

# 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  
 303-866-3581; [www.water.state.co.us](http://www.water.state.co.us)

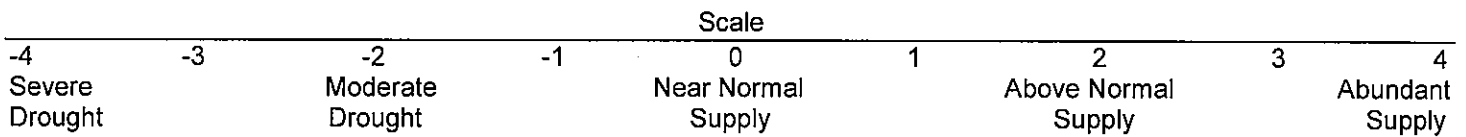
March 2009

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.

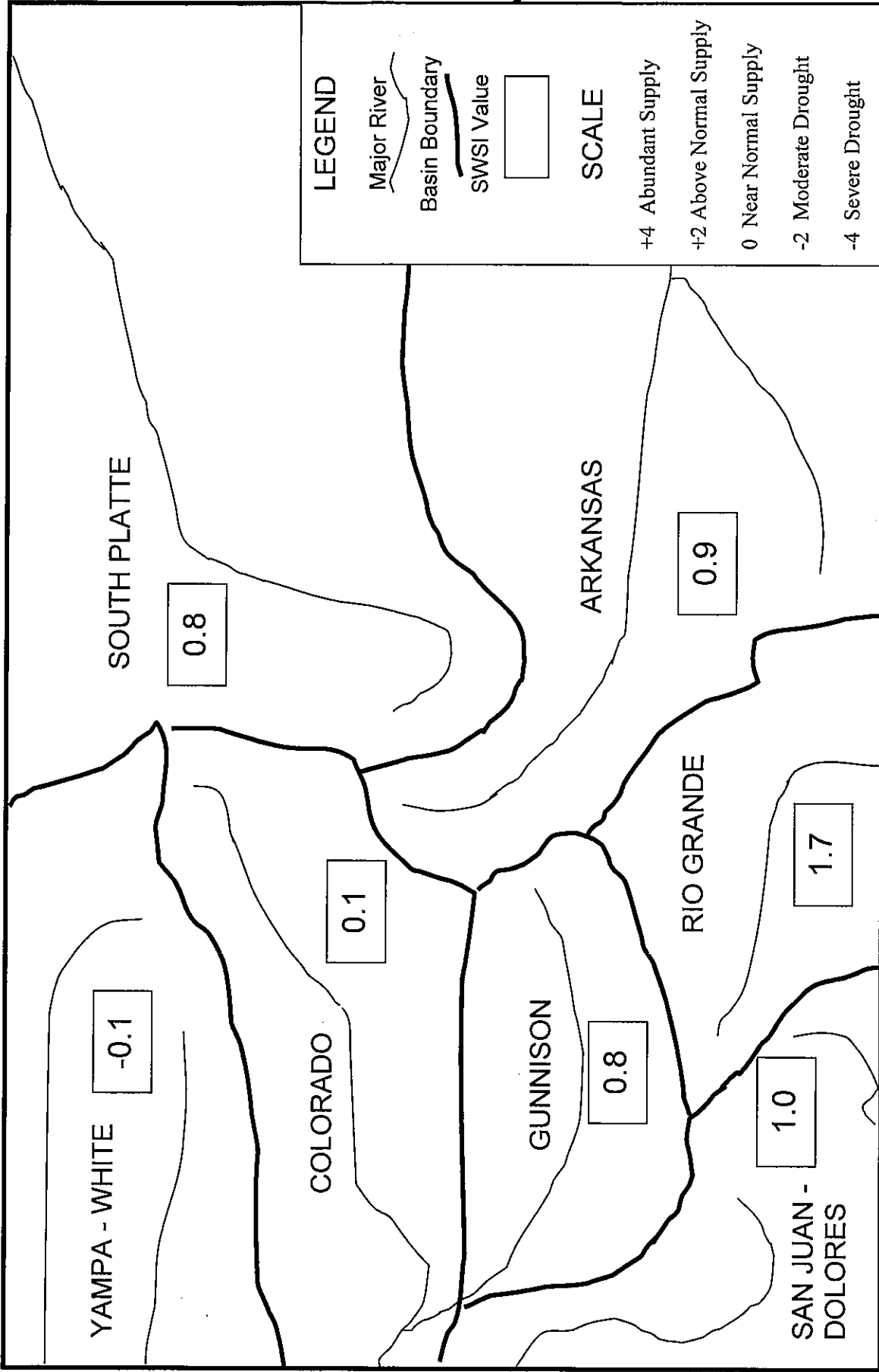
The statewide SWSI values for March 1, 2009 range from a high value of 1.7 in the Rio Grande Basin to a low value of -0.1 in the Yampa/White Basin. One of the basins (South Platte) experienced a gain from the previous month's values. Five of the basins (Arkansas, Rio Grande, Colorado, Yampa/White, and San Juan/Dolores) experienced a loss from the previous month's values. One of the basins (Gunnison) remained unchanged from the previous month's values.

