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**COLORADO**  
**WATER SUPPLY CONDITIONS UPDATE**

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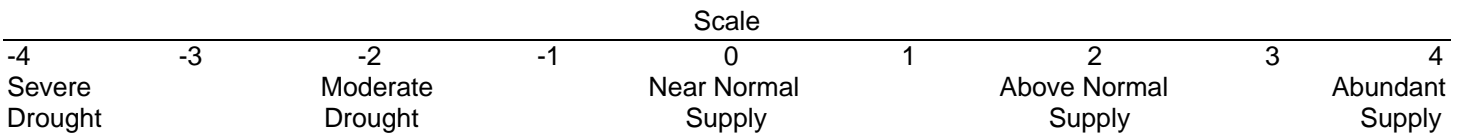
FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES    October 2006  
 ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203  
 303-866-3581; [www.water.state.co.us](http://www.water.state.co.us)

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 stream flow, reservoir storage, and precipitation for the summer period (May through October). During the summer period, stream flow is the primary component in all basins except the South Platte basin where reservoir storage is given the most weight.

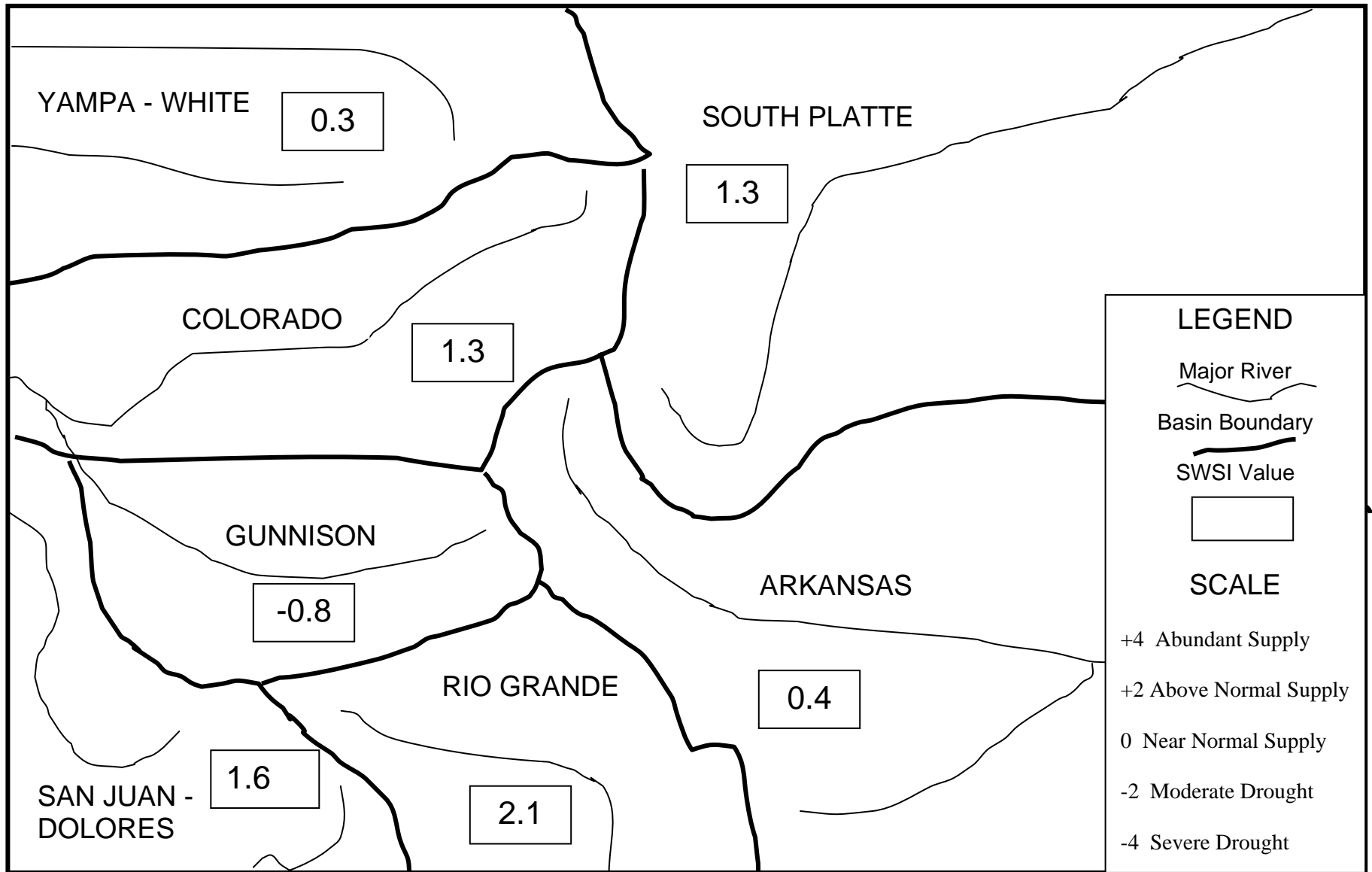
The statewide SWSI values for September range from a high value of 2.1 in the Rio Grande Basin to a low value of -0.8 in the Gunnison Basin. All seven basins experienced a gain from the previous month's values.

