COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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April 2005

The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service (NRCS) 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 April 1st snowpack values are used by many water agencies and companies in the state as the basis for decisions they make regarding summer water supplies. This year, the statewide April 1st snowpack is 107% of average. Although that value is near the average, the NRCS states that many basins are reporting nearly two times the amount of water equivalent than measured last year at this time. The Rio Grande Basin leads the state with 140% of average snowpack. The San Juan/Dolores and Gunnison Basins also have good snowpack levels. However, those values are reduced to levels below normal in the northern basins, with the South Platte Basin as the lowest reported at only 84% of average. As with last month, the southwest part of Colorado has the highest SWSI values. The Rio Grande Basin is calculated at +3.2 for the highest in the state and Yampa/White Basin has the lowest calculated value of –2.2.

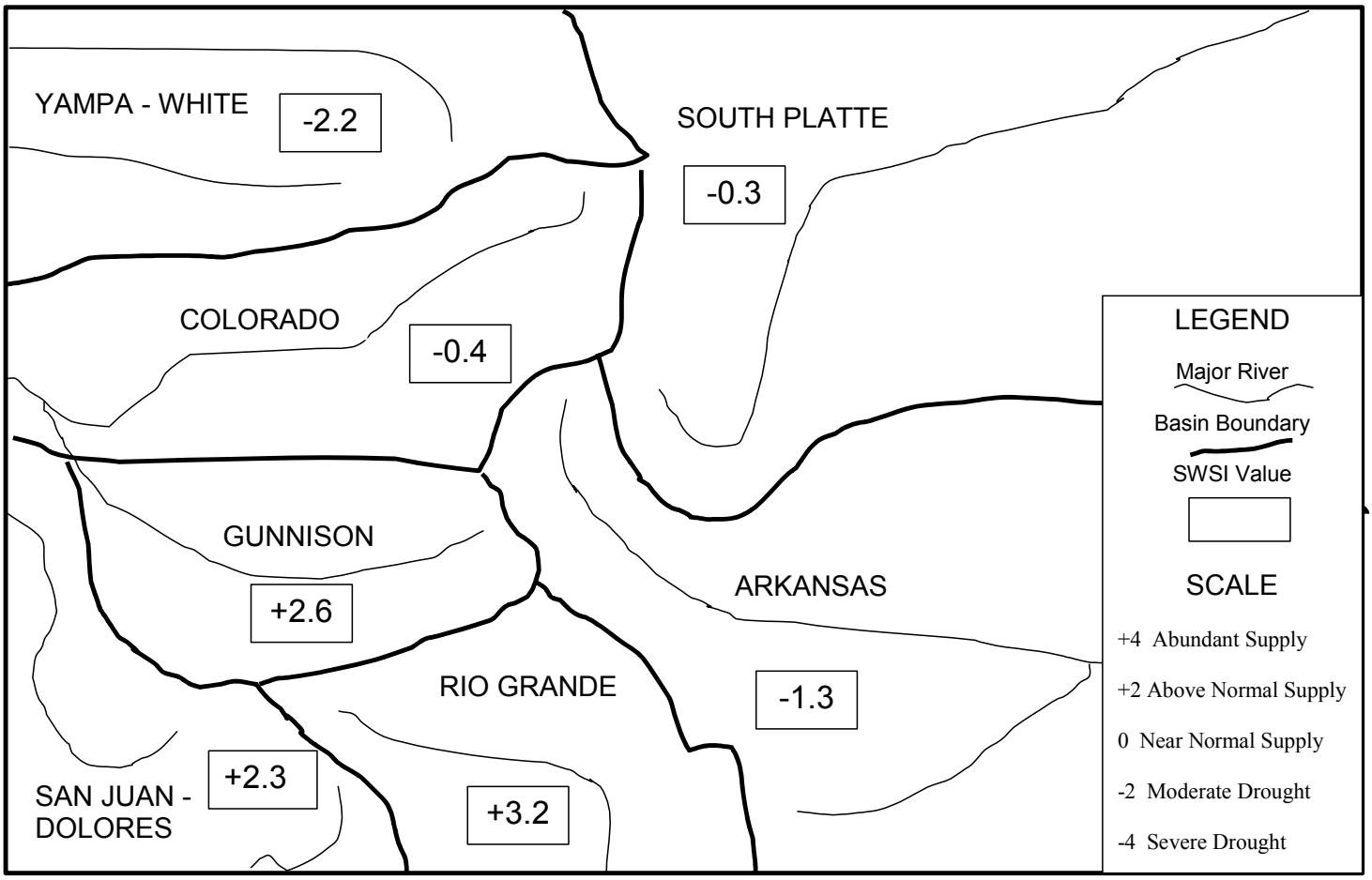
The following SWSI values were computed for each of the seven major basins for April 1, 2005, and reflect the conditions during the month of March:

Basin	April 1, 2005 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	-0.3	+0.1	+1.4
Arkansas	-1.3	-1.0	+2.0
Rio Grande	+3.2	+0.1	+4.1
Gunnison	+2.6	0.0	+4.2
Colorado	-0.4	+0.5	+2.2
Yampa/White	-2.2	0.0	+1.1
San Juan/Dolores	+2.3	-0.6	+2.8