The following SWSI values were computed for each of the seven major basins for March 1, 2009, and reflect the conditions during the month of February.

| <u>Basin</u>     | <u>March 1, 2009<br/>SWSI Value</u> | <u>Change From<br/>Previous Month</u> | <u>Change From<br/>Previous Year</u> |
|------------------|-------------------------------------|---------------------------------------|--------------------------------------|
| South Platte     | 0.8                                 | +0.5                                  | +0.6                                 |
| Arkansas         | 0.9                                 | - 0.7                                 | - 2.4                                |
| Rio Grande       | 1.7                                 | - 0.5                                 | - 2.0                                |
| Gunnison         | 0.8                                 | 0.0                                   | - 3.1                                |
| Colorado         | 0.1                                 | - 0.6                                 | - 2.8                                |
| Yampa/White      | - 0.1                               | - 1.0                                 | - 0.7                                |
| San Juan/Dolores | 1.0                                 | - 0.4                                 | - 2.9                                |



# SURFACE WATER SUPPLY INDEX FOR COLORADO



March 1, 2009

Basinwide Conditions Assessment

The SWSI value for the month was 0.8. Cumulative storage for the six reservoirs graphed on this page was 103% of normal as of the end of February. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 85% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 94% of capacity. The Natural Resources Conservation Service reports that March 1 snowpack is 96% of normal. Flow at the gauging station South Platte River near Kersey was 642 cfs, as compared to the long-term average of 673 cfs. Flow at the Colorado/Nebraska state line averaged 146 cfs.

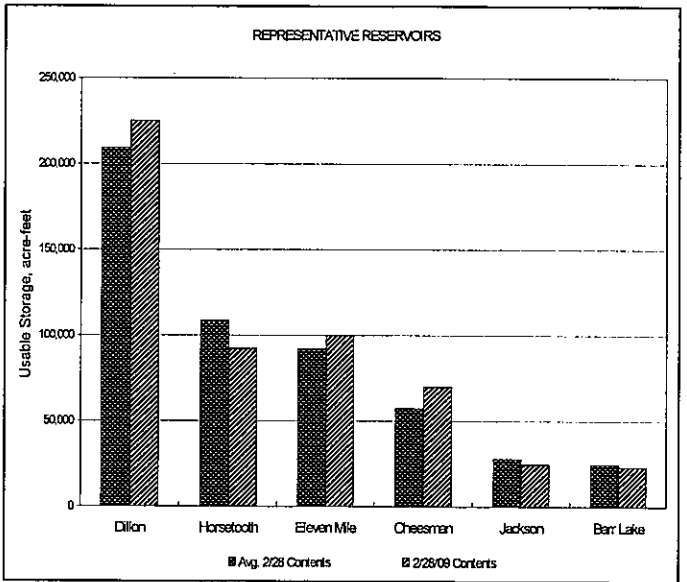
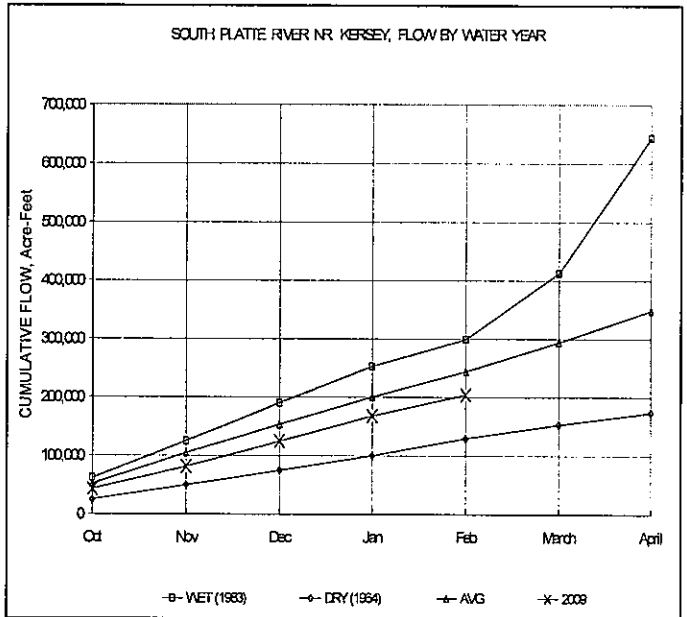
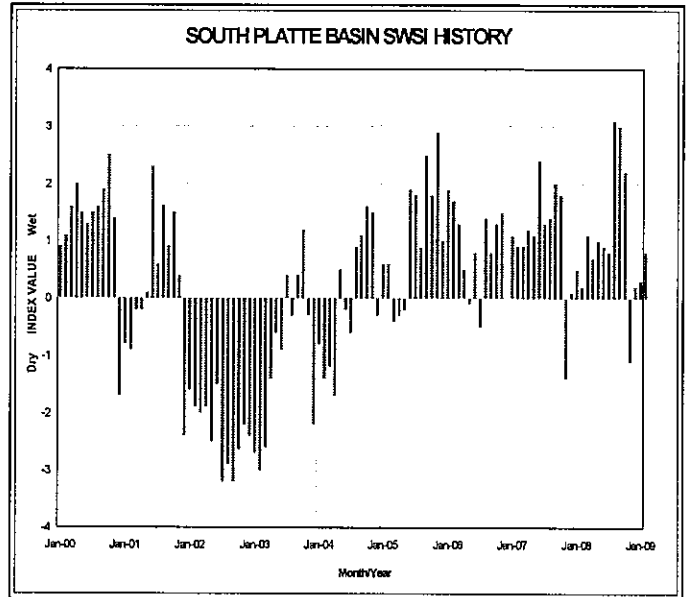
Outlook

The weather continued to be warm in February allowing continued filling of reservoirs. By the end of the month, most mainstem reservoirs were near full. We expect these reservoirs to finish filling in early March allowing for the call to change to recharge purposes. Major exceptions are Prospect and Horse Creek Reservoir which fill off of the Burlington ditch near Denver. These reservoirs will need an extended period free from senior irrigation calls to finish filling.

