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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 2008

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.

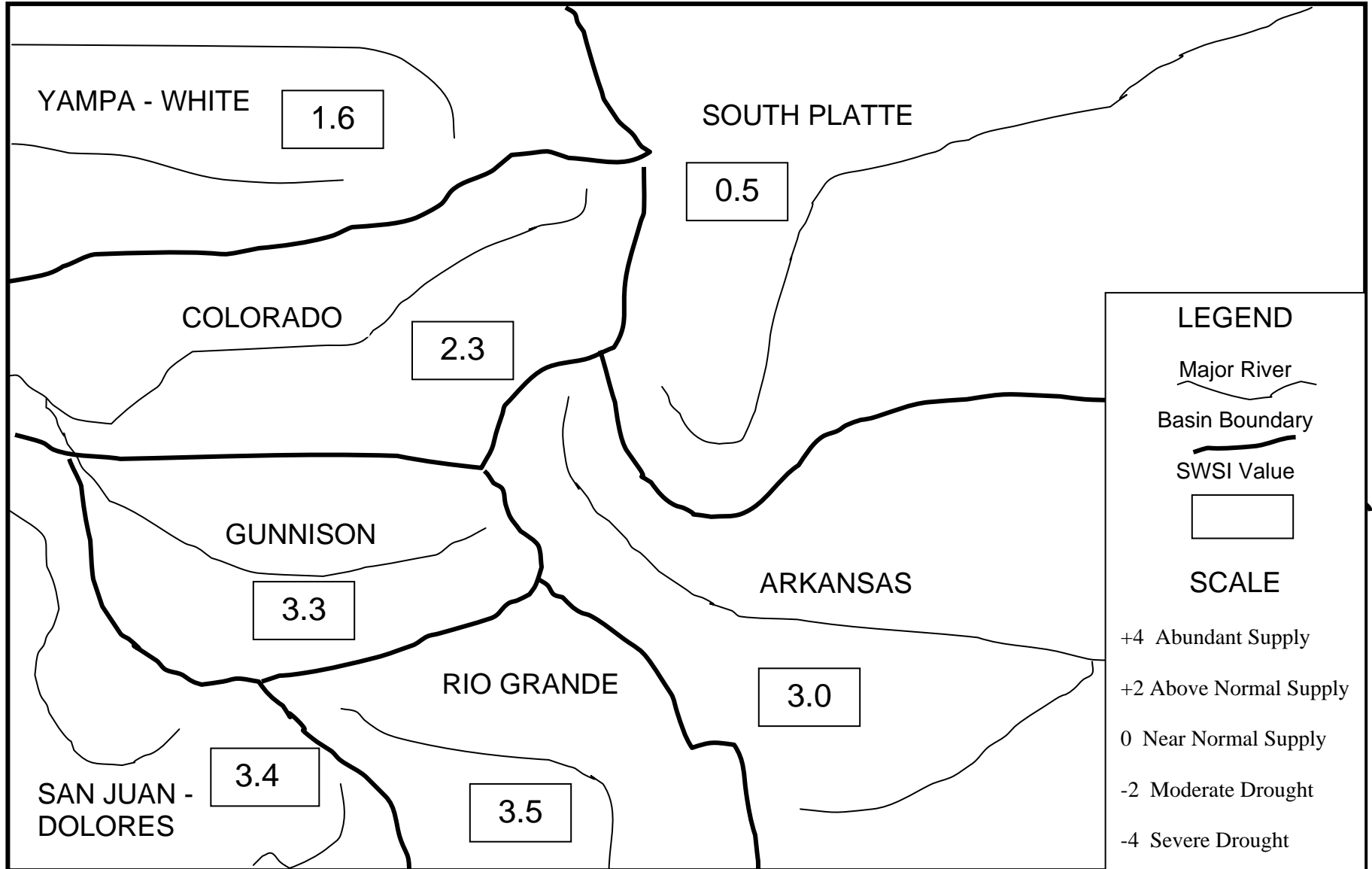
The statewide SWSI values for January range from a high value of 3.5 in the Rio Grande Basin to a low value of 0.5 in the South Platte Basin. All of the basins experienced a gain from the previous month's values.

The following SWSI values were computed for each of the seven major basins for February 1, 2008, and reflect the conditions during the month of January.

<u>Basin</u>	<u>February 1, 2008 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	0.5	0.4	- 0.6
Arkansas	3.0	0.6	1.6
Rio Grande	3.5	0.7	3.2
Gunnison	3.3	0.9	2.8
Colorado	2.3	0.2	0.0
Yampa/White	1.6	1.7	1.2
San Juan/Dolores	3.4	1.0	3.2