The following SWSI values were computed for each of the seven major basins for October 1, 2006, and reflect the conditions during the month of September.

<u>Basin</u>	<u>October 1, 2006 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	+1.3	+0.5	- 0.5
Arkansas	+0.4	+0.7	+1.9
Rio Grande	+2.1	+1.4	+2.2
Gunnison	-0.8	+0.1	+0.5
Colorado	+1.3	+1.3	- 0.3
Yampa/White	+0.3	+1.0	+2.1
San Juan/Dolores	+1.6	+0.6	+1.6



# SURFACE WATER SUPPLY INDEX FOR COLORADO



October 1, 2006

Basinwide Conditions Assessment

The SWSI value for the month of September was 1.3. Reservoir storage in Dillon, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin for computing the SWSI value, was 103% of normal as of the end of September. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 6.3% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 92% of capacity. Flow at the gaging station South Platte River near Kersey was 389 cfs, as compared to the long-term average of 517 cfs. Flow at the Colorado/Nebraska state line averaged 42 cfs.

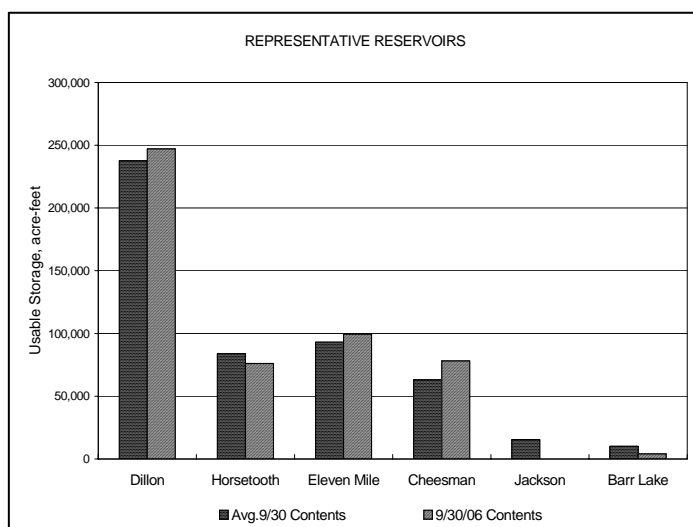
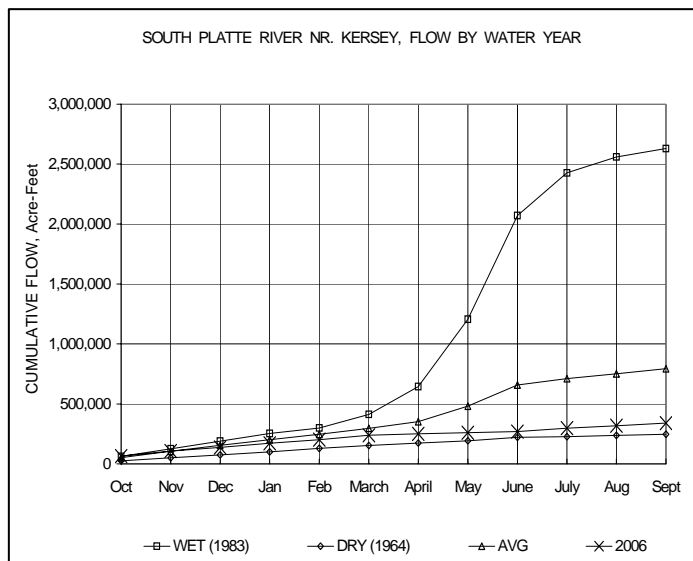
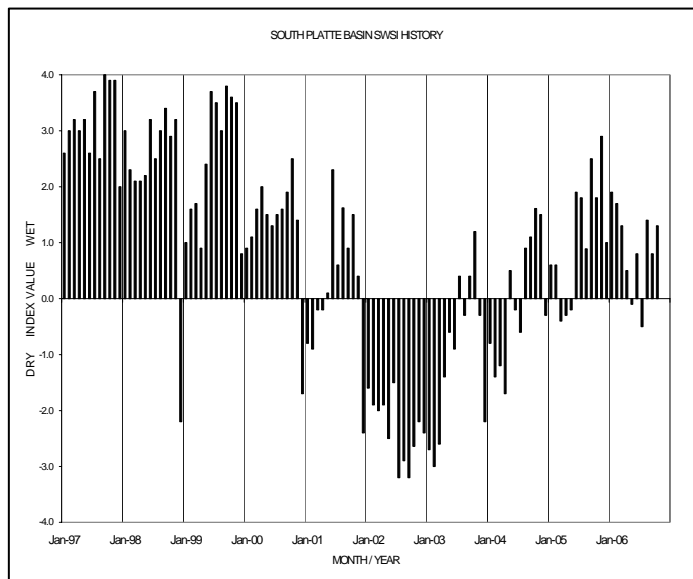
Outlook

September was warm and dry through out the month. Flows in the basin were below normal for this time of year. Because of the low flows and warm conditions, there was a continued call for irrigation water in September.