Reservoir storage on tributaries continued similar or ahead of last year. Of note, irrigation storage in the Poudre River is in a better situation than the last several years. Municipal storage for Front Range municipal providers remains in excellent shape.

Administrative/Management Concerns

The main concern at this time is the continued dry conditions on the plains. Even if snowpack remains near average, the dry conditions will dramatically affect supplies especially on the mainstem and could lead to shortages later this summer if reservoir supplies must be drafted upon heavily early in the irrigation year. The dry conditions will also have a large impact on winter wheat unless conditions change in the very near future.



Basinwide Conditions Assessment

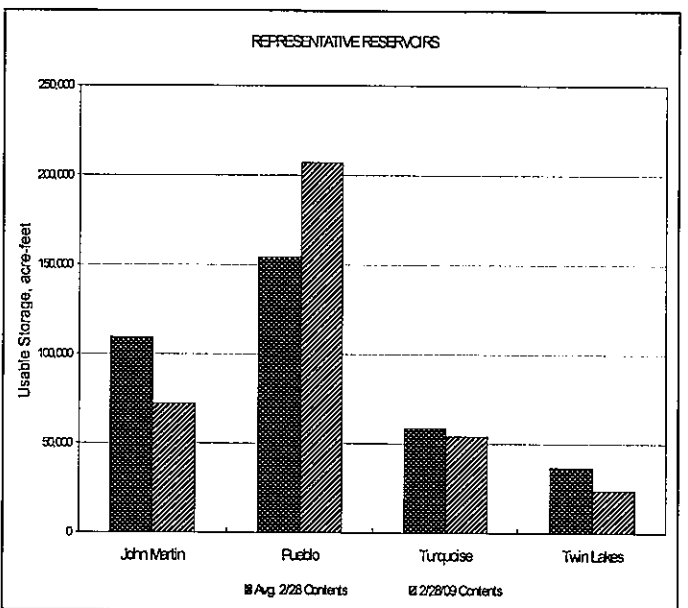
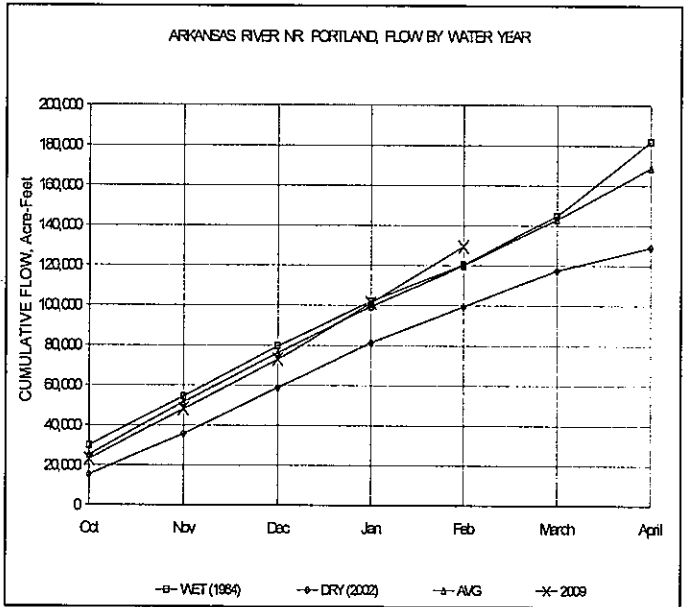
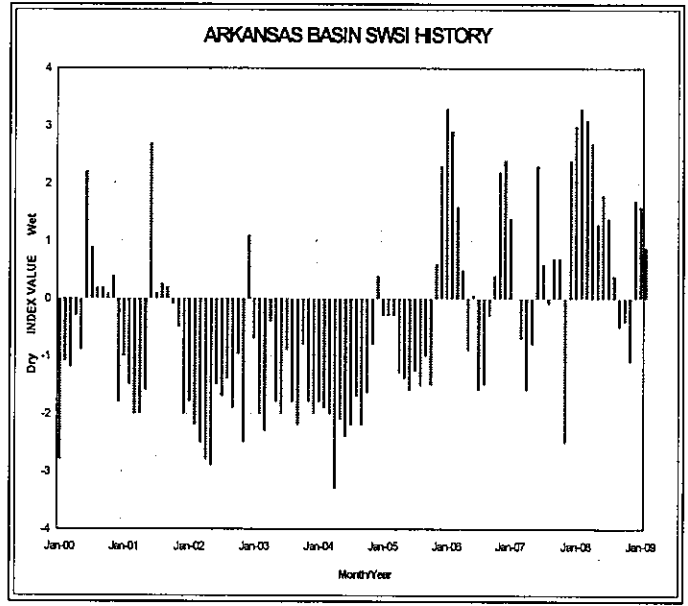
The SWSI value for the month was 0.9. The Natural Resources Conservation Service reports that March 1 snowpack is 114% of normal. Flow at the gauging station Arkansas River near Portland was 506 cfs, as compared to the long-term average of 366 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 99% of normal as of the end of February.

Outlook

Reservoir storage in the Pueblo Winter Water Program totaled 130,465 acre-feet as of the end of February. This storage amount is slightly lower than last year's storage to date and represents 120% of the past five-year average. Conservation storage in John Martin Reservoir has accumulated 22,321 acre-feet versus 20,820 acre-feet as of the end of February last year, but still ahead of the 1950-1975 (Pre-Winter Water) average of 17,810 acre-feet.

Administrative/Management Concerns

Continued dry conditions have caused fire warnings throughout parts of southeastern Colorado and concern among farmers about the soil moisture deficit to be overcome for early season crops.



