
COLORADO

WATER SUPPLY CONDITIONS UPDATE

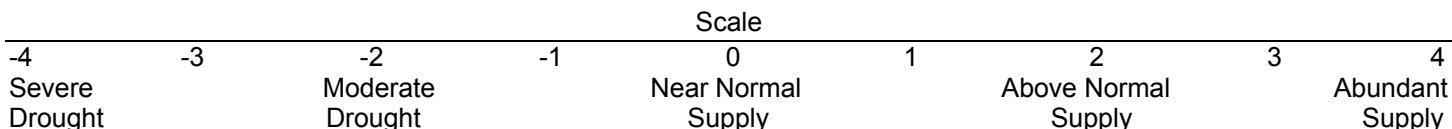
FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
 ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
 303-866-3581; www.water.state.co.us

October 2004

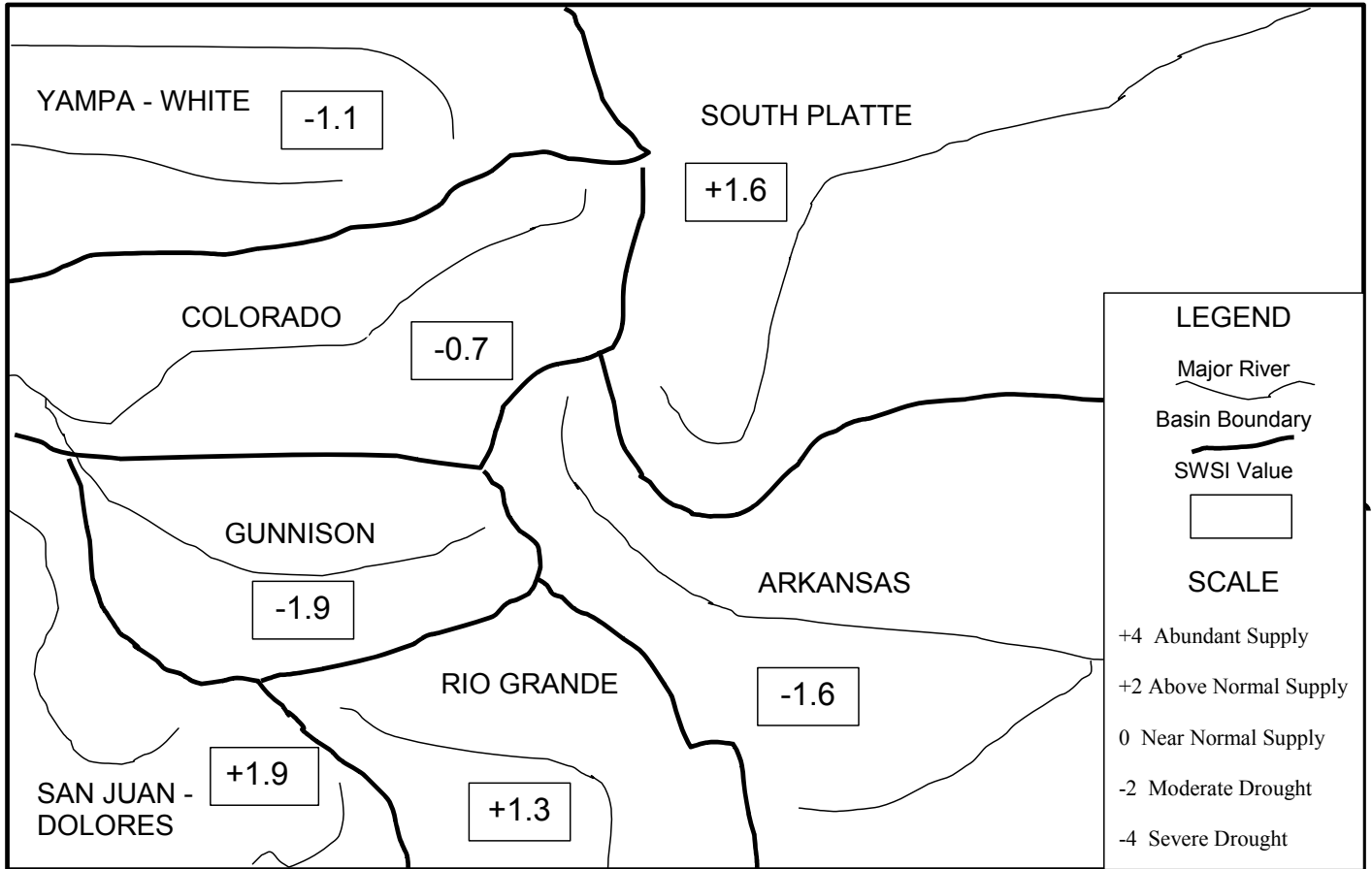
The water supply index values for September show that the South Platte Basin continues to have consistently higher values this past summer and early fall than most of the rest of the state. However, the southwest part of Colorado has shown the most dramatic positive changes with the San Juan-Dolores Basin and Rio Grande Basin both making encouraging improvements during September due to rain and snowfall. The highest value this month is in the San Juan-Dolores Basin with a SWSI value of +1.9, and the lowest value is in an adjacent basin, the Gunnison Basin at -1.9.