Reservoir levels for agriculture continued far below average with many of the plains reservoirs either empty or near empty by the end of the month. With below average conditions in the spring, many farmers did not have adequate supply for all of their crops requiring them to leave fields fallow or suffer lower yields. This is especially true for those farmers who are dependent on wells that were curtailed for part of their supply and for users dependent upon significant reservoir water.

Of equal importance, low irrigation reservoir levels make next year's snowpack and spring rains even more important. Spring rains provide both a supply for and reduce the demand for irrigation water. A wet October would also be extremely helpful allowing for start of refilling of reservoirs and/or recharge in the lower end of the South Platte.

Municipal suppliers continue to be in good shape partly because of the available supplies from the east slope this last spring. In contrast to irrigation suppliers whose reservoirs are almost empty, large reservoirs in the Denver Metro area including Eleven Mile, Spinney, Cheesman, and Standley Lake used primarily for municipal purposes are full or nearly full.



Basinwide Conditions Assessment

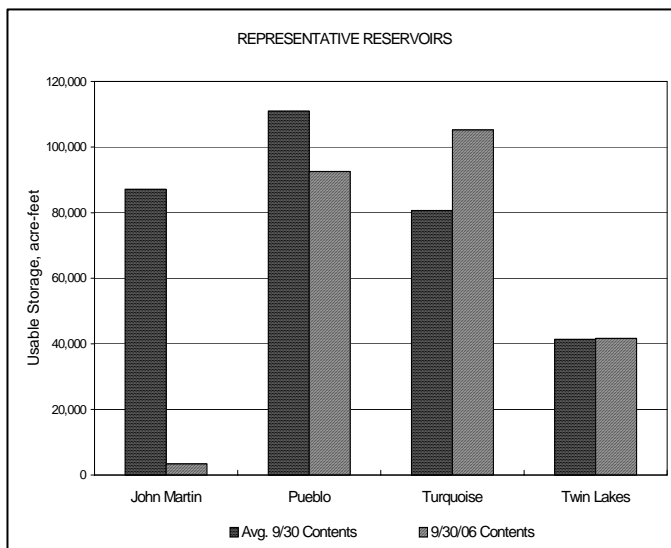
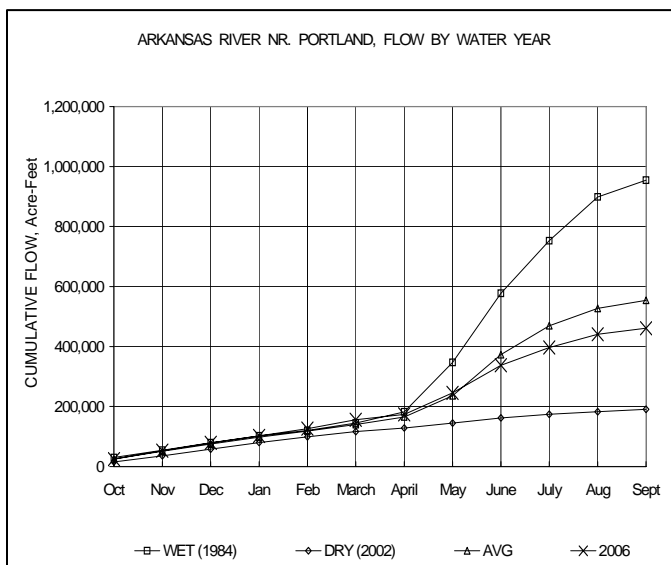
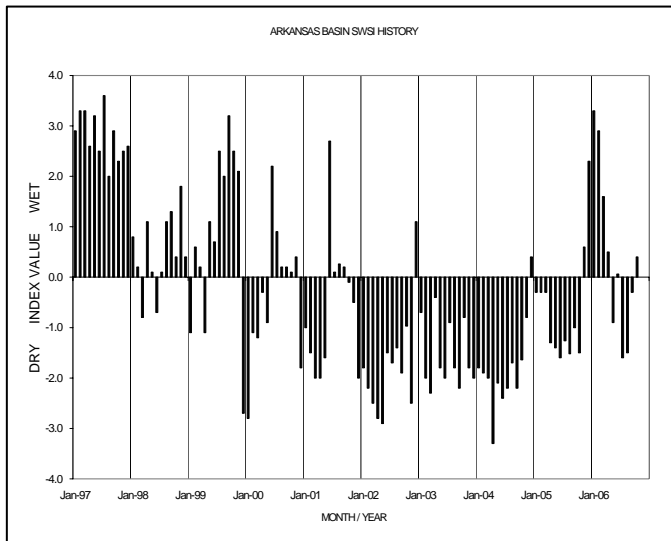
The SWSI value for the month of September was 0.4. Flow at the gaging station Arkansas River near Portland was 333 cfs, as compared to the long-term average of 455 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 90% of normal as of the end of September.

Outlook

The river call for September was set on the Amity Canal senior right (2/21/1887) for most of the month with a four day period from September 2<sup>nd</sup> through 5<sup>th</sup> where the call went to the Fort Lyon #2 (3/1/1887) due to increased river flows.

Administrative/Management Concerns

Discussions between the Colorado State Engineer and Kansas Chief Engineer and their technical staff to attempt to resolve disputes on accounting practices for John Martin Reservoir and related issues have been conducted during the summer with meetings in June and August and another set of meetings scheduled for October in Denver. The states are attempting to reach agreement and resolution on at least some of the issues prior to the next meeting of the Arkansas River Compact Administration in December.