**Basinwide Conditions Assessment**

The SWSI value for the month was 1.7. The Natural Resources Conservation Service reports that March 1 snowpack is 111% of normal. Flow at the gauging station Rio Grande near Del Norte averaged 178 cfs (98% of normal). The Conejos River near Mogote had a mean flow of 58 cfs (112% of normal). Flow to the state line was 115% of normal due to melting of ice in and around the river channel. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 93% of normal as of the end of February.

Temperatures were five degrees above normal in the San Luis Valley during February, the eighth month in a row with above average temperatures. Alamosa received just 0.02 inches of precipitation during the month, 0.18 inches below normal and the second consecutive month with disappointing precipitation.

**Outlook**

When compared to long-term averages, snowpack conditions throughout the upper Rio Grande basin dropped significantly during February.

Recent NRCS stream flow forecasts are calling for near average runoff in the upper Rio Grande basin this year. The expected April through September runoff is 101% of normal for the Rio Grande near Del Norte and 110% of normal for the Conejos River near Mogote. At the northern end of the San Luis Valley, the Saguache Creek runoff is predicted to be 85% of normal.

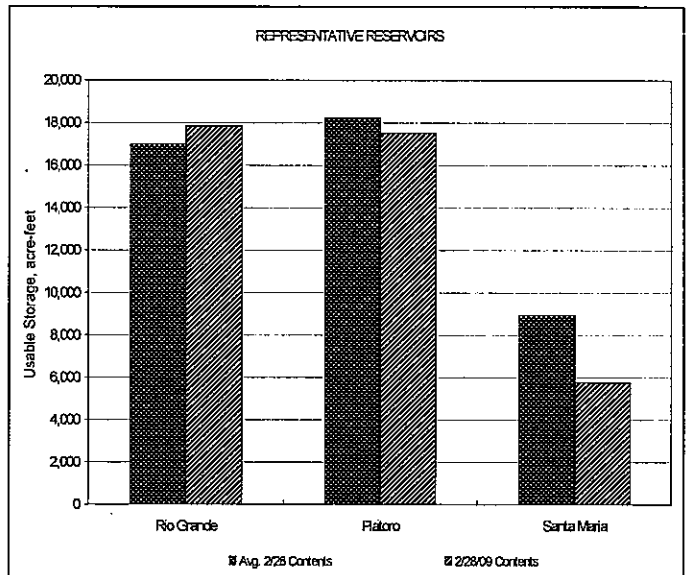
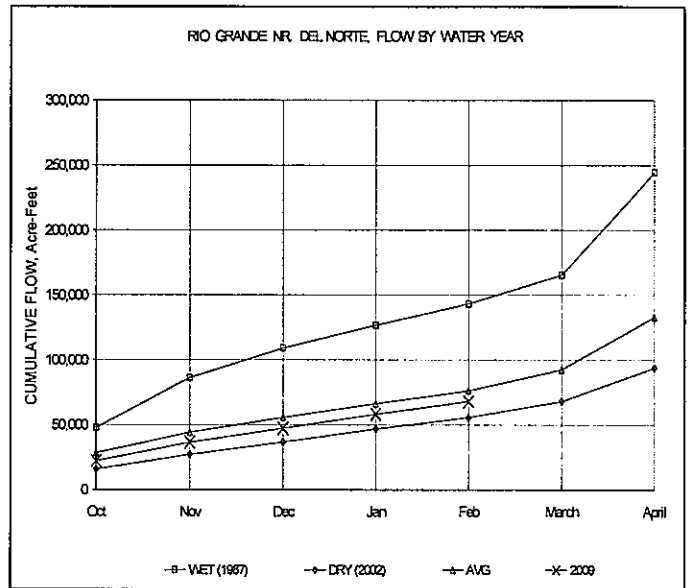
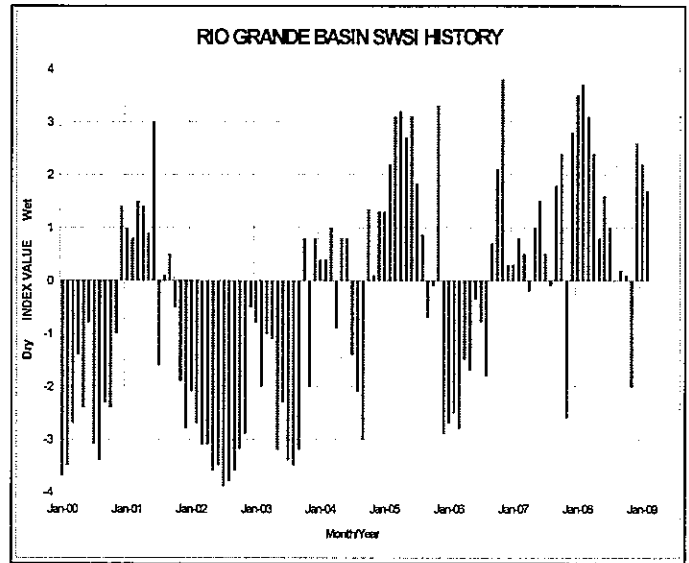
**Administrative/Management Concerns**

The 70<sup>th</sup> annual meeting of the Rio Grande Compact Commission will be held in El Paso, Texas at the Rio Grande Auditorium of the Tech2O Center on Tuesday, March 31, 2009. The public is invited to attend. The meeting is scheduled to start at 9:00 a.m.

If the current trend of warm and dry conditions persists, the Division Engineer expects early calls for irrigation water this year. Diversions from the Rio Grande and Conejos will commence around the first of April.