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



February 1, 2008

Basinwide Conditions Assessment

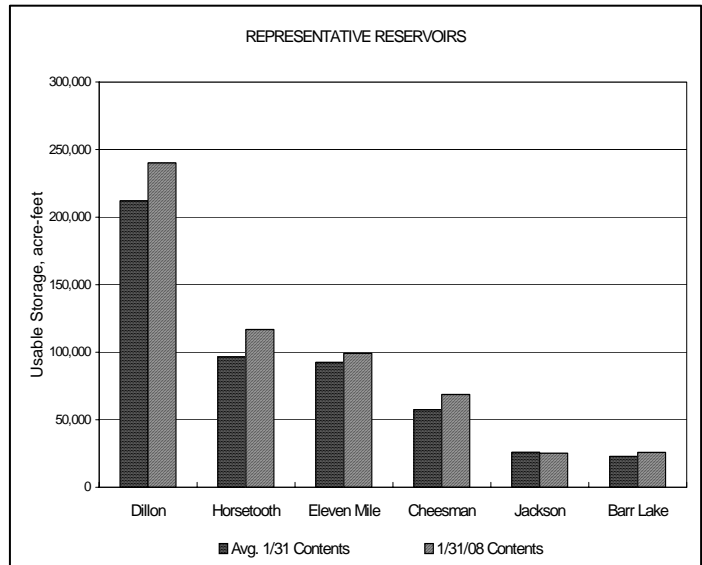
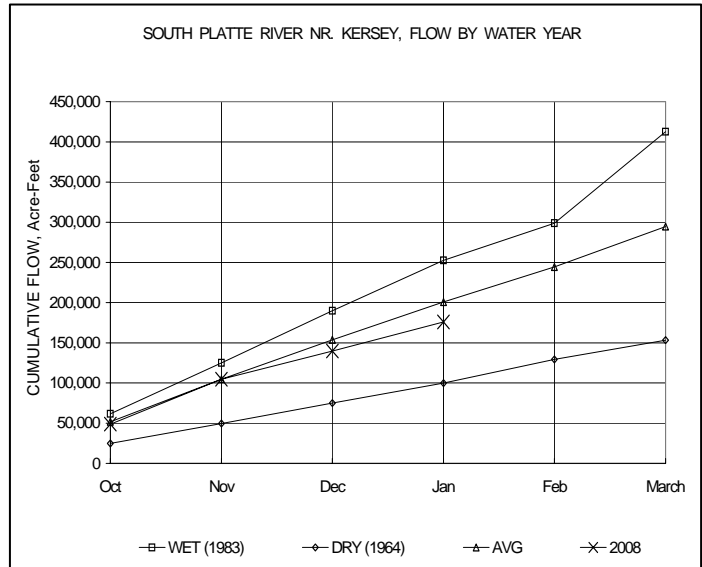
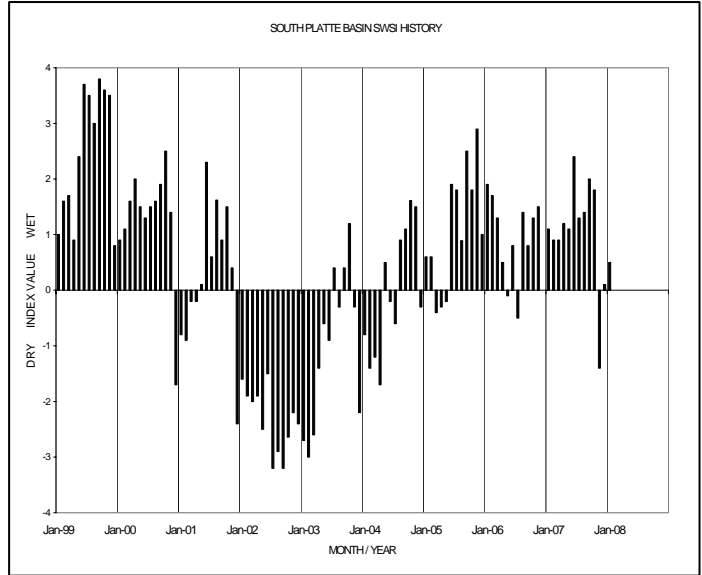
The SWSI value for the month was 0.5. Cumulative storage for the six reservoirs graphed on this page was 114% of normal as of the end of January. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 75% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 92% of capacity. The Natural Resources Conservation Service reports that February 1 snowpack is 97% of normal. Flow at the gaging station South Platte River near Kersey was 589 cfs, as compared to the long-term average of 654 cfs. Flow at the Colorado/Nebraska state line averaged 323 cfs.

The main diversions in the South Platte continued to be for reservoir storage with lesser amounts for municipal purposes. Like December, colder conditions during part of the month limited storage due to icing conditions. Thus, there was no call on the river during a portion of the month allowing for limited recharge. However, even this usage was restricted due to the cold conditions.

Storage conditions basin wide continue to be improved over last year with expectations that most major municipal and irrigation reservoirs will fill this year. The one exception to this is the Poudre basin where a very good spring runoff will be necessary to come even close to filling all the major reservoirs.

Outlook

As always is the case, supply conditions for next year will be dramatically dependent on late winter and early spring mountain snow fall and spring rainfall conditions on the plains.



Basinwide Conditions Assessment

The SWSI value for the month was 3.0. The Natural Resources Conservation Service reports that February 1 snowpack is 147% of normal. Flow at the gaging station Arkansas River near Portland was 567 cfs, as compared to the long-term average of 371 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 102% of normal as of the end of January.