Basinwide Conditions Assessment

The SWSI value for the month of September was 2.1. Flow at the gaging station Rio Grande near Del Norte averaged 573 cfs (113% of normal). The Conejos River near Mogote had a mean flow of 239 cfs (135% of normal), the highest September runoff at that station in the past 10 years. Rainfall on the most of the upper Rio Grande basin lessened during September. But the Conejos River drainage continued to receive significant rainfall during the first half of September. Storage in Rio Grande, Platoro, and Santa Maria reservoirs totaled 56% of normal as of the end of September. The average temperature was well below normal during the month, a radical change from the past 14 months of above normal temperatures.

Outlook

Precipitation in the basin this summer has provided a huge benefit to the mountains and plains of the upper Rio Grande basin through improvement of the soil moisture conditions and stream flow. Stream flow conditions should remain near normal for a few months. The snowcapped peaks ringing the San Luis Valley at mid-month brought a lot of optimism for abundant snowfall this winter.

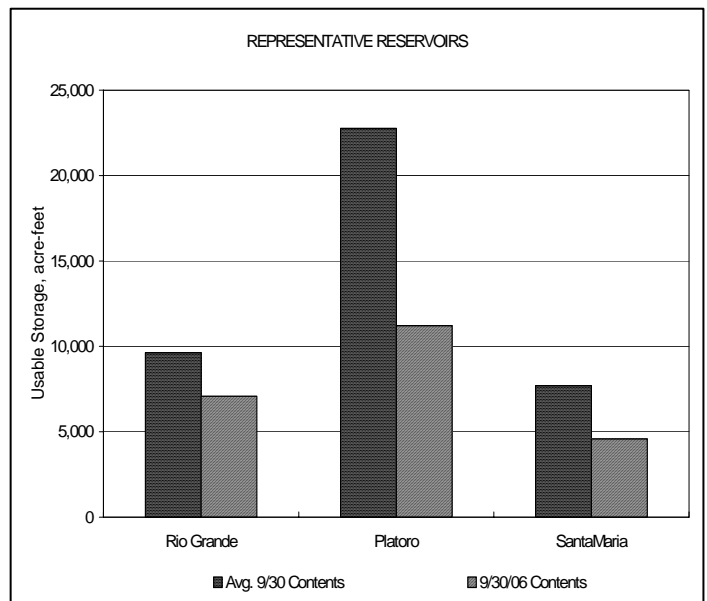
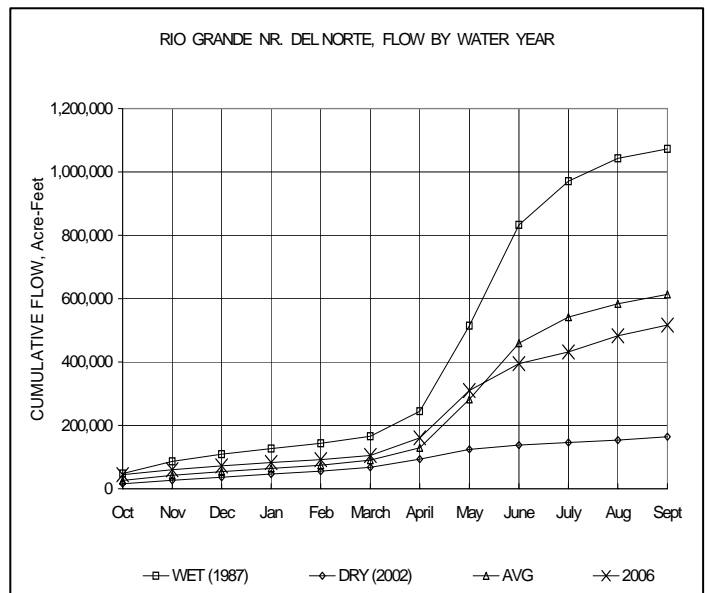
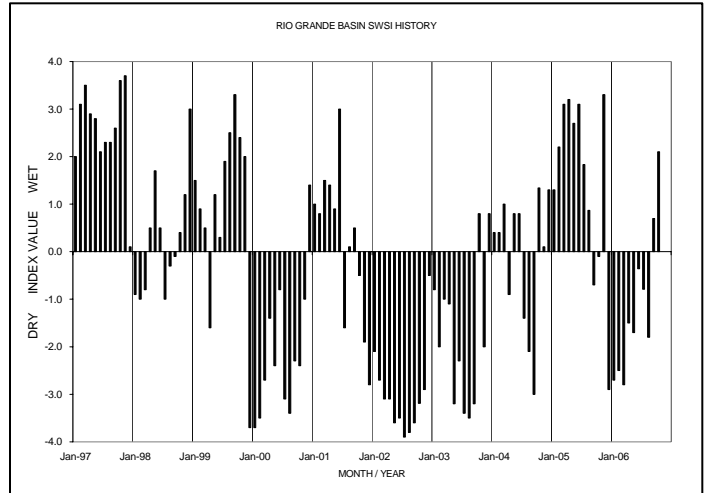
Administrative / Management Concerns

Increased water availability allowed many ditches to turn back on unpredictably. The greatest benefit from these diversions may be to the depleted aquifers in the basin. Recovery of the aquifers is a long-term prospect, but it does help to have unexpected gains during the fall.