Scale

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

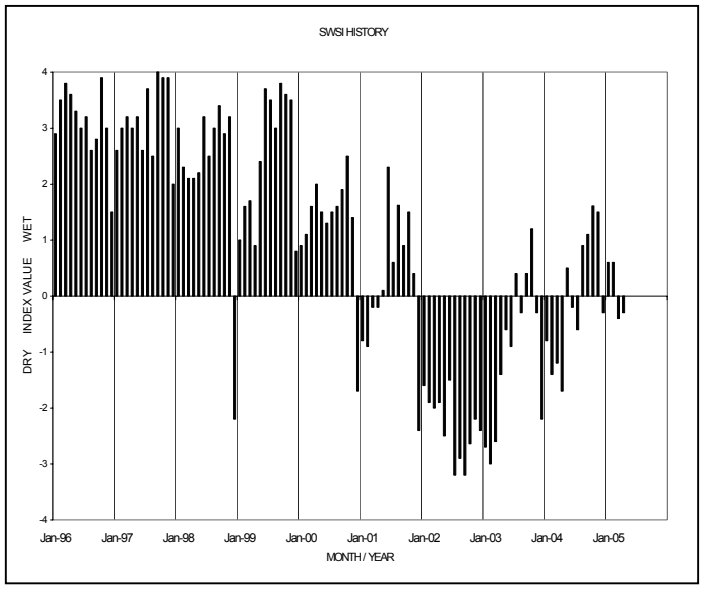
SURFACE WATER SUPPLY INDEX FOR COLORADO



April 1, 2005

Basinwide Conditions Assessment

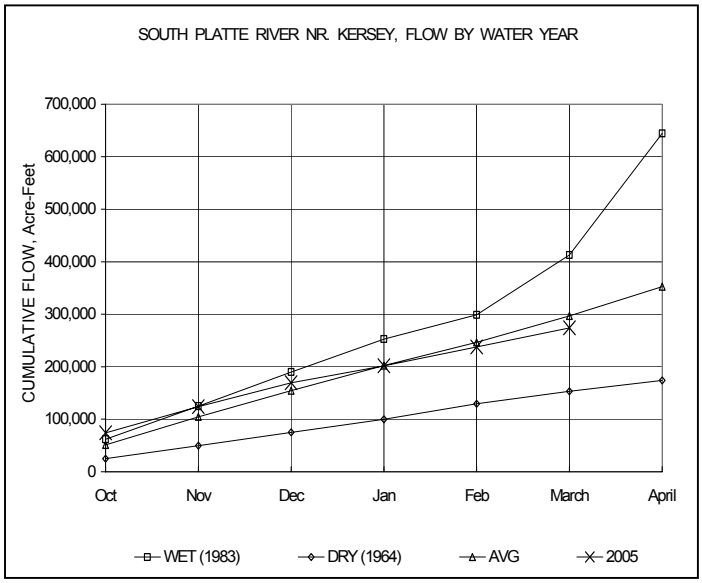
The SWSI value of –0.3 indicates that for March the basin water supplies were normal. Cumulative storage for the six reservoirs graphed on this page was 105% of normal as of the end of March. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 100% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 77% of capacity. The Natural Resources Conservation Service reports that April 1 snowpack is 84% of normal. Flow at the gaging station South Platte River near Kersey was 589 cfs, as compared to the long-term average of 688 cfs. Flow at the Colorado/Nebraska state line averaged 24 cfs.

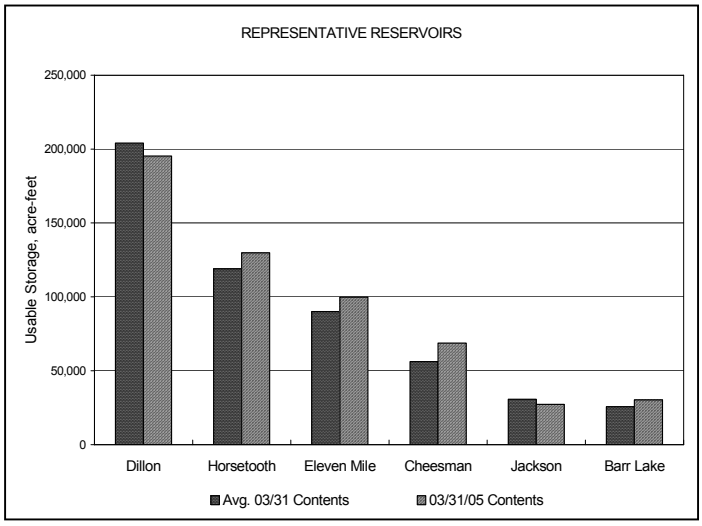


Outlook

Storage and municipal continued as the main uses in the month of March. Toward the end of the month, there were limited diversions for irrigation, primarily to allow for irrigation of vegetables. While it was not extremely wet in March, conditions remained fairly stable through the month. This is in contrast to March of 2004 when extremely dry conditions in March reduced the snowpack level and created a demand and call for irrigation water by the beginning of April. By the end of the March, 2005, all of the plains reservoirs had filled except Empire. We expect Empire to fill the first few days in April. This is in contrast to the end of March, 2004 when there were several major plains reservoirs that had not filled.

Irrigation users are hopeful for wet conditions in April to allow significant recharge – an important augmentation supply for wells. Wet conditions in April and May would also significantly help irrigators dependent on reservoir supplies as they would not have to use reservoir supplies for initial irrigation of their crops. Wet conditions in April and May would also allow municipalities to store additional supplies.





