</sup>. Precipitation in Durango was 0.80 inches for January which is below the average of 1.69 inches. Precipitation to date in Durango, for the water year, is 7.08 inches which is above the average of 6.74 inches. Temperatures were above normal. Durango was 1.0° above its 30-year average high and 4.0° above its 30-year average low.

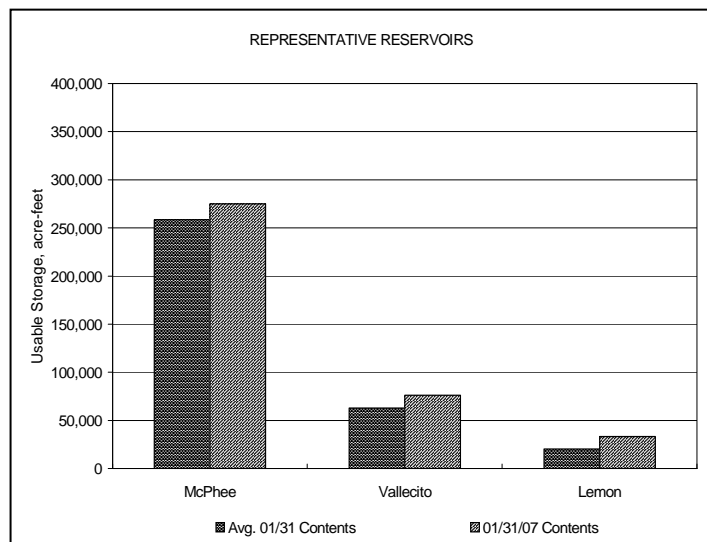
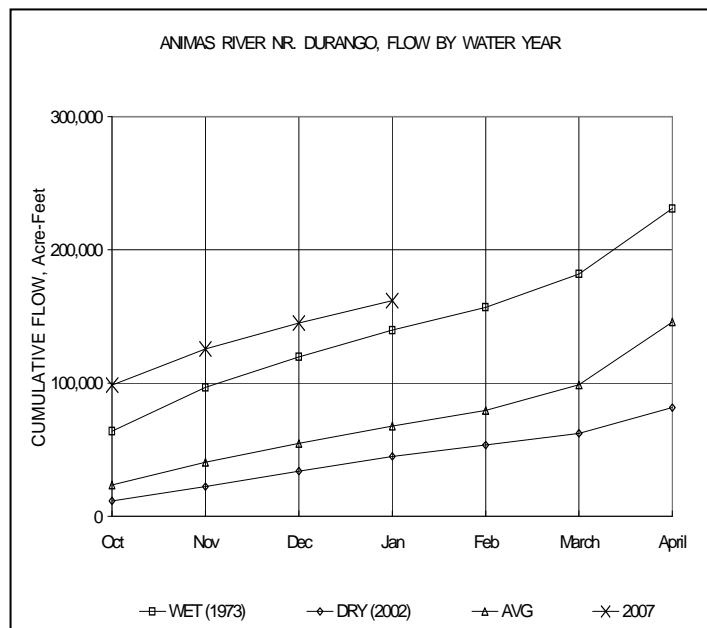
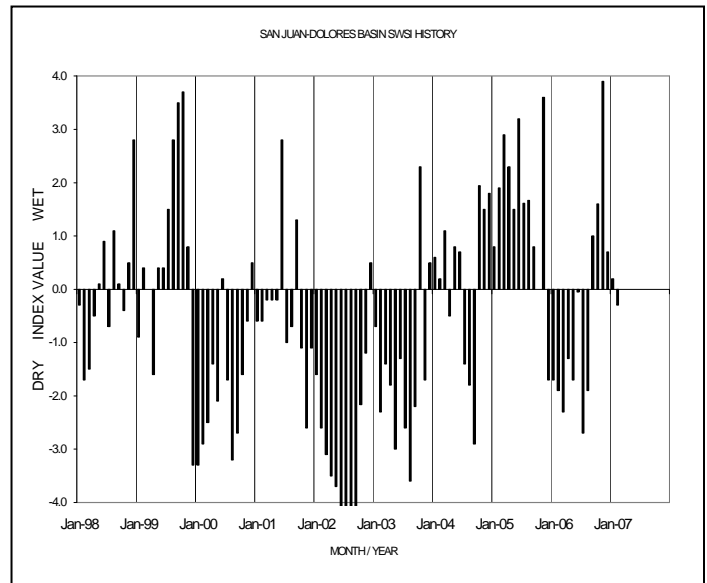
At the end of the month Vallecito Reservoir contained 76,330 acre-feet compared to its normal contents of 53,485 acre-feet (143% of normal). McPhee Reservoir was up to 275,031 acre-feet compared to its normal contents of 254,896 acre-feet (108% of normal), while Lemon Reservoir was up to 33,500 acre-feet as compared to its normal content of 19,401 acre-feet (173% of normal). The storage in Lemon Reservoir is the highest amount stored for an end of January period based on 43 years of record.

### Outlook

Current snowpack for the basin remains below average. Reservoir storage remains the bright spot in the basin with above average storage. The current storm track is south of the Division but we are hopeful the storm track will move to the north slightly as we enter the larger snowfall months.

### Public Use Impacts

DWR staff did not observe kayaking on the Animas River in the month of January.



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