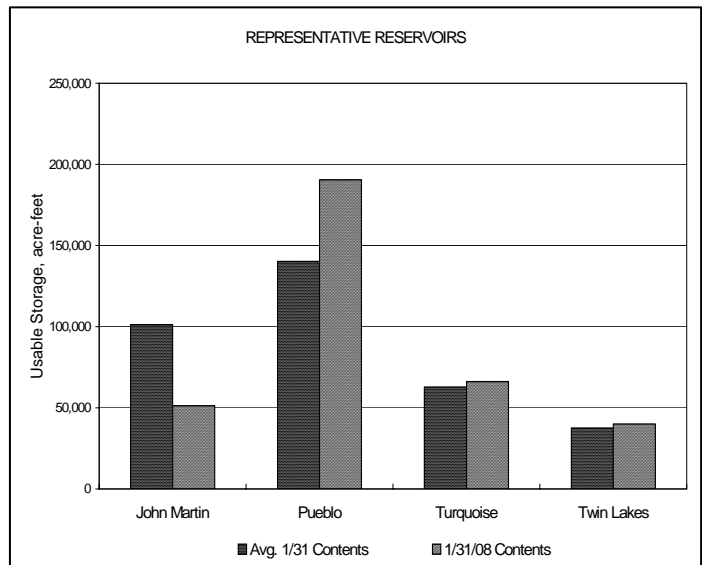
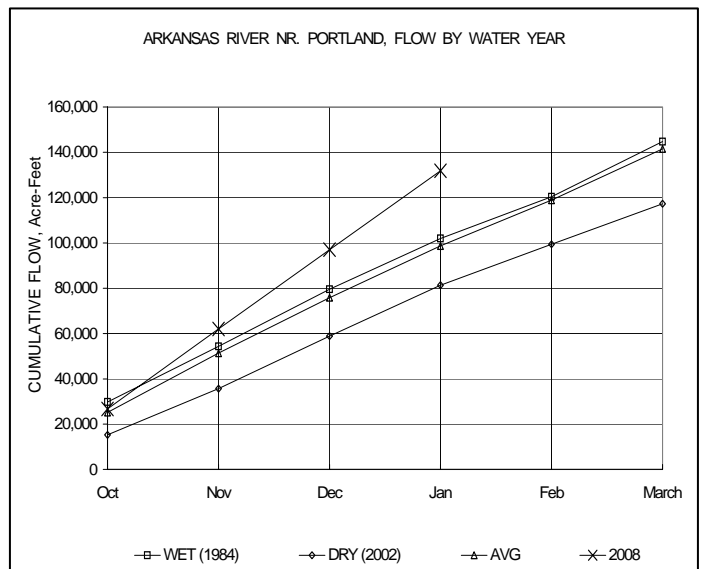
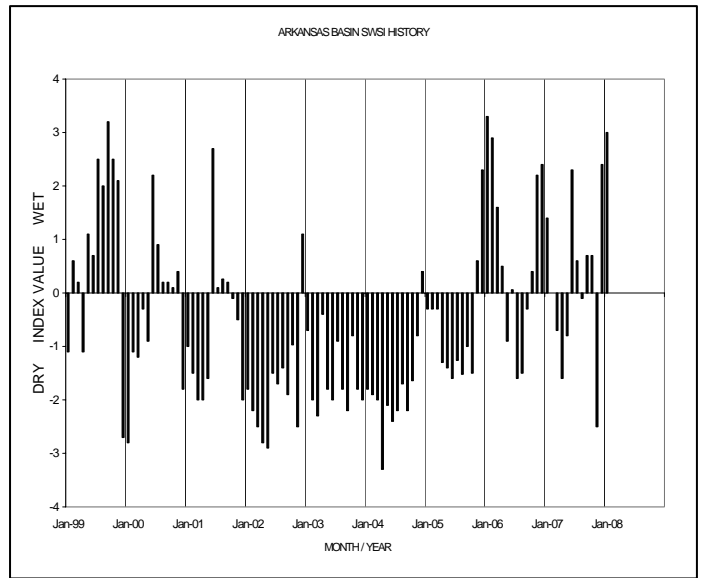
Outlook

Reservoir storage in the Pueblo Winter Water Program totaled 101,311 acre-feet as of the end of January. This storage amount is slightly lower than last year's storage to date of 102,795 acre-feet and represents 143% of the past five-year average. The overall Pueblo Reservoir storage content of 221,220 acre-feet at the end of January was as near the top of the Conservation Storage Pool in Pueblo Reservoir (256,949 acre-feet) as it has been for over seven years. Some strategic planning has already begun to ensure storage options are carefully thought through prior to the end of Winter Water Storage on March 14, 2008 to avoid account spills.

Conservation storage in John Martin Reservoir has accumulated 16,290 acre-feet versus 20,553 acre-feet as of the end of January last year. The end of January storage content of 51,440 acre-feet is still small compared to the available storage volume of approximately 345,000 acre-feet.

Administrative/Management Concerns

A significant topic of conversation and some controversy in the Arkansas River Basin has been the draft Efficiency Rules being considered by the State Engineer. These Rules are believed to be necessary to ensure continued compliance with the Arkansas River Compact and to avoid future litigation with the State of Kansas.



Basinwide Conditions Assessment

The SWSI value for the month was 3.5. The Natural Resources Conservation Service reports that February 1 snowpack is 173% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 182 cfs (107% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 107% of normal as of the end of January.