Basinwide Conditions Assessment

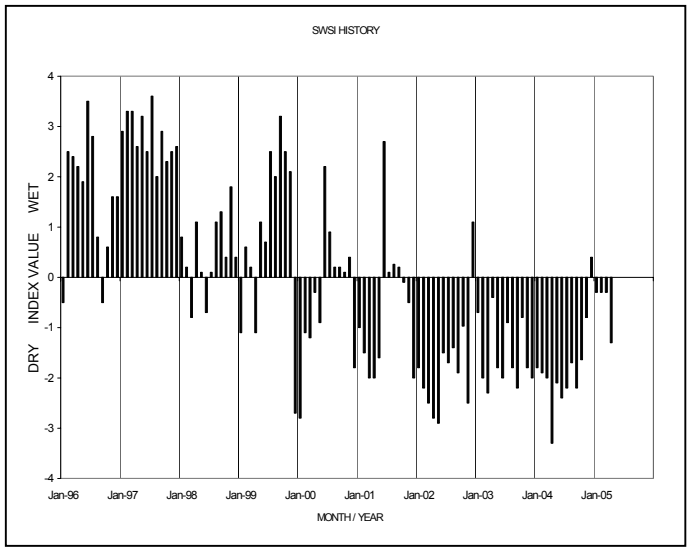
The SWSI value of –1.3 indicates that for March the basin water supplies were below normal. The Natural Resources Conservation Service reports that April 1 snowpack is 112% of normal. Flow at the gaging station Arkansas River near Portland was 316 cfs, as compared to the long-term average of 362 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 69% of normal as of the end of March.

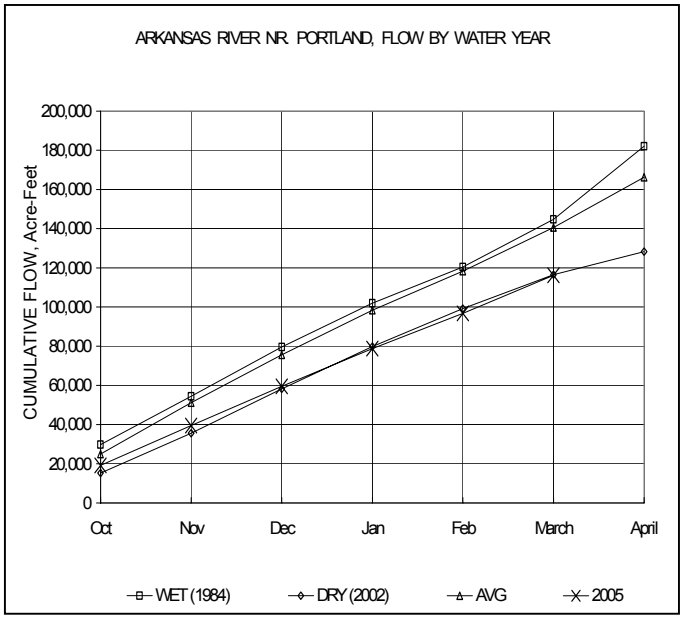
Outlook

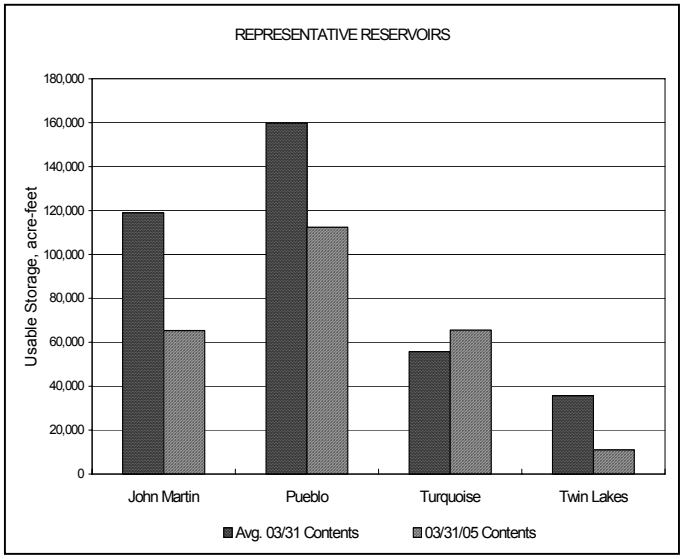
Total distributed reservoir storage following the Pueblo Winter Water Program was 115,874 acre-feet, including 42,539 acre-feet in Pueblo Reservoir, 47,271 acre-feet in off-channel reservoirs, and 26,064 acre-feet in John Martin Reservoir (after distribution to accounts). Total Winter Compact Storage in John Martin Reservoir was 24,169 acre-feet for the period from November 1, 2004 through March 31, 2005. Distribution of Winter Compact Storage into accounts began at 13:00 hours on April 1, 2005.

Administrative/Management Concerns

Major well associations had augmentation plans approved only on a temporary basis until June 1, 2005 to attempt to ensure that adequate replacement supplies could be expected to be finalized to facilitate planned pumping as well as deliver water to replace stateline depletions computed by the computer model used to verify compact compliance over a ten year period. Well associations were greatly aided by efforts of the Pueblo Board of Water Works, Lower Arkansas Valley Water Conservancy District and Southeastern Colorado Water Conservancy District to make available some water to offset computed stateline depletions. A delivery of 2000 acre-feet of water to the Offset Account in John Martin Reservoir was made during March.