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 following SWSI values were computed for each of the seven major basins for October 1, 2004, and reflect the conditions during the month of September.

<u>Basin</u>	<u>October 1, 2004 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	+1.6	+0.5	+0.4
Arkansas	-1.6	+0.6	- 0.8
Rio Grande	+1.3	+4.3	+0.5
Gunnison	-1.9	+1.4	+0.5
Colorado	-0.7	+2.3	- 1.7
Yampa/White	-1.1	+2.3	+0.2
San Juan/Dolores	+1.9	+4.8	- 0.4



SURFACE WATER SUPPLY INDEX FOR COLORADO



October 1, 2004

Basinwide Conditions Assessment

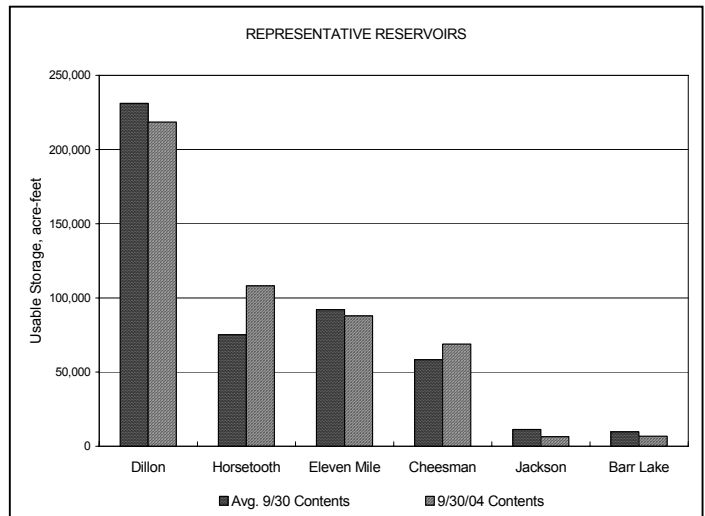
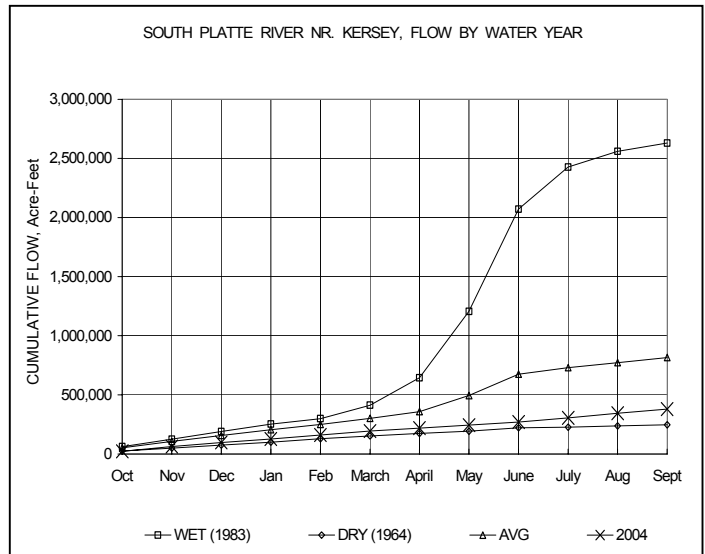
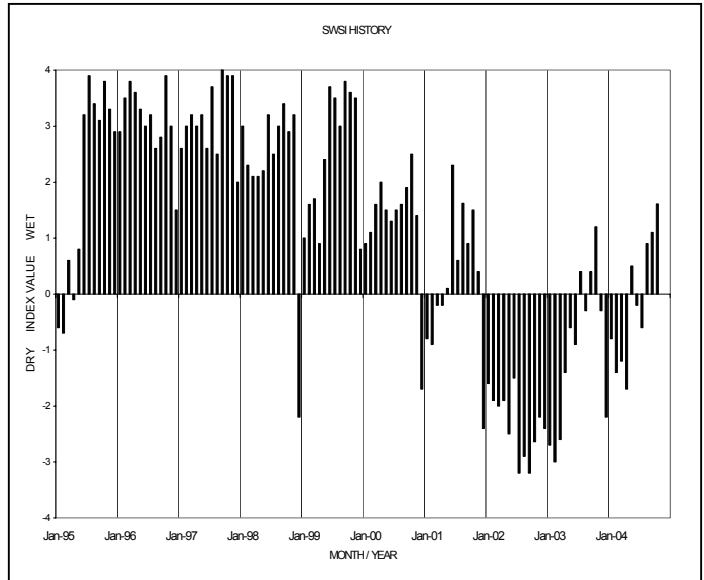
The SWSI value of +1.6 indicates that for September the basin water supplies were above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 104% of normal as of the end of September. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 12% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 76% of capacity. Flow at the gaging station South Platte River near Kersey was 589 cfs, as compared to the long-term average of 516 cfs. Flow at the Colorado/Nebraska state line averaged 46 cfs.