Colorado will meet its 2006 delivery obligation to New Mexico and Texas under the Rio Grande Compact.

Public Use Impacts

The rain events slowed the fall harvest for a few days and did damage some native hay and alfalfa that had been cut. But mild, dry weather conditions thereafter allowed farmers and ranchers to finish harvest and put up their crops. The rainy summer did reduce the yields of most farms this year.



Basinwide Conditions Assessment

The SWSI value for the month of September was -0.8. Flow at the gaging station Uncompahgre River near Ridgway was 126 cfs, as compared to the long-term average of 109 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 96% of normal as of the end of September.

Outlook

This has been an extremely wet summer season, and the month of September was just as wet.

Administrative/Management Concerns

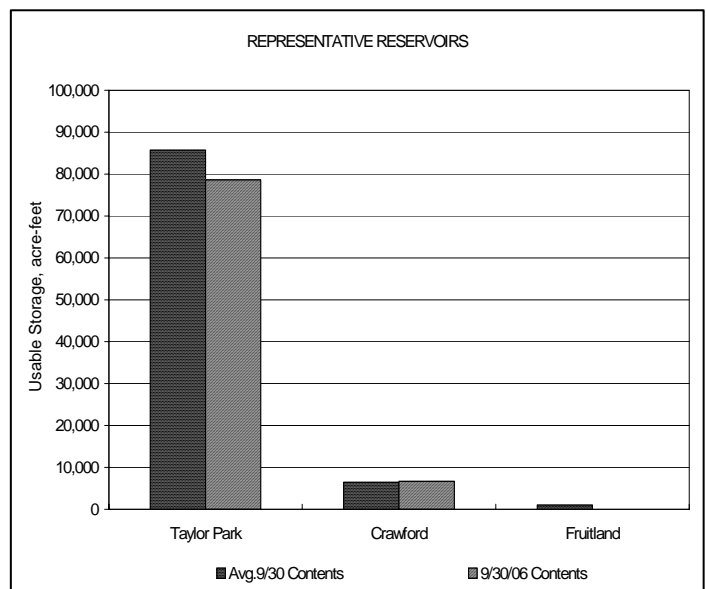
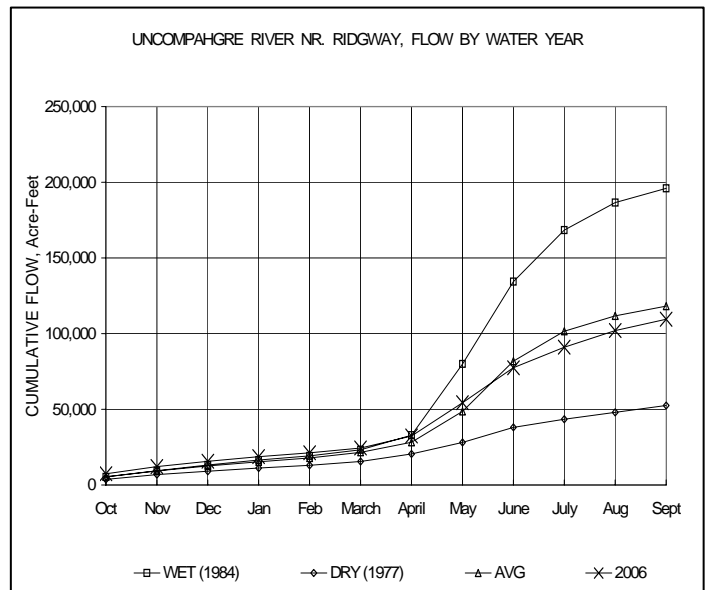
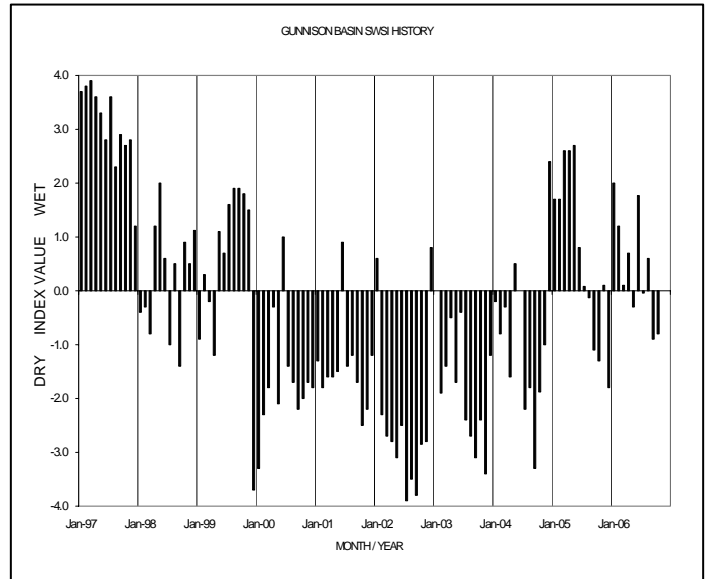
The wet weather in September has all but satisfied the irrigation needs of irrigators in the Gunnison basin. Consequently, the demand for reservoir water has almost been eliminated. The reservoirs will go into the winter with large carryover storage, and this will certainly help the opportunity to fill up this winter and next spring.