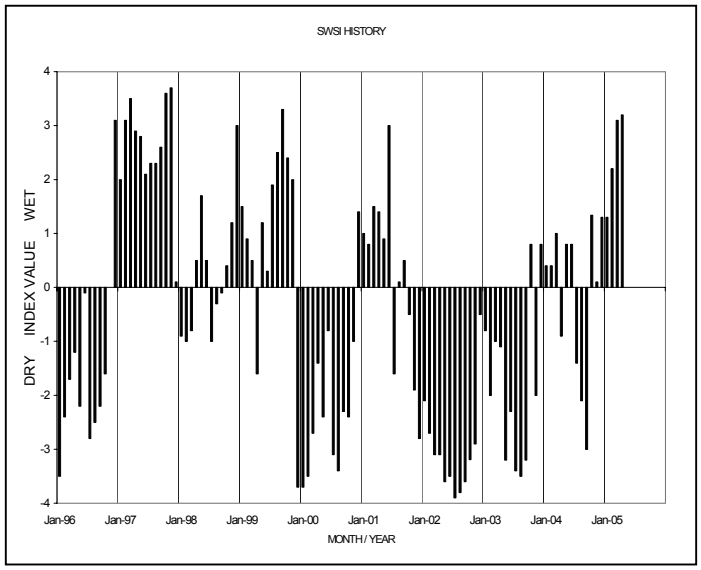




Basinwide Conditions Assessment

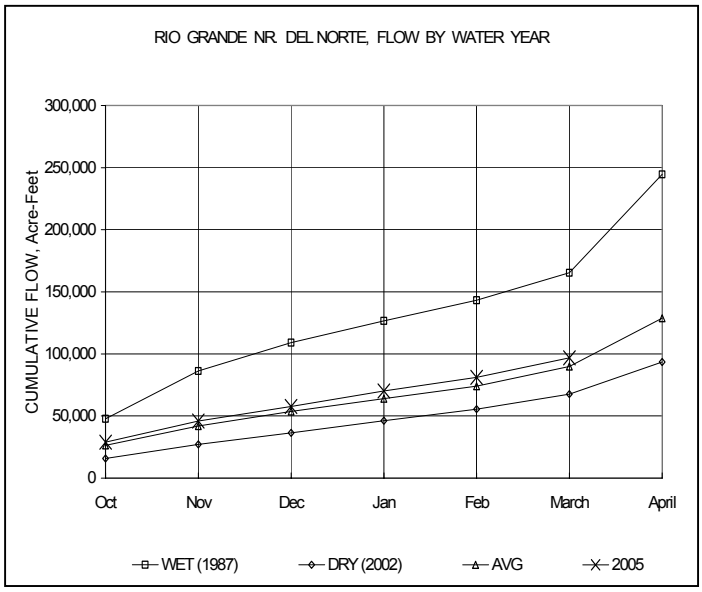
The SWSI value of +3.2 indicates that for March the basin water supplies were well above normal. The Natural Resources Conservation Service reports that April 1 snowpack is 140% of normal. Flow at the gaging station Rio Grande near Del Norte averaged 256 cfs (94% of normal). The Conejos River near Mogote had a mean flow of 67 cfs (85% of normal). Flow to the state line was 98% of normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 77% of normal as of the end of March.

March was the third consecutive month of above average precipitation in the San Luis Valley. A wonderful reversal, where the previous eight months had below normal precipitation. For the first time in five months, temperatures were below normal.



Outlook

NRCS forecasts are now predicting runoff to be 145% of average for the Rio Grande near Del Norte and 135% of average for the Conejos near Mogote. Runoff throughout the upper Rio Grande Basin is forecasted above average with the low of 112% for Saguache Creek and the high at 170% for the Costilla Creek drainage that is shared with New Mexico.

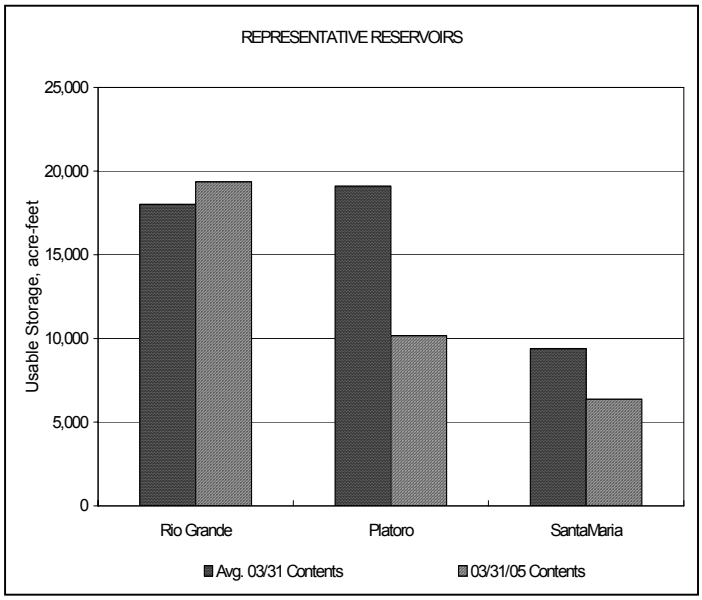


Administrative/Management Concerns

Rio Grande Compact accounting for the 2004 calendar year was approved at the Compact meeting held in Santa Fe during late March. Colorado over-delivered 4,400 acre-feet to the state line last year. This credit will offset winter storage in Platoro reservoir and help meet the high delivery requirements in 2005. There will be an onerous curtailment of water rights on the Rio Grande and Conejos to meet the Compact delivery requirement this irrigation season if forecasts are realized.