**Public Use Impacts**

The outstanding snowfall of December has been followed by mediocre accumulation during January and February.



Basinwide Conditions Assessment

The SWSI value for the month was 0.8. The Natural Resources Conservation Service reports that March 1 snowpack is 108% of normal. Flow at the gauging station Uncompahgre River near Ridgway was 49.3 cfs, as compared to the long-term average of 45.5 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 110% of normal as of the end of February.

Outlook

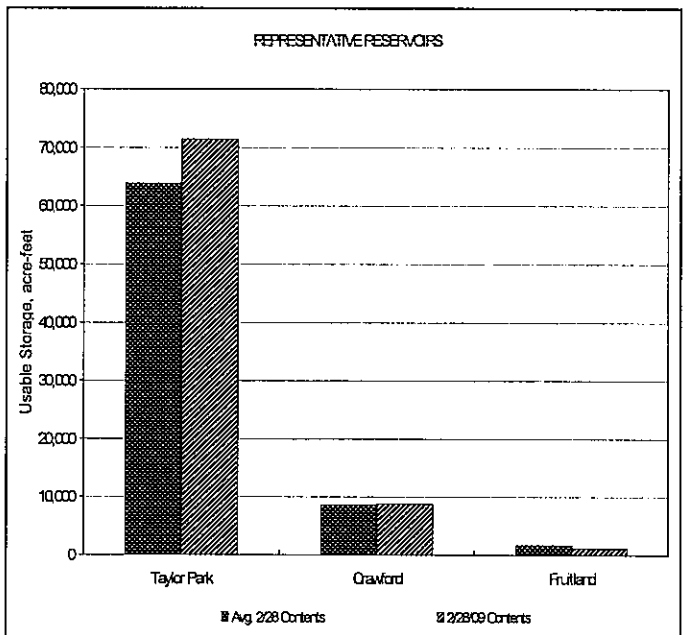
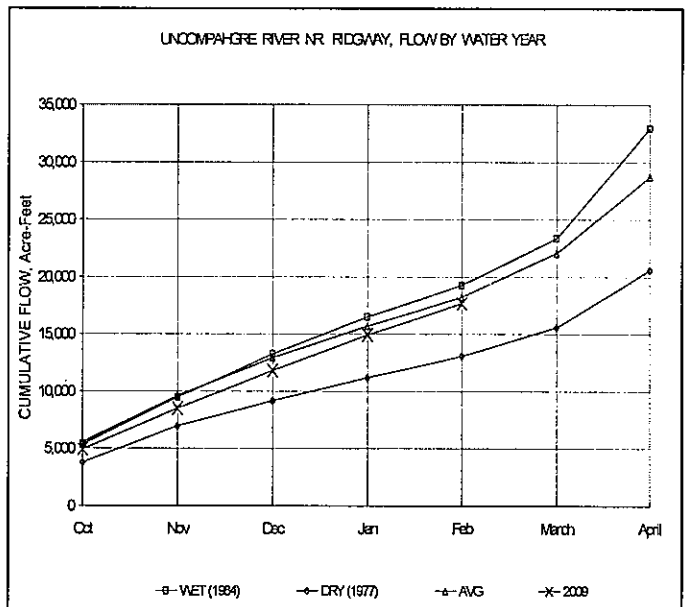
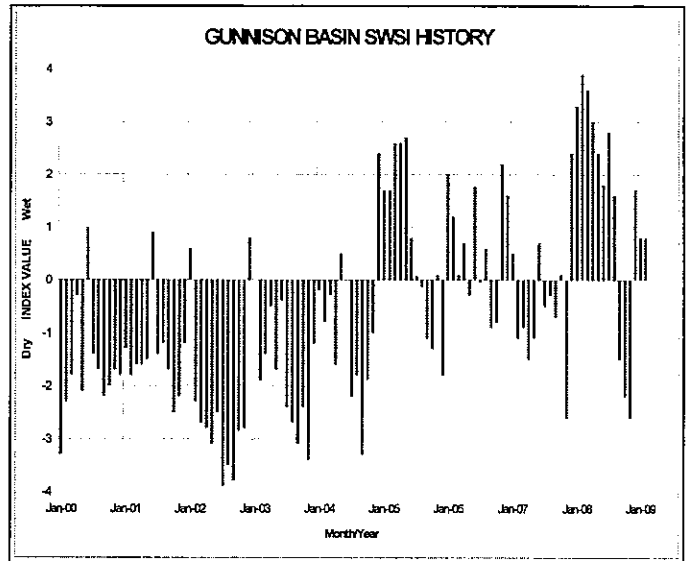
High pressure has dominated the four corners region for most of the month of February, keeping precipitation lower than average and temperatures unseasonably warmer than normal in the Gunnison River Basin. Consequently, the NRCS SNOTEL sites report a decrease in the average snow water equivalent measurements from 115% of average on February 1<sup>st</sup> to 108% of average on February 28<sup>th</sup> in the Gunnison Basin. Currently, NRCS runoff predictions call for average to slightly above average runoff conditions for spring 2009 in the Gunnison River Basin. So far, with the lack of low snow and the climbing temperatures, we should be looking for an early runoff this season and experiencing a need to call on reservoir storage for irrigation needs significantly earlier this year than last.

Administrative/Management Concerns

The Bureau of Reclamation has coordinated scheduled maintenance at the Gunnison Tunnel Diversion structure for March 4<sup>th</sup>. Flows will be reduced from 850 cfs to approximately 400 cfs to accommodate annual repair and maintenance of the 100-year old diversion structure. The flow rate will resume to about 850 cfs once the work is complete, which typically takes only one day.