The power producers that operate the hydropower plants are happy to have full reservoirs and higher flows. The flows and decreased demands have allowed the major reservoirs to gain storage, something that is very unusual during this time of the year. For example, a storm in the first few days of October created high enough flows that Ridgway reservoir was gaining a foot a day. The releases will likely be increased during the winter, which is a benefit to the fishery below the reservoir. The releases from the Aspinall Unit will likely be increased to meet storage targets, also providing higher winter flows and helping the resources in the Gunnison Gorge.

Public Use Impacts

The farmers have been struggling to get their crops up with the frequent rain storms. Some of the hay and small grain crops have been damaged by the moisture, and they are working hard to finish up the rest of the fall harvest.

In the mountains, it is good to see a great start on the snowpack season. The soil moisture conditions are the best this basin has seen in quite some time.



Basinwide Conditions Assessment

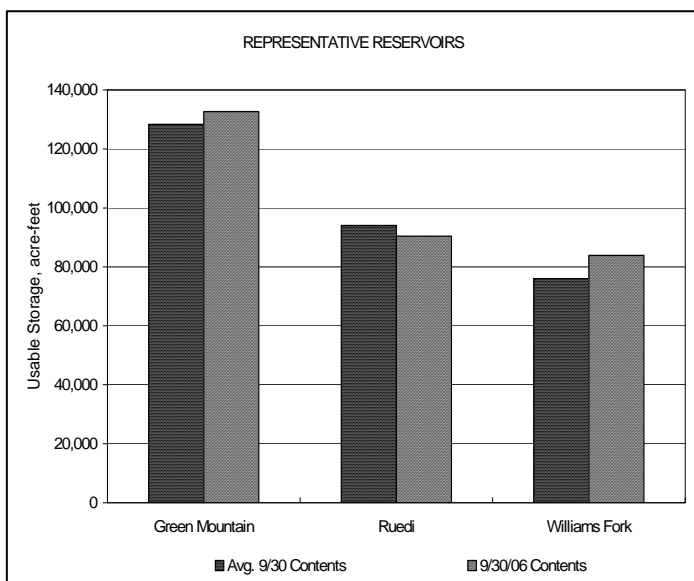
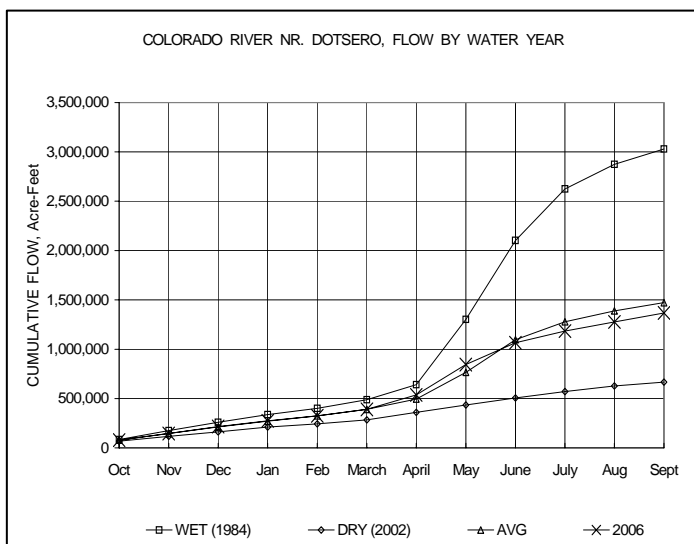
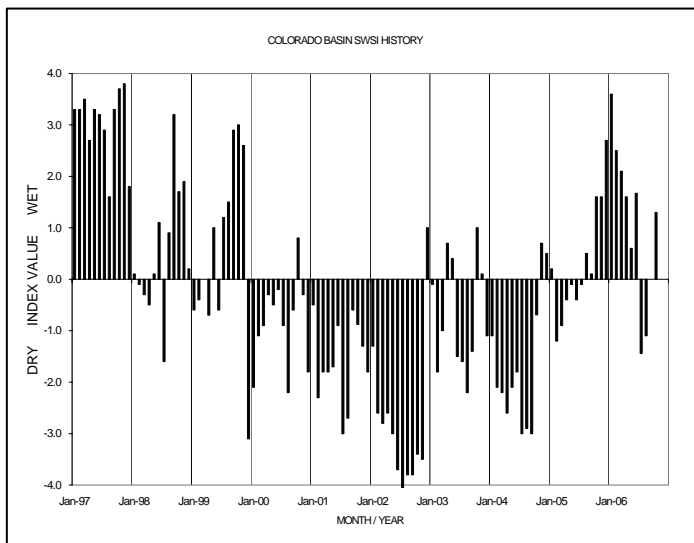
The SWSI value for the month of September was 1.3. Flow at the gaging station Colorado River near Dotsero was 1540 cfs, as compared to the long-term average of 1411 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 96% of normal as of the end of September.