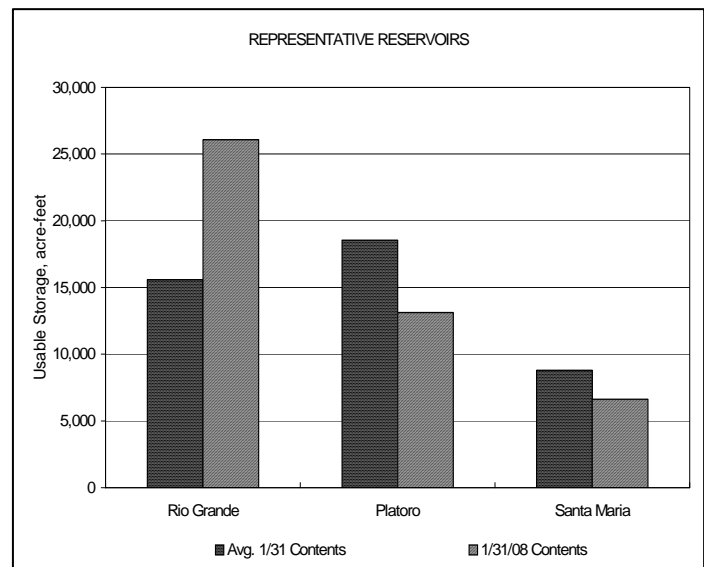
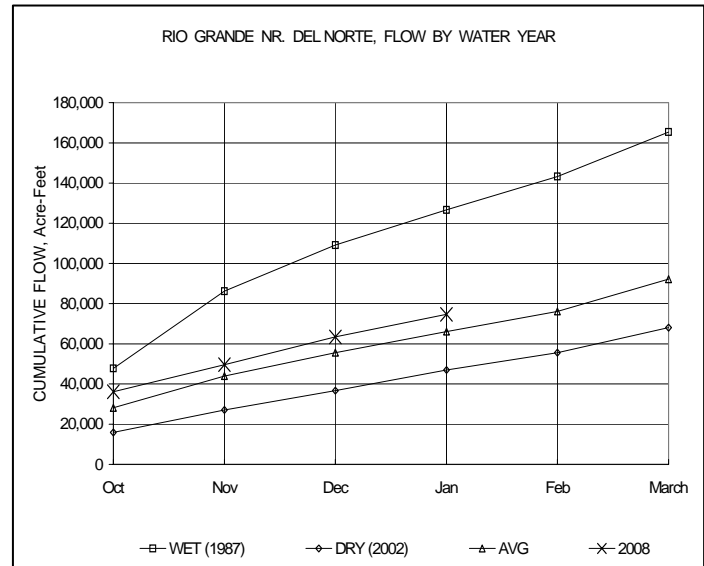
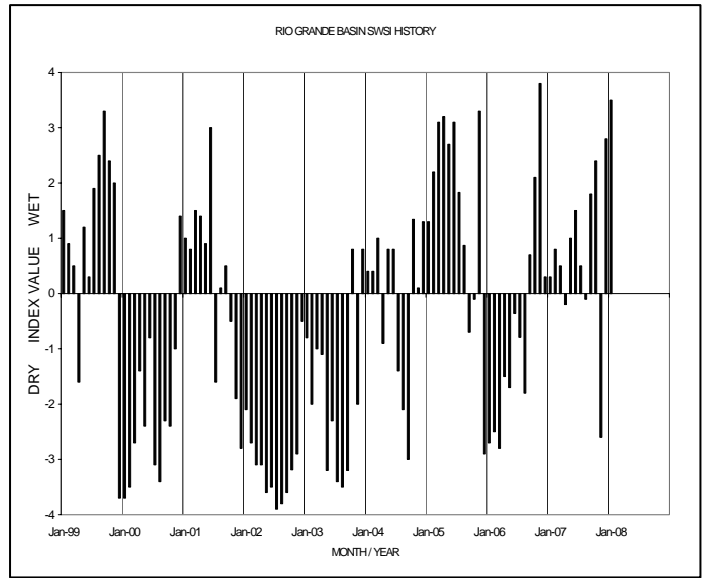
Southwestern Colorado received abundant snowfall as two hefty snowstorms blanketed the upper Rio Grande basin during January and another blasted the area in early February. The Natural Resources Conservation Service stream flow forecasts are now predicting runoff in area streams to be in the range of 130% to 180% of average during the 2008 irrigation season.

Administrative/Management Concerns

Much effort was spent during January finalizing streamflow and diversion records. The annual meetings of local districts and ditch boards are held this time of year to reflect back on the 2007 season and plan for the upcoming irrigation season. Given even average snowfall from now through April, there is a very good chance of a high runoff this year. It's still early, but local officials are concerned about the possibility of flooding.

Public Use Impacts

The heavy snowfall closed Wolf Creek and La Manga passes for a few days during January. High snowbanks along the roads in mountainous areas "look more like they did in the old days". Other than transportation difficulties, winter sports enthusiasts are enjoying the snowy conditions.



Basinwide Conditions Assessment

The SWSI value for the month was 3.3. The Natural Resources Conservation Service reports that February 1 snowpack is 149% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 50.7 cfs, as compared to the long-term average of 45.2 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 118% of normal as of the end of January.

Outlook

The generous trend in the snowpack increase through December has also continued through January in the Gunnison Basin. As an example, the Crested Butte area, which was so dry in 2007, has already reached 100 percent of the seasonal average snowpack. These statistics are tracking with the record runoff year of 1984. Visions of what looked to be a dismal snow season for 2008 have been erased by December and January accumulations, and the normally plentiful snowfall months of February and March are still ahead. If the trend continues, parts of the Gunnison Basin may be bracing for potential flooding conditions during spring runoff. When it rains it pours.