Outlook

September continued to be mild and wet like the rest of the summer of 2004. This has proved to be fortuitous for users on the mainstem who are dependent on junior surface rights and reservoir water since the wet conditions kept calls for direct water junior through September. Because calls were not extremely senior, users who depend primarily on their direct flow rights have had an adequate supply of water this year. By the end of September, storage rights in the lower part of the basin that had not been filled in the spring, began to fill. With many plains reservoirs near empty, storage in October will be helpful in providing a better start for next year's irrigation storage than has occurred the last couple of years.

Because of the cool conditions, crops such as corn are two or three weeks behind normal. This creates the concern over possible freezing conditions for some users in the first part of October.

Most municipalities remain in much better shape this year than the last couple of years due to the wetter than usual summer conditions, conservation efforts and leasing of additional supplies. Their storage and direct flow supplies continue to exceed those that were available the last two years.



Basinwide Conditions Assessment

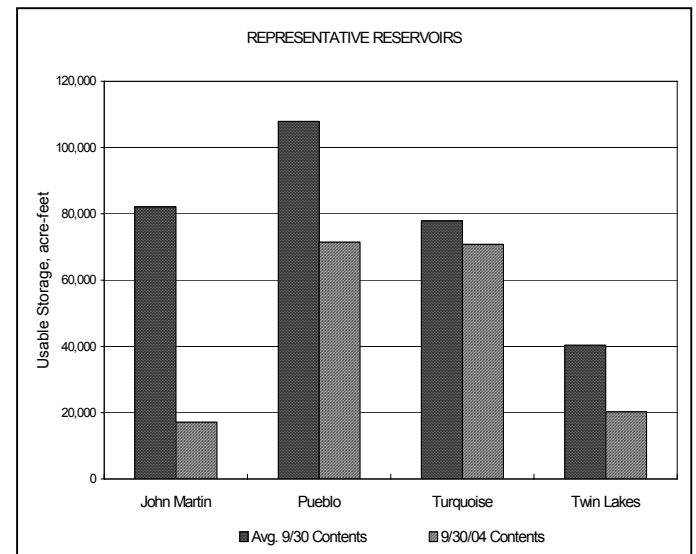
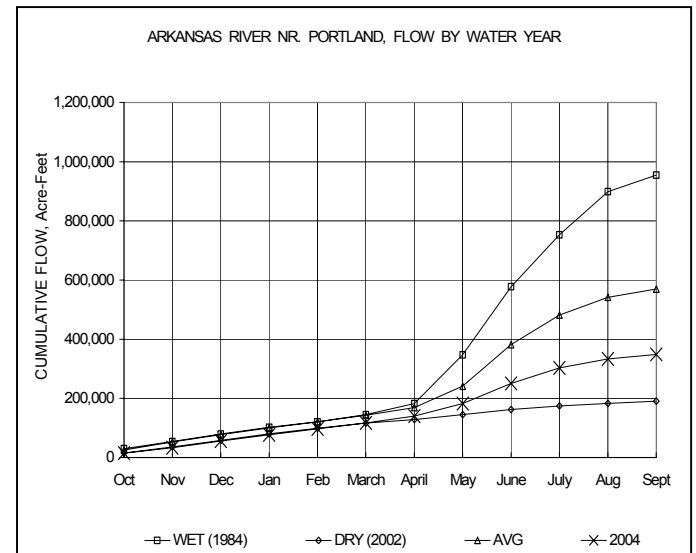
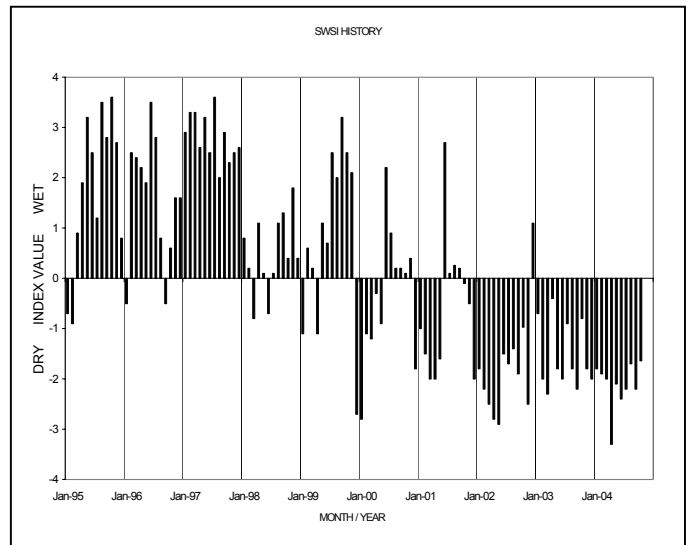
The SWSI value of -1.6 indicates that for September the basin water supplies were below normal. Flow at the gaging station Arkansas River near Portland was 261 cfs, as compared to the long-term average of 469 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 58% of normal as of the end of September.