Outlook

September was a wet month for the Colorado River basin, with precipitation at 130% of average or more throughout the basin. Most of the rains came in the latter half of the month and the wet trend has continued into early October. The above average September precipitation pushed the hydrologic water year (Oct 05 thru Sept 06) moisture to near average or better for the entire basin, with the Blue River and Eagle River basins coming out on top. These late rains helped to compensate for a very dry period in late spring and early summer.

The late summer rains have boosted river flows above average for the basin, particularly in the western (i.e., lower) part of the basin. This ensured that the Grand Valley administrative call was not placed this irrigation season. However, the Shoshone call is still in place for the upper basin, as the upper river flows have not benefited as much from the rains.

The fire season, which looked like it might turn out badly initially, ended with only moderate blazes occurring in the basin this year. Snowmaking has started at a few ski areas in the basin and most of the larger ski area operations will crank up in late October. Higher than average streamflows should help alleviate any adverse impacts these snowmaking diversions will have on the streams during the early winter.



Basinwide Conditions Assessment

The SWSI value for the month of September was 0.3. Flow at the gaging station Yampa River at Steamboat was 136 cfs, as compared to the long-term average of 119 cfs. Precipitation, as recorded at the SNOTEL sites operated by the NRCS, totaled 200% of average (average period being from 1971 to 2000) and 248% of September of last year for the Yampa, White and North Platte River Basins combined. For the Yampa and White River Basins the precipitation totaled 204% of average and 241% of September of last year and for the North Platte River basin it totaled 210% of average and 286% of September of last year. River flows were below normal level at the beginning of the month on the majority of rivers and streams in the Yampa/White/North Platte River Basins. However, precipitation events including snowfall resulted in streams throughout the three basins to rise to above average flows. There was some snow accumulation at the higher SNOTEL sites in September. As of September 30, ten sites in the Yampa and White River Basins and six sites in the North Platte River Basin still had some snow remaining.

Outlook:

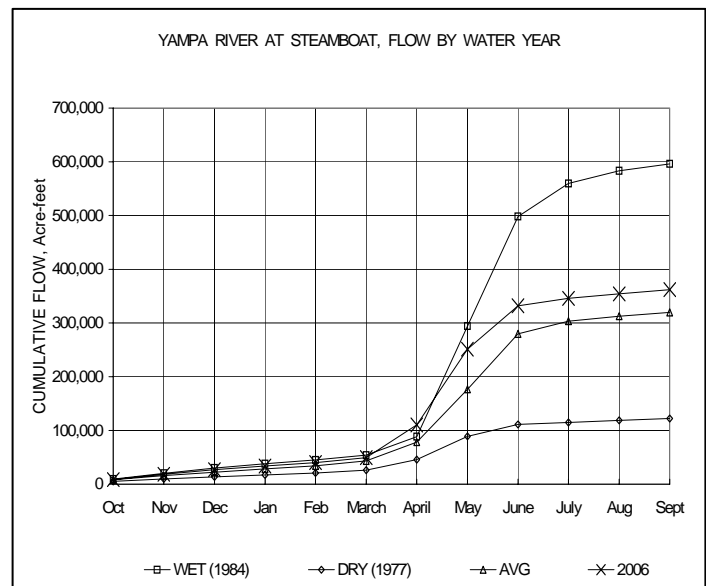
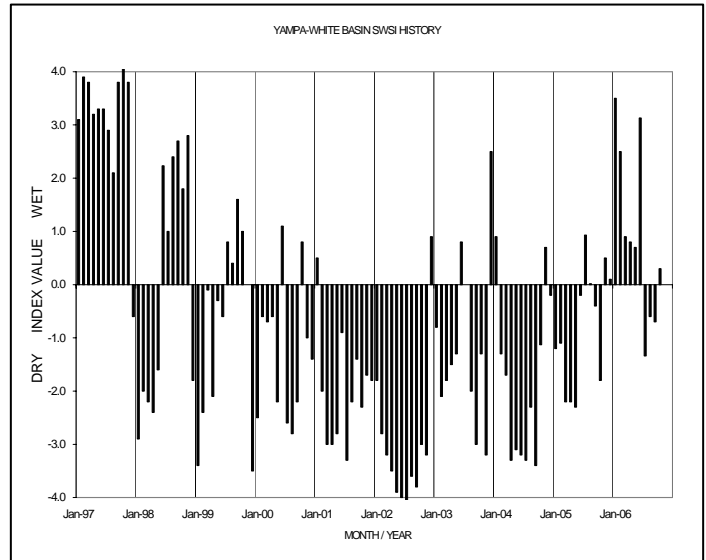
Irrigation demands have decreased significantly as the irrigation year winds to an end. Some reservoirs have begun to release water in preparation for the spring 2007 runoff season.

Administrative/Management Concerns:

Only a couple streams remain under administration. The Michigan River is presently under administration to fulfill a storage right.

Public Use Impacts:

Elkhead Reservoir continues to remain closed for all recreational activities. The earthwork and spillway have been completed on the Elkhead Reservoir enlargement and the reservoir will begin filling in the spring of 2007.





Basinwide Conditions Assessment

The SWSI value for the month of September was 1.6. Flow at the gaging station Animas River near Durango was 489 cfs, as compared to the long-term average of 480 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 103% of normal as of the end of September.