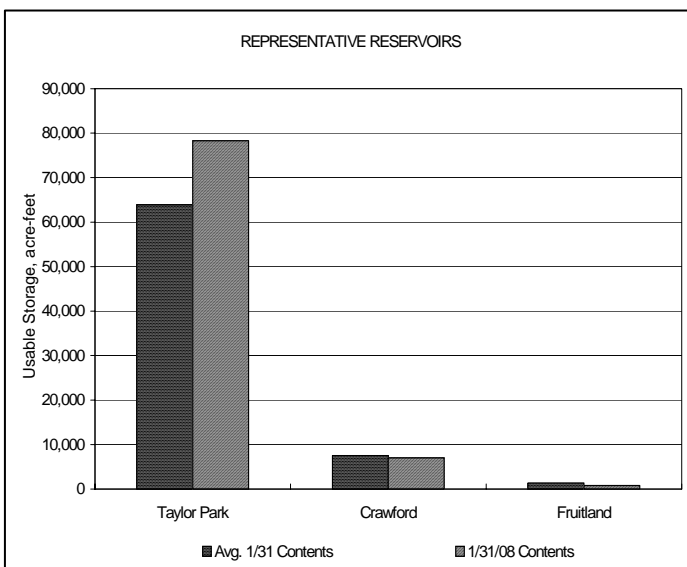
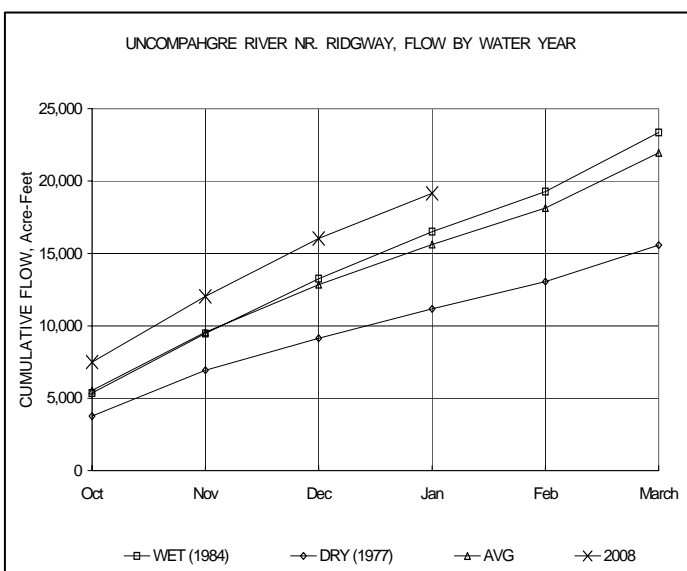
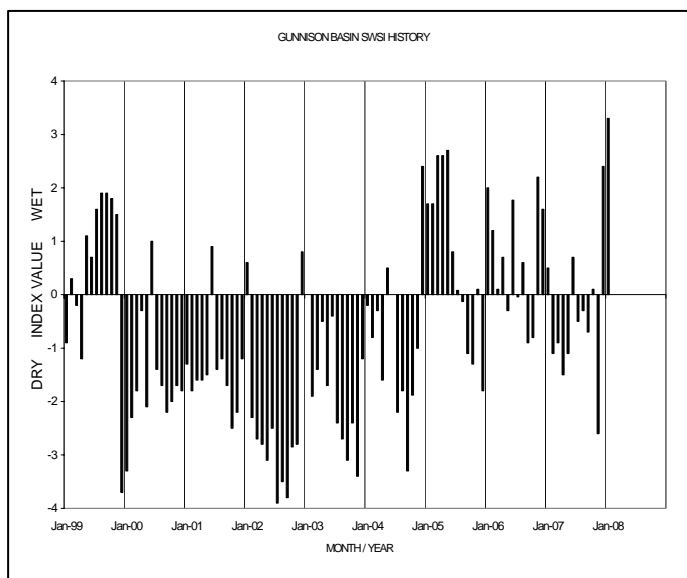
Administrative/Management Concerns

As an update to the previous month's SWSI report regarding the mediation process for quantifying flows/flow-rights in the Black Canyon National Park, a hearing was held on January 18<sup>th</sup>. The parties have requested from the court an additional three months to mediate issues, yet still hold fast to the scheduled trial date of June/July 2009. Judge J. Steven Patrick granted the request and will decide by the middle of April whether the parties will continue to mediate a resolution or prepare for trial.

Due to the higher than average inflow rates to the Aspinall Unit, the Gunnison River below the diversion tunnel is currently flowing at 2,120 cfs. This rate will most likely change as conditions warrant, primarily as the Bureau of Reclamation responds to the forecasted inflows and to accommodate for maintenance activities. Gunnison River flow rates below the diversion tunnel normally run about 500 cfs for this time of the year.

Public Use Impacts

Winter time public recreation, such as skiing and snowmobiling has been very good, and with the better than average accumulations, winter sport enthusiasts should be enjoying their snow activities for couple more months. Also, farmers in the Uncompahgre Valley typically rely on early releases from Ridgway Reservoir to wet their fields prior to the Gunnison Tunnel being turned on in April. This year should prove to be a good one for farmers in the Uncompahgre Valley to get a good start on the 2008 growing season.