Public Use Impacts

Some ditch water is already running in the lower Gunnison River Basin, as green grass is showing in irrigated pasture lands below Montrose. This is a complete reversal of spring 2008, when the Uncompahgre Valley was still under snow at this time of the year. Because of the unseasonably warm spring and dryer than normal conditions, the Uncompahgre Valley Water Users Association will begin delivering water to customers by the last week of March this irrigation season. We can only hope for some more wet and heavy snowfall in the high country during the month of March to keep the runoff forecast looking good for this irrigation season.



Basinwide Conditions Assessment

The SWSI value for the month was 0.1. The Natural Resources Conservation Service reports that March 1 snowpack is 116% of normal. Flow at the gauging station Colorado River near Dotsero was 814 cfs, as compared to the long-term average of 970 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 113% of normal as of the end of February.

Outlook

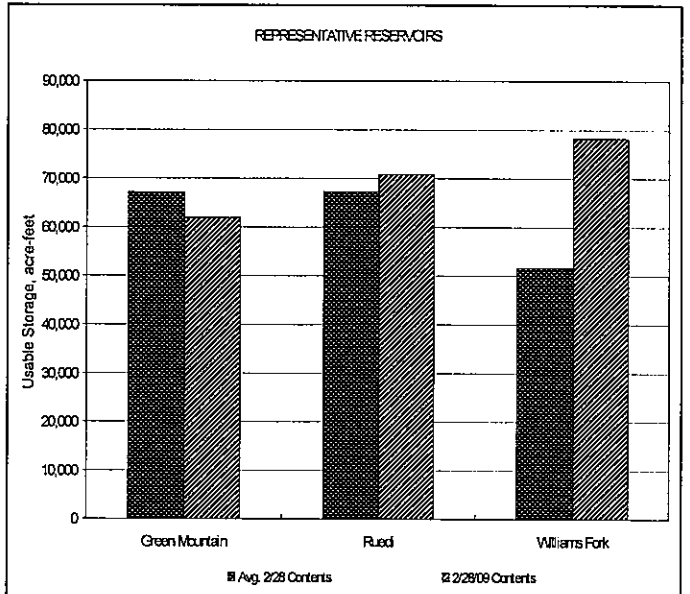
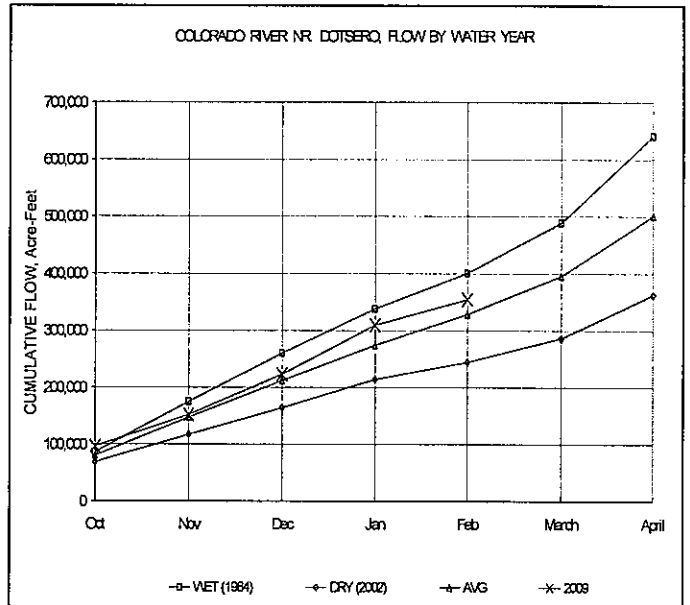
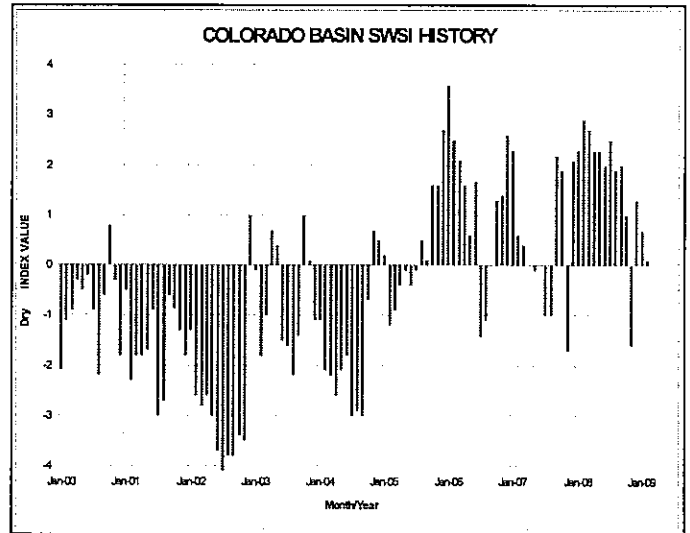
The small amount of precipitation received during the month of February was mostly in the form of rain at elevations below 8000 ft. Combined with unseasonably warm temperatures basin wide snow water equivalent dropped to 117% on average. Colorado River flows remained below average throughout the month. Roaring Fork River flows were also below average before a 35-40 cfs increase in Ruedi Reservoir release boosted flows to above average from February 24-28<sup>th</sup>.

Administrative/Management Concerns

Green Mountain Reservoir inflow and CBT Project depletions increased considerably resulting in slight increase in reservoir releases in early February. This condition was reversed late in the month, and combined with a reduced Dillon Reservoir release by Denver Water, resulted in a 50 cfs decrease in reservoir release late in the month. Winter precipitation is shaping up to be considerably above average again this year, but likely below last year's level depending on precipitation received in March.