Outlook

The river call for September was set on the more senior 1884 calls of Catlin Canal and Fort Lyon Canal as river flows diminished with the decline in larger rainfall events. Several periods occurred during September when exchanges into Pueblo Reservoir were curtailed under the Inter-Governmental Agreement between Pueblo, Colorado Springs, and Aurora to maintain flows through the City of Pueblo. Inflows into John Martin Reservoir dropped drastically from the first of September to the end of September severely limiting the surface water supplies to ditches below John Martin Reservoir.

Administrative/Management Concerns

Construction work on the Legacy Project through Pueblo on the Arkansas River began in late September and the Division 2 Office has been communicating gate change information with the Army Corps of Engineers to facilitate their construction planning without disruption of administration of the flows through Pueblo.



Basinwide Conditions Assessment

The SWSI value of +1.3 indicates that for September the basin water supplies were above normal. Flow at the gaging station Rio Grande near Del Norte averaged 540 cfs (106% of normal). The Conejos River near Mogote had a mean flow of 173 cfs (135% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 50% of normal as of the end of September.

Significant rainfall dropped on the San Luis Valley and higher elevations during the Labor Day weekend and again on the 19th. The second event was very beneficial as it increased stream flow throughout the upper Rio Grande basin substantially. When compared to long-term averages, stream flow during September, 2004 was the first good summer or fall month since 2001.

Outlook

Precipitation in the basin has been below or near normal all year. But the rain events during September provided a huge jump-start for 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, a marked improvement over the last three years.