Basinwide Conditions Assessment

The SWSI value for the month was 2.3. The Natural Resources Conservation Service reports that February 1 snowpack is 122% of normal. Flow at the gaging station Colorado River near Dotsero was 2014 cfs, as compared to the long-term average of 995 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 122% of normal as of the end of January.

Outlook

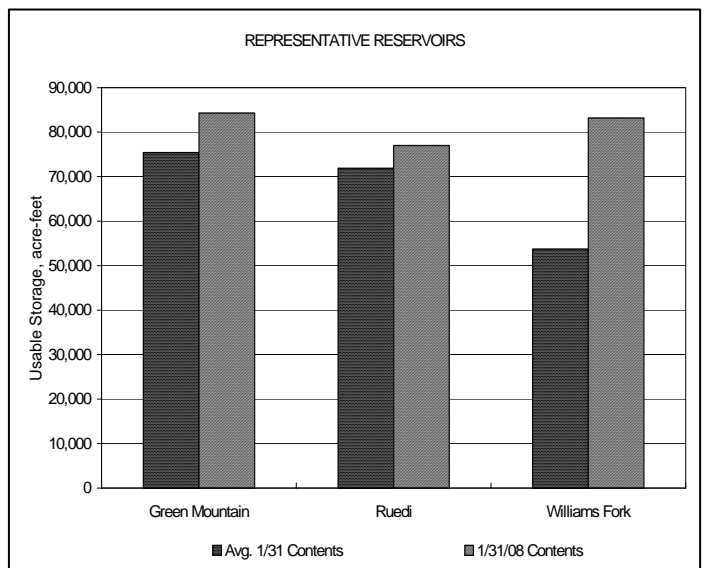
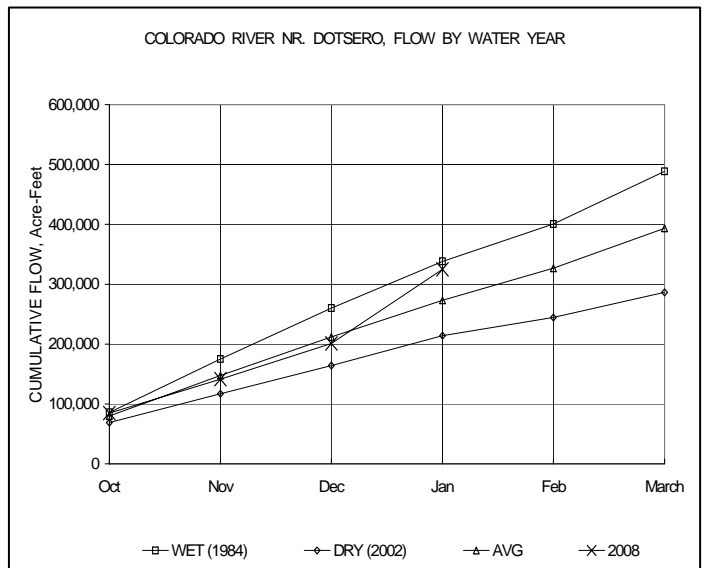
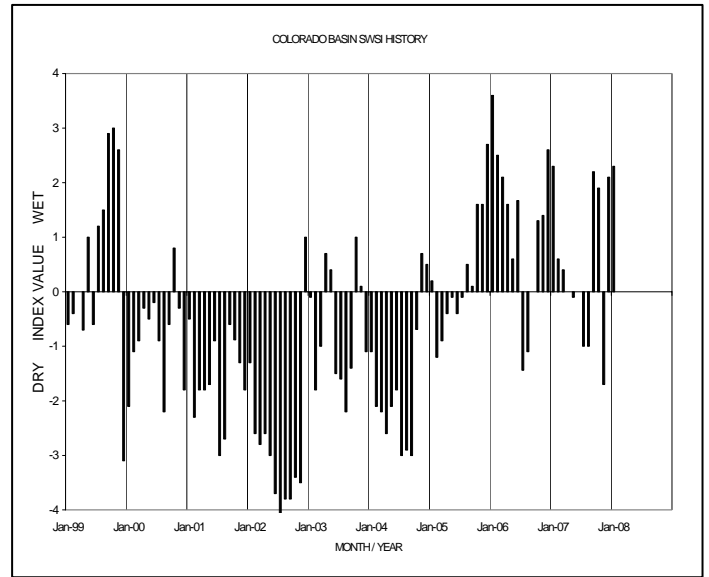
Total Colorado River Basin precipitation levels increased considerably during the month of January with heavy snowfall throughout the month. This occurred despite warmer/drier forecasts associated with the current La Nina cooler Pacific Ocean water temperatures. Basin-wide precipitation levels increased to 121 percent from 107 percent on January 1<sup>st</sup>. The majority of upper-basin sites currently register well over 100 percent of average. Ruedi and Green Mountain Reservoir releases have been increased accordingly to open storage space for anticipated above average run-off.

Administrative/Management Concerns

The Shoshone power facility, shut down early last summer due to penstock rupture, is schedule to resume operation on April 18<sup>th</sup>.

Public Use Impacts

Construction of a whitewater park on the Colorado River in West Glenwood Springs continues with completion scheduled late next month. A warming and subsequent anchor ice release created a "large" ice floe on the Roaring Fork River in early January. Surprisingly, no structural bridge damage was reported and the people fishing the river received advanced warning.