Public Use Impacts

Spring snowstorms are prolonging winter activities. But anxious farmers and ranchers are ready to get the season going. Diversions from the Rio Grande began on April 4 and the Conejos River system on April 11. There is potential for high runoff and localized flooding along water courses in the basin this year. This is the highest forecasted runoff since 1995.



Basinwide Conditions Assessment

The SWSI value of +2.6 indicates that for March the basin water supplies were above normal. The Natural Resources Conservation Service reports that April 1 snowpack is 127% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 54 cfs, as compared to the long-term average of 62 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 104% of normal as of the end of March.

Outlook

March has been a good month for moisture, getting enough good storms to keep the snowpack percentages up. After an extended drought period, it finally looks like a good year that this basin can catch up on reservoir storage and have a full supply for irrigation needs.

Administrative/Management Concerns

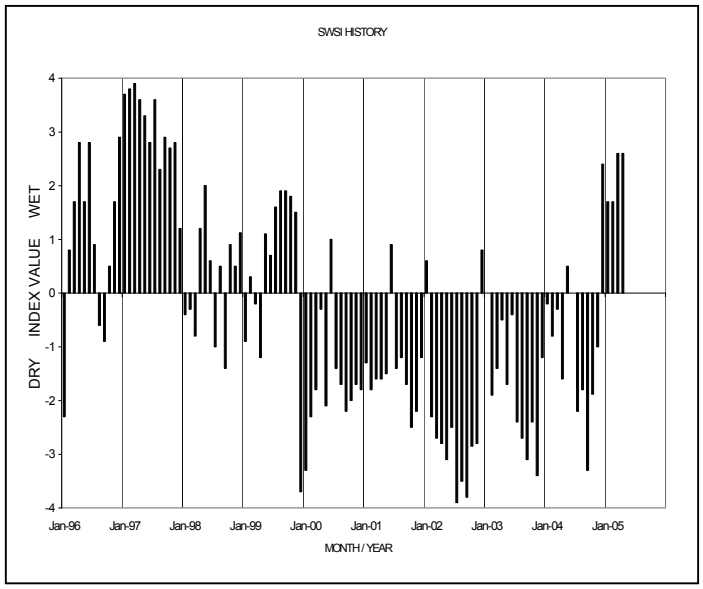
The USBR is still forecasting that Blue Mesa, Taylor Park, and Ridgway Reservoirs will be filled up this year. Also, the numerous reservoirs on the Grand Mesa are all expected to fill.

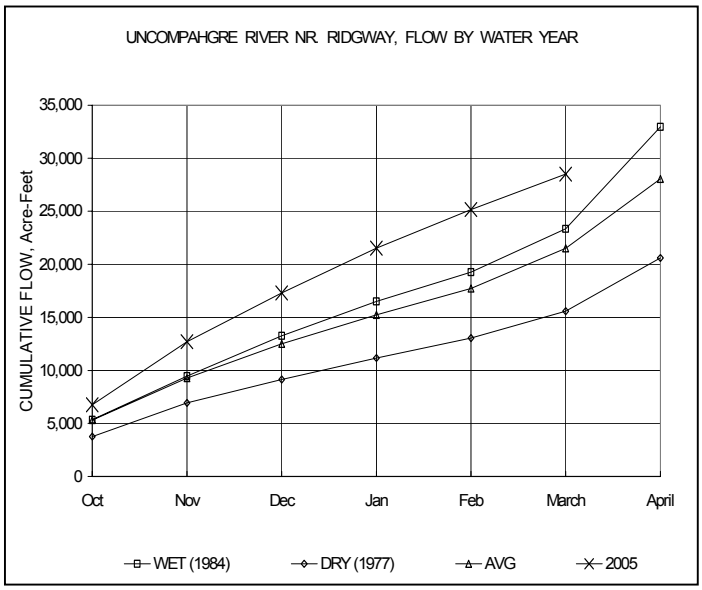
Of special note in this basin is the high percentage of snowpack on the Grand Mesa. The three courses average 161% of average. On the Park Reservoir site, which is about the center of the Grand Mesa, the snow water equivalent is near a record high. As of April 8, the course had 48.4 inches of water, which is higher that the 1993 record of 46.2 inches. The maximum at the end of the year was 49.5 inches in 1993 and 50.2 inches in 1983. If the storms continue as they have been, it could be a record year.

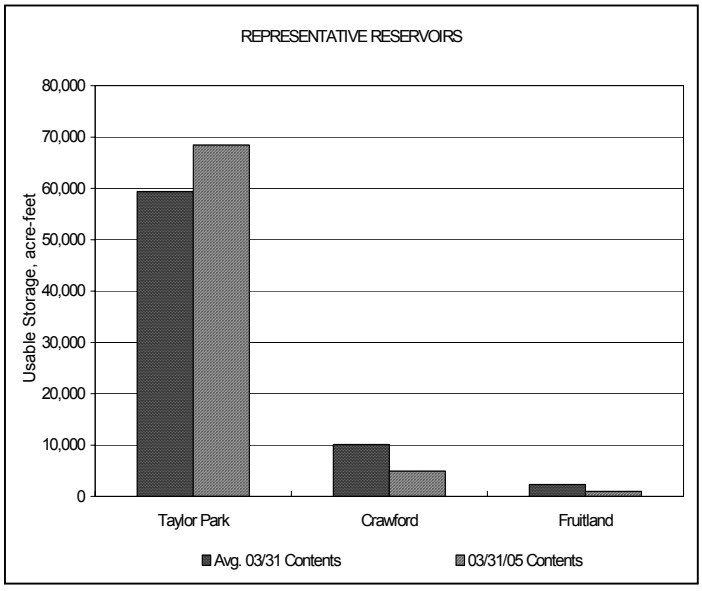
Obviously, this situation could lead to some substantial flooding on those streams that flow from the Mesa. The reservoirs will pick up a substantial portion of the runoff, since they are relatively low. But there still could be some problems. Perhaps the worst area in Division 4 could be Kannah Creek, where the reservoirs normally fill and spill. As the month of April progresses, this situation will be monitored closely.