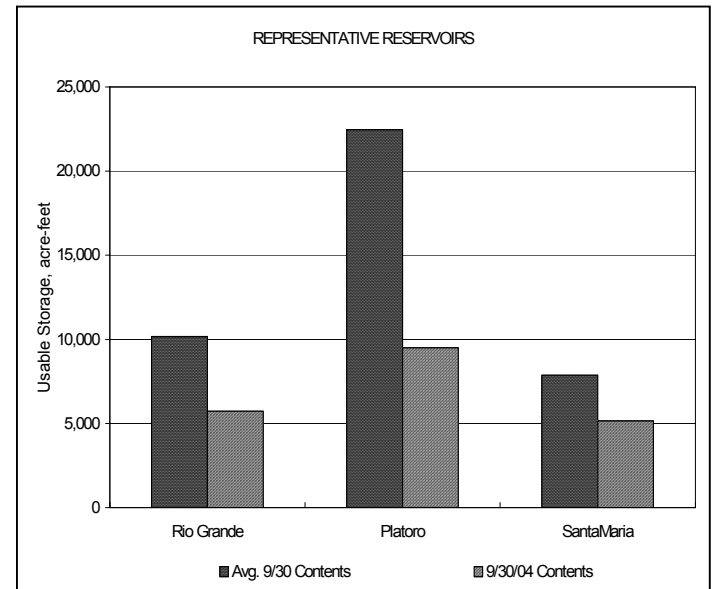
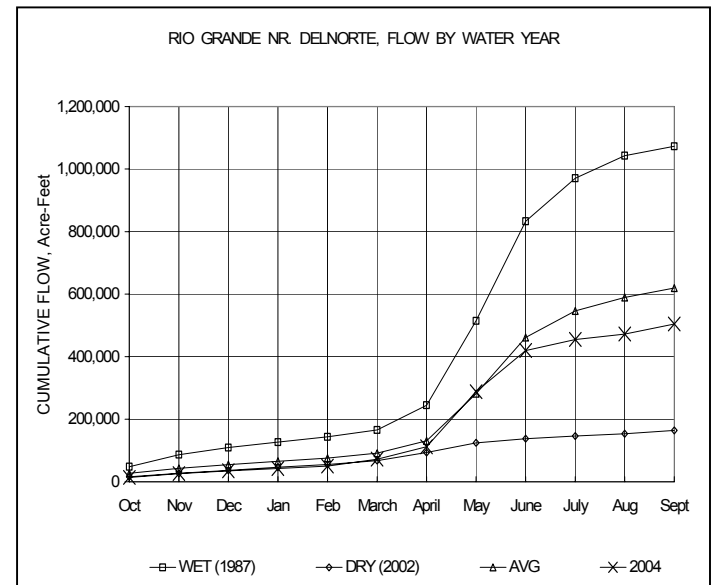
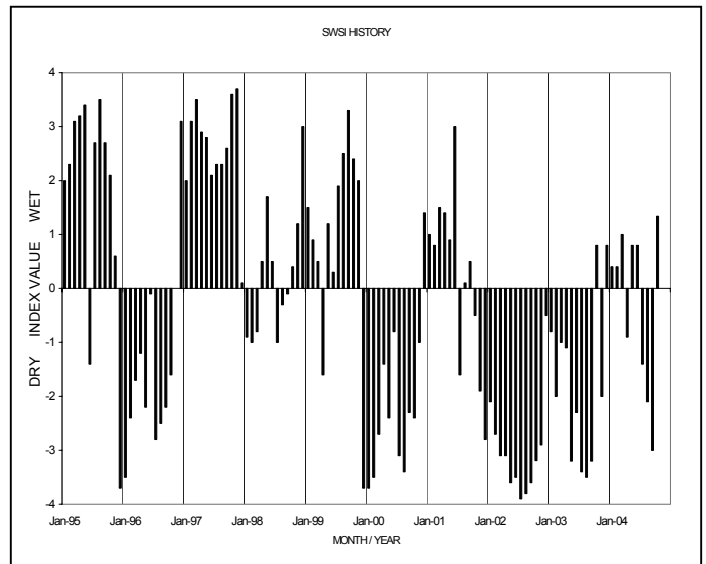
Administrative/Management Concerns

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 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 to 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 good yields.



Basinwide Conditions Assessment

The SWSI value of -1.9 indicates that for September the basin water supplies were below normal. Flow at the gaging station Uncompahgre River near Ridgway was 129 cfs, as compared to the long-term average of 108 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 84% of normal as of the end of September.