Basinwide Conditions Assessment

The SWSI value for the month was 1.6. Flow at the gaging station Yampa River at Steamboat was 111 cfs, as compared to the long-term average of 101 cfs.

Above average precipitation was once again reported for the Yampa, White, and North Platte River basins for the month of January. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, was reported at approximately 133% of average for the Yampa/White River basin and 119% of average for the North Platte River basin. Year-to-date precipitation is reported at 110% of average for the combined Yampa, White, and North Platte River basins.

The snow water equivalent (SWE) as of January 31, 2008 for the Yampa and White River basins was 102% of average and for the Laramie and North Platte River basins was 101% of average. For the individual basins in Division 6, the snowpack at the end of the month was 103% of average for the North Platte River basin, 101% of average for the Yampa River basin, and 102% of average for the White River basin.

As a result of increased precipitation in December and January, NRCS predicts average to above-average runoff in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the April through July period are 116% of average for the North Platte River near Northgate, 103% of average for the Yampa River near Maybell, 118% of average for the Little Snake River near Lily, and 109% of average for the White River near Meeker. Forecast volumes range from 98% of average for the Yampa River at Steamboat Springs to 119% of average for Elkhead Creek below Maynard Gulch.

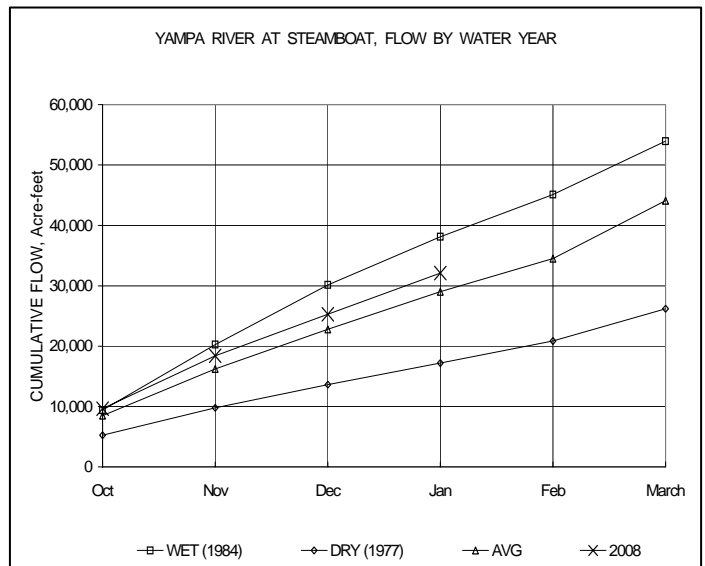
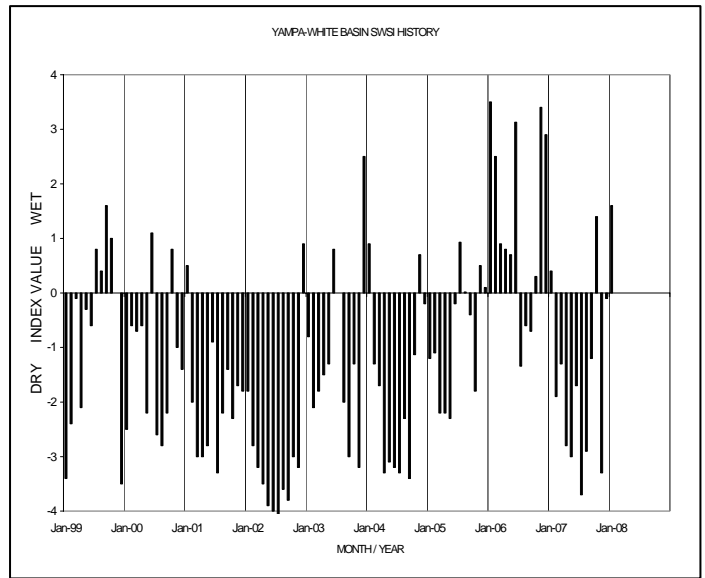
Due to the cold night temperatures, many of the Division 6 stream gages are either closed for the winter season or currently ice-affected.

Outlook

Fish Creek Reservoir storage level increased slightly in January and was reported at approximately 81% of capacity at the end of January. Yamcolo Reservoir storage level also increased in January and the reservoir was at approximately 65% of capacity at the end of the month. Elkhead Creek Reservoir level continued to increase throughout the month and the reservoir was at approximately 68% of its' enlarged capacity at the end of January. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, and recreation purposes, as well as fish recovery releases.

Public Use Impacts

Many area reservoirs are frozen with good ice-fishing reported.