Public Use Impacts

Irrigators are looking forward to full supply this year. The recreational enthusiasts can also look forward to higher river flows and fuller reservoirs.







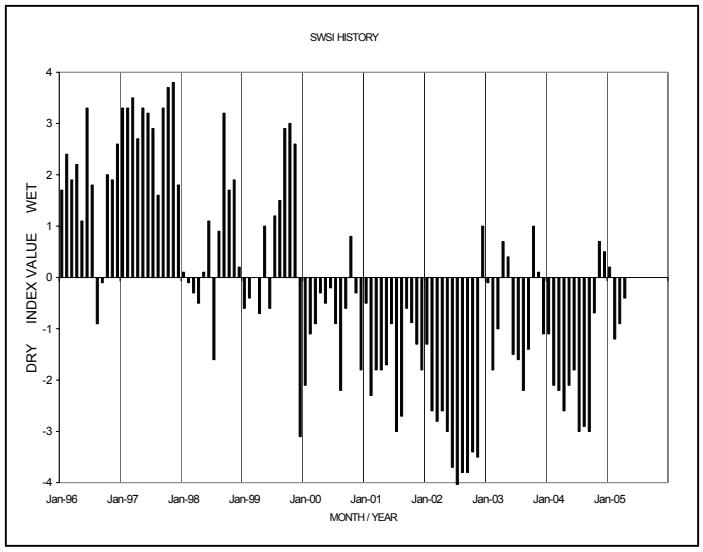
Basinwide Conditions Assessment

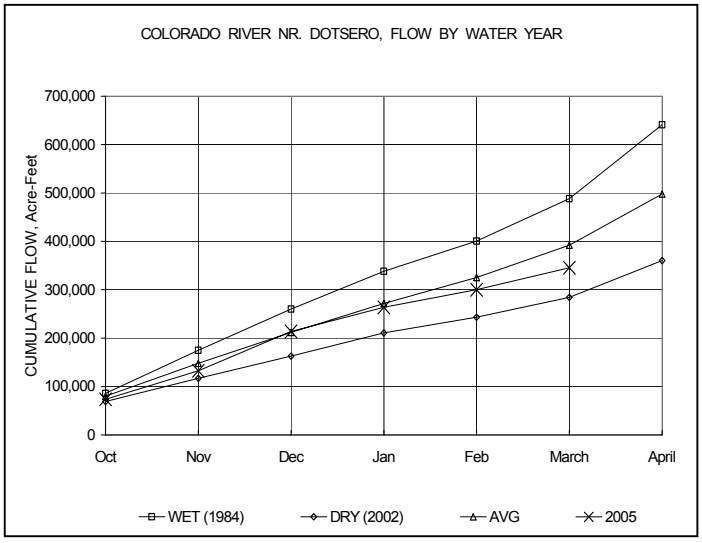
The SWSI value of -0.4 indicates that for March the basin water supplies were about normal. The Natural Resources Conservation Service reports that April 1 snowpack is 98% of normal. Flow at the gaging station Colorado River near Dotsero was 740 cfs, as compared to the long-term average of 1,087 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 110% of normal as of the end of March.

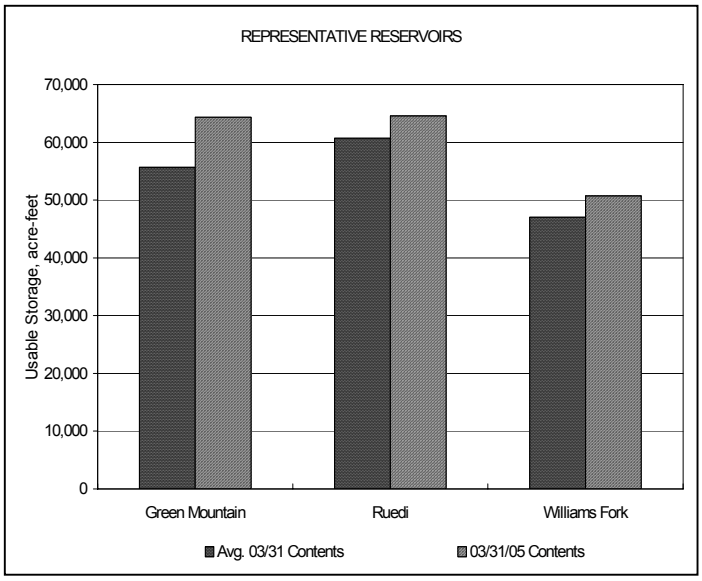
Outlook

Snowpack for the entire Colorado River basin is near normal, but this represents a 57% increase over last year's April 1 snowpack, according to the "Colorado Basin Outlook Report April 1, 2005" (NRCS). Significant variations occur throughout the basin. The Plateau Creek basin is doing very well at 156% of average, while the Blue River, Williams Fork River, Upper Colorado River, and Muddy Creek (below Wolford Mtn. Res.) basins are at all less than 90% of average. Variations occur within basins, too, such as the Roaring Fork River basin where the Crystal River has above average snowpack and the Frying Pan River has below average snowpack.