Public Use Impacts

Snowmobile enthusiasts have decreased their activity due to rain/warm temperatures in February and resulting icy deteriorating snow conditions. Current poor snow conditions for snow machine use are typically not seen until early April.



Basinwide Conditions Assessment

The SWSI value for the month was -0.1. Flow at the gauging station Yampa River at Steamboat Springs was 114 cfs, as compared to the long-term average of 100 cfs. February precipitation was below average for the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, was reported at approximately 92% of average for the Yampa/White River basin and 88% of average for the North Platte River basin. Precipitation for the combined Yampa, White, and North Platte River basins was reported at approximately 88% of average for the month of February and 105% of average for the water year to-date.

For the individual Division 6 basins, the snowpack at the end of the month was 104% of average for the North Platte River basin, 114% of average for the Yampa River basin, and 106% of average for the White River basin. NRCS predicts near average to above average spring and summer streamflows in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the April through July period are 96% of average for the North Platte River at Northgate, 108% of average for the Yampa River near Maybell, 118% of average for the Little Snake River near Lily, and 100% of average for the White River near Meeker. Due to the cold night temperatures, many of the Division 6 stream gauges are either closed for the winter season or currently ice-affected.

Outlook

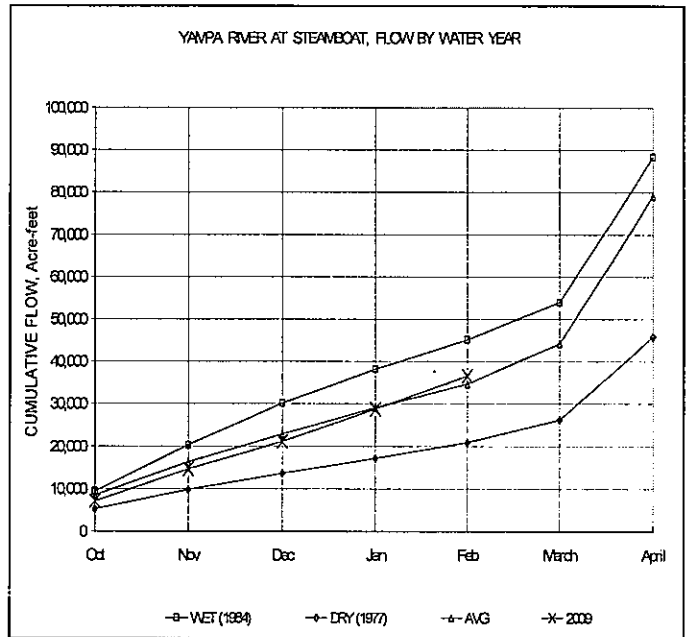
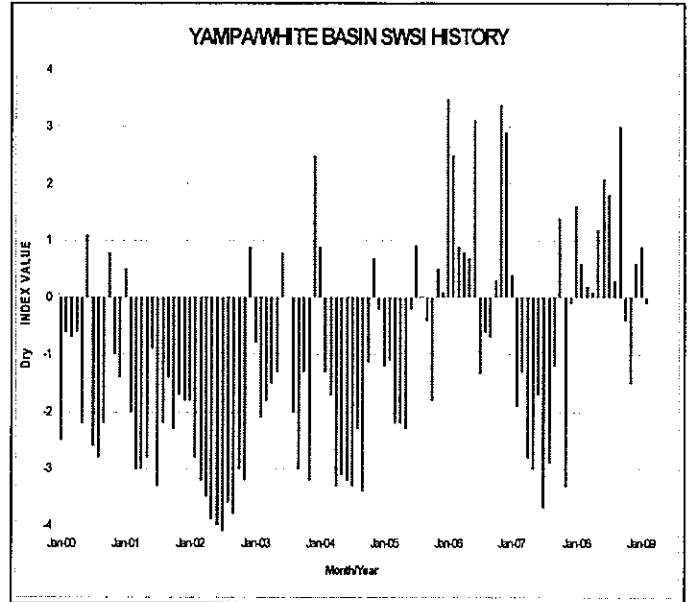
Fish Creek Reservoir storage level remained fairly stable in February and was reported at approximately 60% of capacity at the end of the month. Elkhead Creek Reservoir level increased slightly during the month to approximately 79% of its' enlarged capacity. Yamcolo Reservoir storage level also increased in February and the reservoir was at approximately 90% of capacity at the end of the month. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, recreation, and fish recovery releases.

Administrative/Management Concerns

The second year of the fish recovery release from Elkhead Creek Reservoir was completed successfully and data collected during the release are being compiled and reviewed by participating agencies. The program was directed by the Colorado River District, on behalf of the Recovery Program and Division 6 is responsible for protecting this water through the Yampa River critical habitat reach (from Craig to the confluence with the Green River at Echo Park). In December, Shell Oil filed for a 375 cfs industrial water right on the Yampa River to fill a 45,000 acre-foot reservoir in Moffat County. Statements of Opposition have been filed by a number of agencies and interested parties.

Public Use Impacts

Many area reservoirs are frozen with good ice-fishing reported. Skiers and boarders are enjoying good snowpack and some spring condition days at the ski area.





Basinwide Conditions Assessment

The SWSI value for the month was 1.0. The Natural Resources Conservation Service reports that March 1 snowpack is 107% of normal. Flows at the Animas River at Durango averaged 208 cfs (101% of average). The Dolores River at Dolores was estimated to have averaged 54 cfs (96% of average). The La Plata River at Hesperus averaged 7.9 cfs (107% of average).