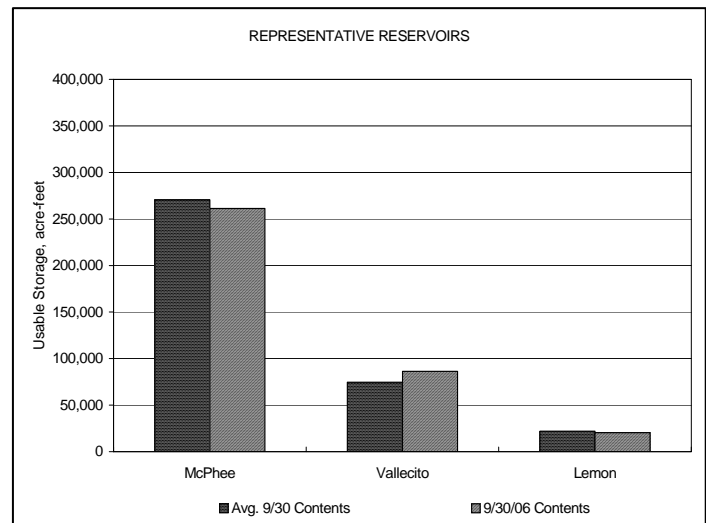
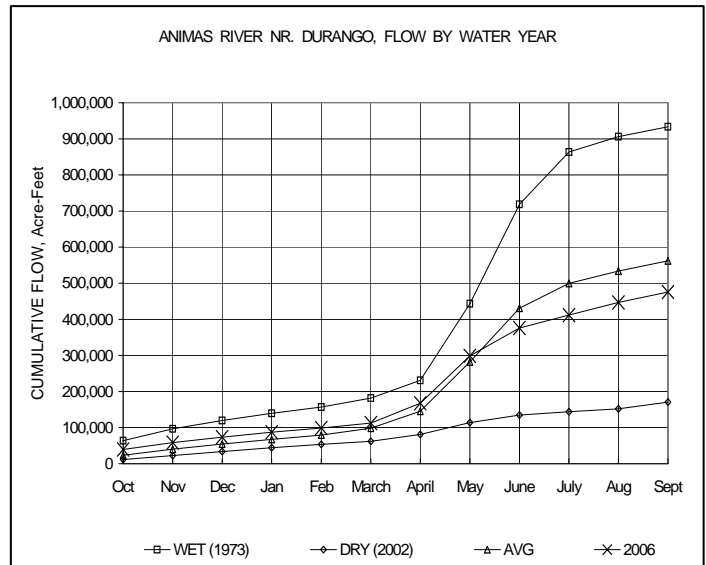
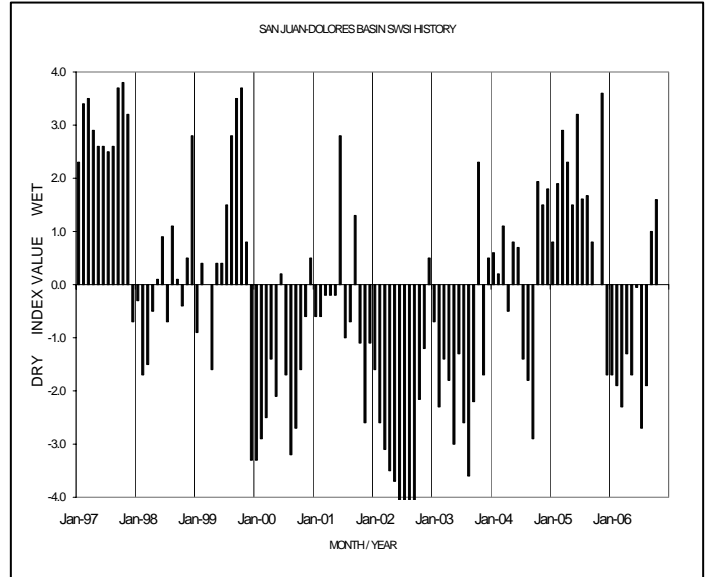
Outlook

September weather brought much more monsoon moisture to Division 7. In Durango, 3.55 inches of precipitation were recorded, 157% of average. For the Water Year, Durango had a total of 17.68 inches of moisture, this works out to 90% of normal precipitation.

The above normal precipitation is reflected in streamflow. The Animas River peaked at 667 cfs on Sep. 16th and averaged 489 cfs for the month, which is 106% of normal. The Dolores River averaged 230 cfs for the month, which is 126% of normal. The La Plata River at Hesperus averaged 29.3 cfs for the month compared with its normal flow of 20.5 cfs; this is 143% of normal.

Reservoirs are still showing the effects of a heavy demand for irrigation. Only one of the three major reservoirs still maintained above average storage at the end of the month. Vallecito Reservoir contained 84,273 acre-feet compared to its normal contents of 56,042 acre-feet. McPhee Reservoir was down to 246,821 acre-feet, 94% of normal and Lemon Reservoir was up to 19,544 acre-feet, 99% of normal.

The humid and cloudy weather from the monsoons kept the high temperatures much lower and the low temperatures right at normal. Overall Durango was 4.1° below its 30-year average high and at its 30-year average low.



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