The NRCS forecasts that April-July streamflows will be less than or equal to 80% of average on Muddy Creek below Wolford Mtn. Reservoir, Dillon Reservoir inflow, Williams Fork Reservoir inflow, Green Mountain Reservoir inflow, Eagle River below Gypsum, Colorado River near Dotsero, and Ruedi Reservoir inflow. Colorado River near Cameo streamflow is forecasted at 84% of average. Near average streamflows are forecasted for Willow Creek Reservoir inflow and Roaring Fork River at Glenwood Springs.





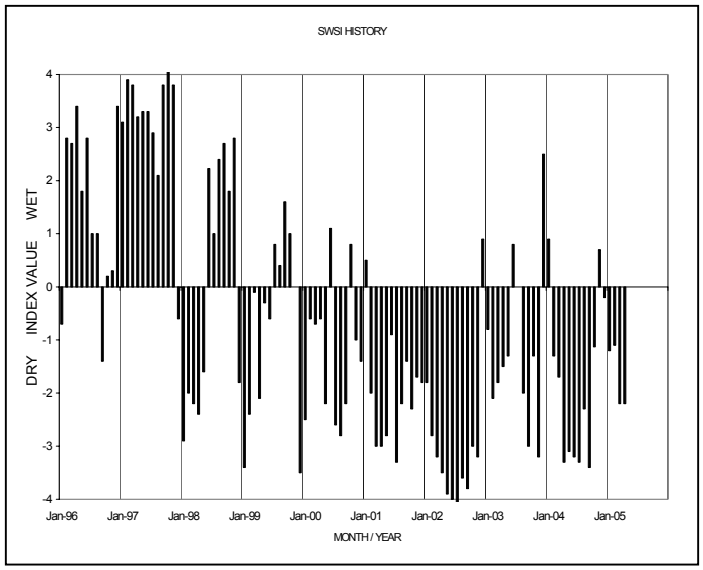


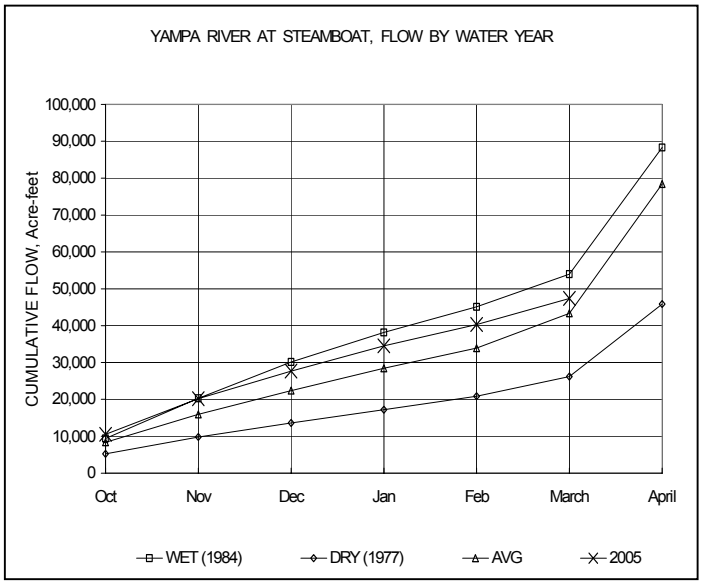
Basinwide Conditions Assessment

The SWSI value of –2.2 indicates that for March the basin water supplies were below normal. Flow at the gaging station Yampa River at Steamboat was 115 cfs, as compared to the long-term average of 154 cfs.

Precipitation for March continued to be below average at 72% of average for the basin. Year–to-date precipitation for the water year slipped to 87% of average, which is only slightly better then last year at this time. The basin-wide snowpack was 89% of average, essentially the same as the end of February reading. However, this snowpack reading represents a 28% improvement over the readings last year at the end of March. The highest readings were recorded on the Little Snake and Elk River drainages, which were about 100% of average. The snowpack for the rest of the drainages in the Division were in the mid to under 80% range.

The April 1 runoff forecast released by the Natural resources Conservation Service for the most probable runoff condition is for 63% of average for the North Platte River near Northgate; 75% of average for the Yampa River near Maybell; 91 % of average for the Little Snake River near Dixon; and 66% of average for the White River near Meeker. These percentages are essentially the same as the previous month, except for the North Platte River, which is about 12% lower.





Outlook

The basin has started to see a few more precipitation events over the past month. While total precipitation was still below average, several late-month storms helped to maintain the snowpack levels. Temperatures have returned to a more normal range, which should help to extend the runoff period, if that pattern exists.