Precipitation in Durango was 0.96 inches for February which is below the 30-year average of 1.69 inches. Precipitation to date in Durango, for the water year, is 9.18 inches which is above the average of 8.33 inches. Temperatures were near normal for the month. Durango was 1.8° above its 30-year average high and 0.2° above the 30-year average low.

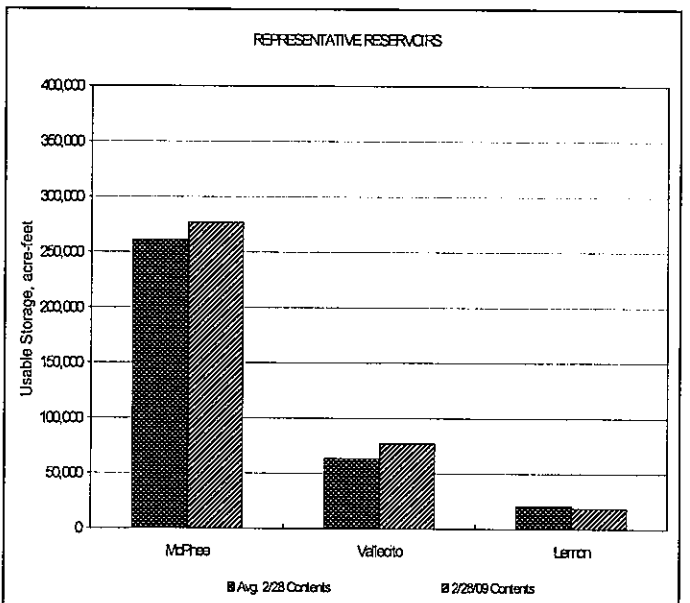
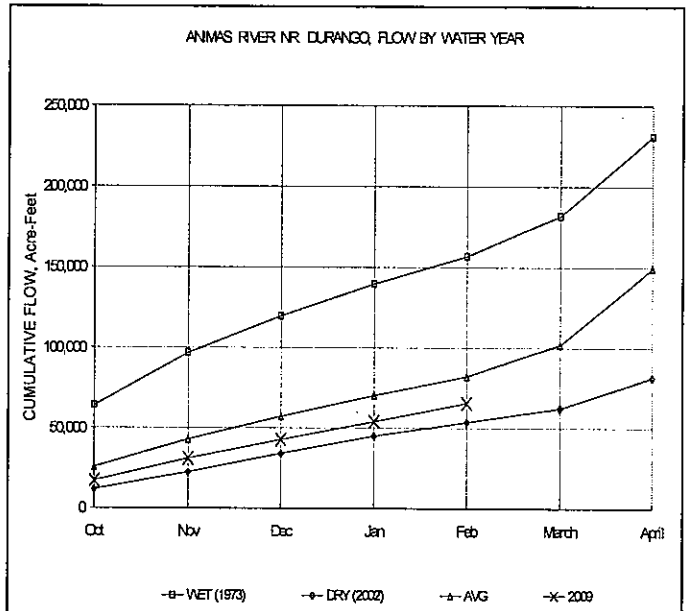
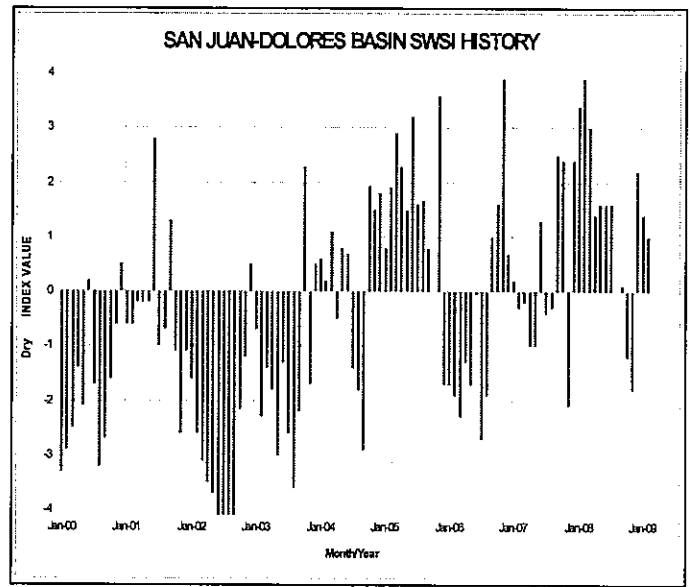
At the end of the month Vallecito Reservoir contained 76,895 acre-feet compared to its normal contents of 54,533 acre-feet (141% of normal). McPhee Reservoir was up to 276,261 acre-feet compared to its normal contents of 259,452 acre-feet (106% of normal), while Lemon Reservoir was up to 18,620 acre-feet as compared to its normal content of 19,883 acre-feet (94% of normal).

Outlook

Not as many storms hit the basin this month but we were still able to maintain above average snow-water-equivalent for the month. At the beginning of February the NRCS was reporting a snow-water-equivalent for the San Miguel, Dolores, Animas and San Juan River basins at 117% of average. By the end of February the value had declined to 107% of average.

Administrative/Management Concerns

The USBR is planning to begin filling Ridges Basin Reservoir in the spring of 2009. The reservoir is expected to take up to two years to fill depending on available water supplies and pumping plant capacity.



OFFICE OF THE STATE ENGINEER  
COLORADO DIVISION OF WATER RESOURCES  
DEPARTMENT OF NATURAL RESOURCES  
1313 SHERMAN STREET ROOM 818  
DENVER CO 80203