Outlook

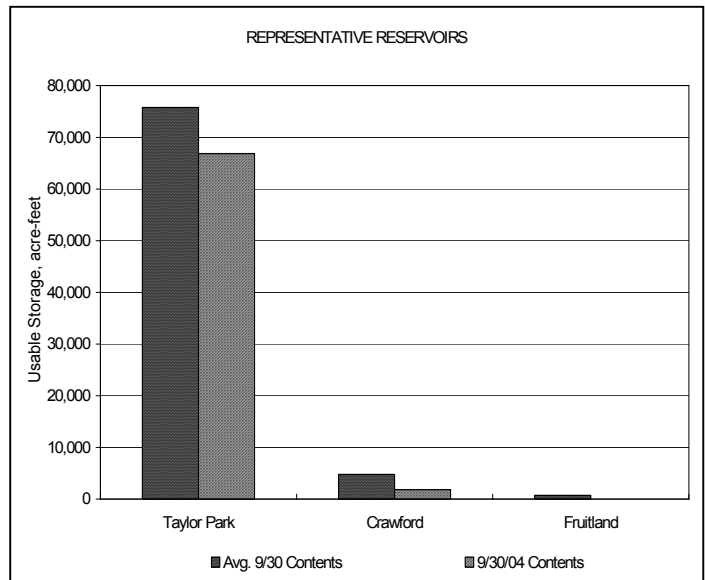
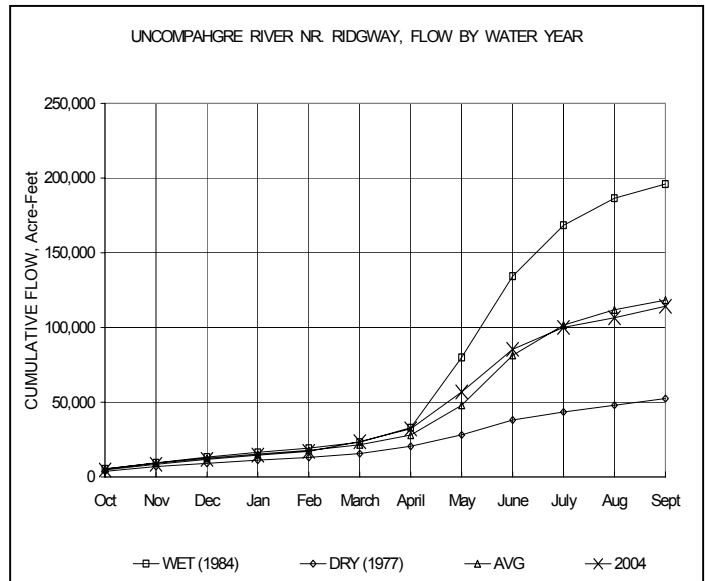
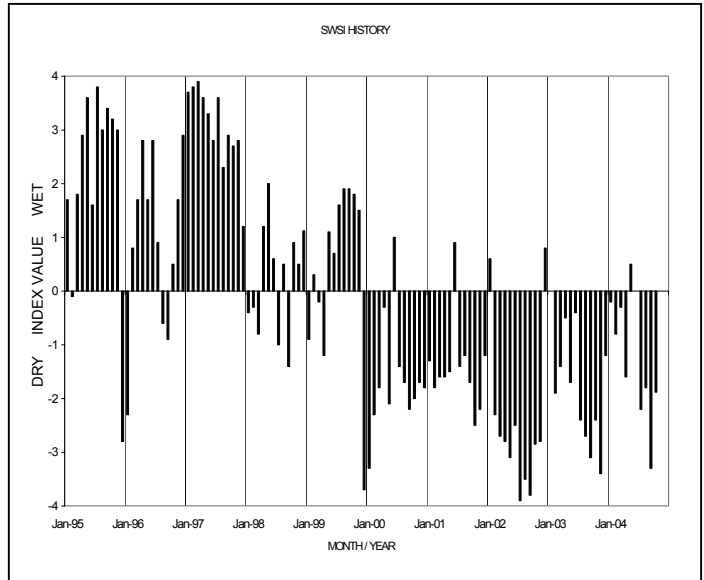
After the second driest summer on record in the Grand Junction area, the September rains provided 2 to 3 times the normal precipitation for the month. The storms usually lasted several days and the moisture was able to soak in thoroughly. This certainly helped recharge the soil-moisture conditions and provided a good start to the winter season. Hopefully, the moisture will continue and keep building the snowpack.

Administrative/Management Concerns

The flows of the rivers are still low, although they were boosted by the rains. The flows could be lower than normal throughout the winter. Redlands Canal will be shutting off in October to install a fish screen. They will remain off the entire winter, hoping to turn back on in the spring when the water rises. The fish screen is part of an ongoing attempt to protect the endangered fish in the Gunnison River. Most irrigation diversions shut off in late September and early October. The Water Commissioners will now begin to collect and process their summer flow observations to publish the annual Diversion records.

Public Use Impacts

Overall, the irrigation season went fairly well, despite the below average supply. Most irrigators had a sufficient supply, especially if their source was supplemented by reservoir water.