Administrative/Management Concerns

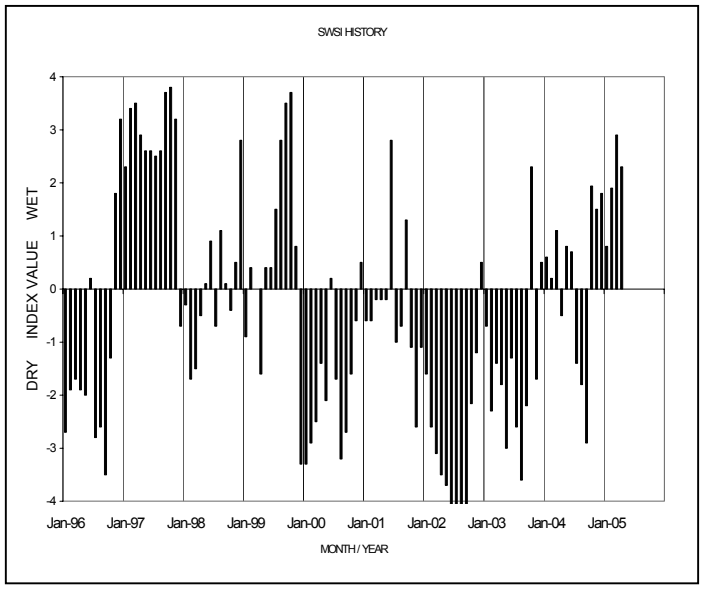
The runoff forecast for the North Platte and White Rivers indicate that administration is likely to occur on the tributaries of these rivers.

Public Use Impacts:

Many area rivers, especially at lower elevations are free of ice and open for fishing. Elkhead Reservoir has been lowered to a minimum level for construction purposes, and will be closed to the public for the next two years.

Basinwide Conditions Assessment

The SWSI value of +2.3 indicates that for March the basin water supplies were above normal. The Natural Resources Conservation Service reports that April 1 snowpack is 138% of normal. Flow at the gaging station Animas River near Durango was 520 cfs, as compared to the long-term average of 309 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 85% of normal as of the end of March.



Outlook

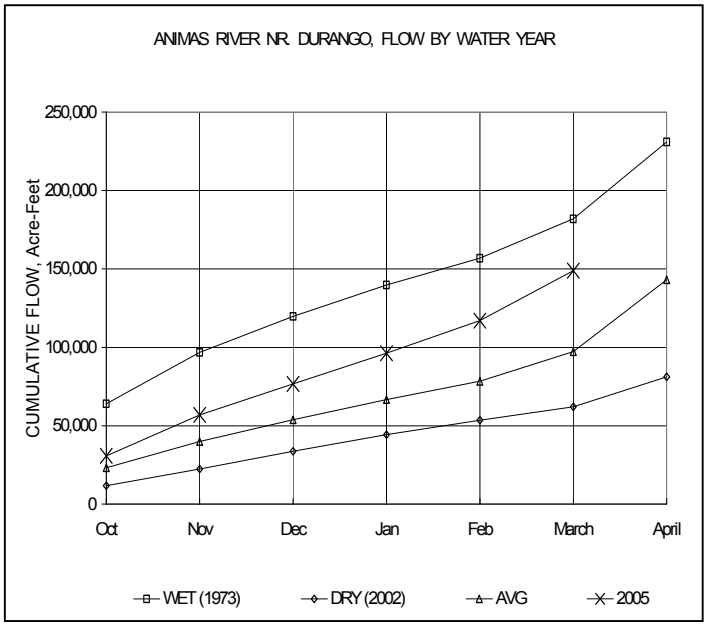
In March 2004 Durango had no precipitation though it is typically a very wet month. This year, March was again dry, at 72% of normal, but the high mountains gained snow accumulation from the fronts that came through the area. Although the temperatures were only slightly above normal, the weather was warm enough to melt lower elevation areas and yield higher than average stream flows.

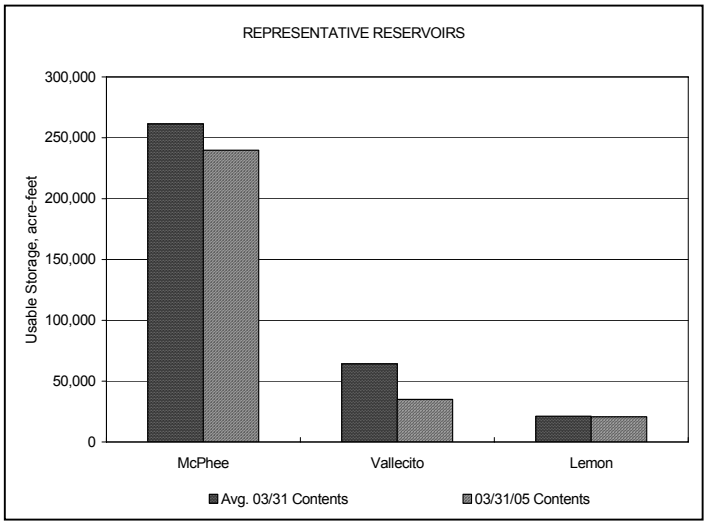
The Animas River in Durango averaged 520 cfs during the month, 74% higher than the average 441 cfs. The Dolores River also was running at a similar level with an average flow of 220 cfs.

The best snow was found in the drainages from the La Plata Mountains to Wolf Creek Pass. The upper Animas also received significant increases. Though the Dolores River watershed held less, there was a significant amount of water in the 105-125% accumulation. Water density was above 35% with a significant ice layer at about 2 feet deep.

Continued storm fronts promised to lead to a very significant run off and possible flooding scenarios if they brought more precipitation in the next month. Reservoirs are predicted to fill everywhere and efforts were made to release water from Lemon and Vallecito reservoirs to make room for the runoff.

River recreational opportunities appeared to be good and extended for this season and it is hoped that higher flows will be seen into July this year.





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