Basinwide Conditions Assessment

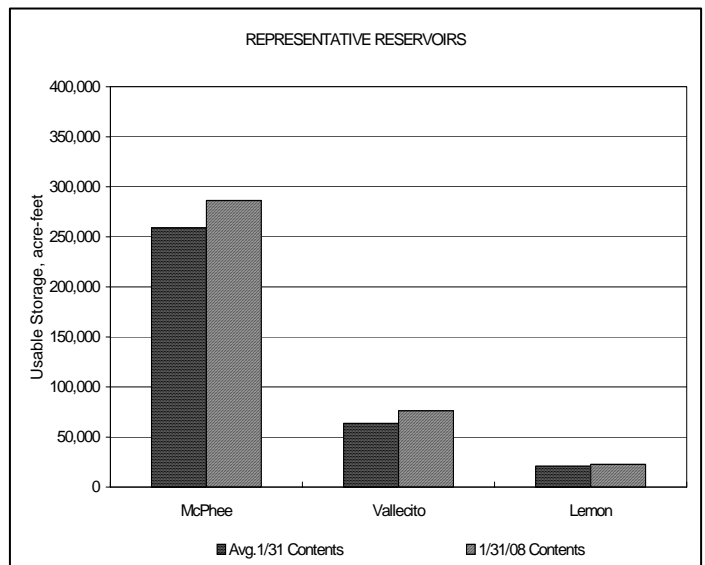
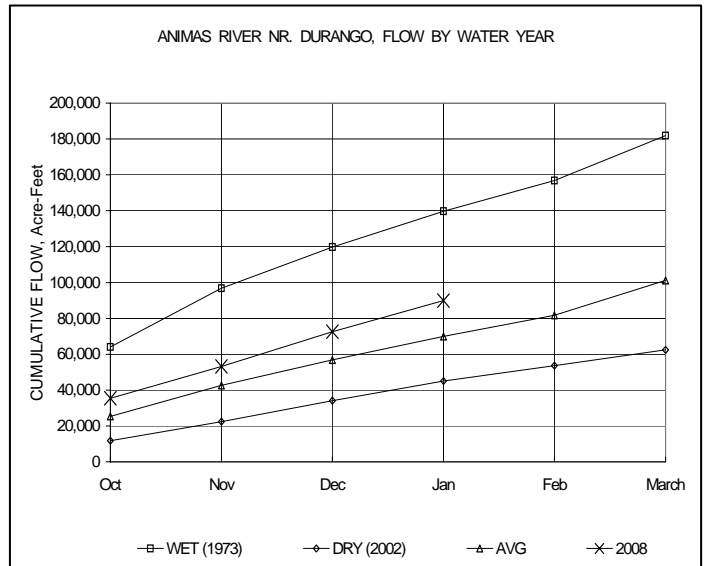
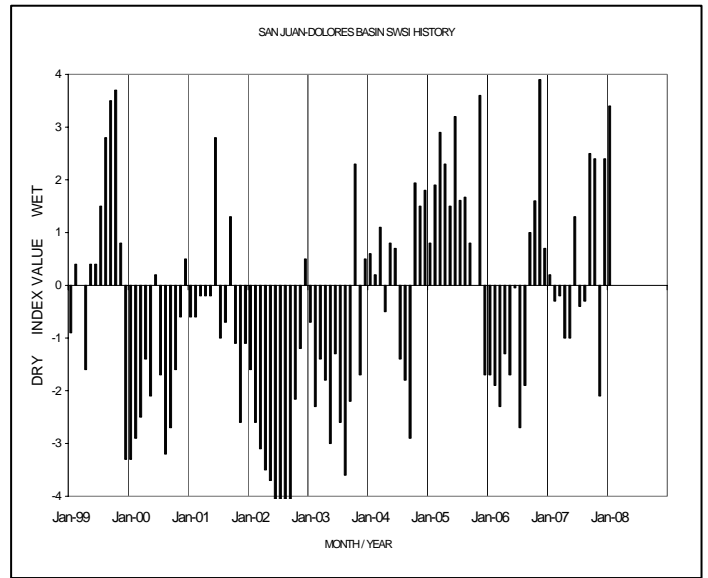
The SWSI value for the month was 3.4. The Natural Resources Conservation Service reports that February 1 snowpack is 155% of normal.

Estimated average daily flows at the Animas River at Durango were 247 cfs. The estimated average daily flows for Dolores River at Dolores were 59 cfs. The average daily flows at the La Plata River at Hesperus were 7.3 cfs. Durango recorded 4.43 inches precipitation for the month which is well above the 30-year average of 2.03 inches (218% of normal). Precipitation in for the month was the 7<sup>th</sup> highest amount within the last 112 years of record. Precipitation to date in Durango, for the water year, is 10.53 inches which is 156.3% of the historic average. Temperatures in January were below normal for the month. Durango was 6.3° below its 30-year average high and 5.1° below its 30-year average low.

At the end of the month Vallecito Reservoir contained 76,150 acre-feet compared to its normal contents of 53,485 acre-feet. McPhee Reservoir has 286,282 acre-feet compared to its normal contents of 255,772 acre-feet. Lemon Reservoir has 22,770 acre-feet as compared to its normal content of 19,722 acre-feet.

Outlook

Snow, Snow, Snow and more Snow. Many major storm systems have hit the southwest part of Colorado this year. There is no shortage of snow in the high country as well as the low farm land. The latest storm occurred the first weekend in February and brought several feet of snow to the mountains and 18+ inches to many in the lower elevations within the region. The ski area at Wolf Creek Pass has received 432 inches of snowfall to date. Colder than normal temperature has not had much impact on melting snow left by previous storms. To date the total snow-water-equivalent within the basin has exceeded the average snow-water-equivalent for the year with the average peak date occurring in April. The NRCS data on January 31, 2008 reported a snow-water-equivalent of 159% of average. This increased to 167% of average on February 5, 2008. Typically the regions heavier snow months are yet to come. Time will tell where we end up but it would appear filling reservoirs and rivers will not be a problem this water year.



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