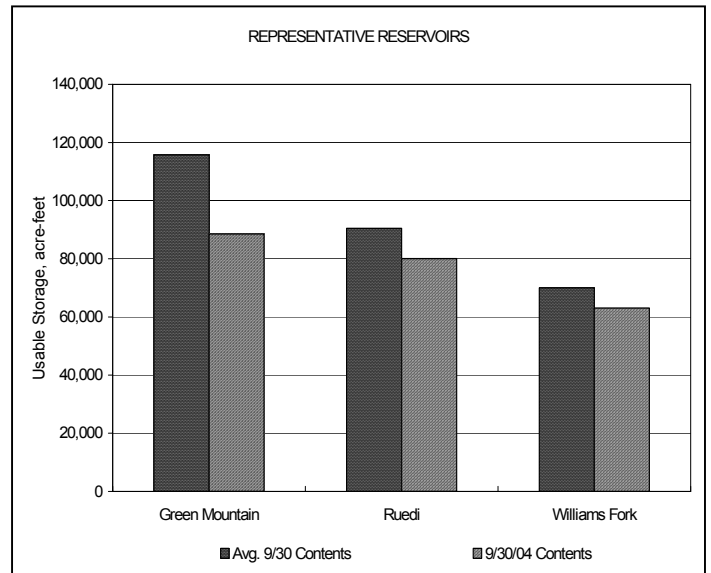
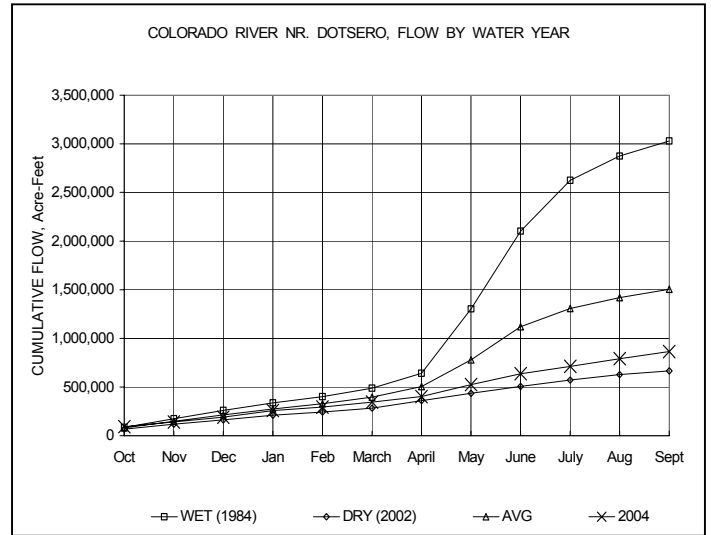
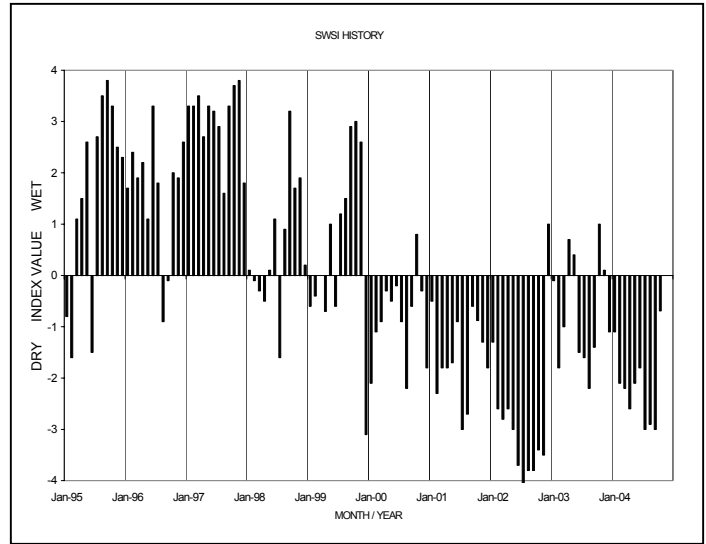
Basinwide Conditions Assessment

The SWSI value of -0.7 indicates that for September the basin water supplies were below normal. Flow at the gaging station Colorado River near Dotsero was 1216 cfs, as compared to the long-term average of 1415 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 84% of normal as of the end of September.

September rains have brought ground moisture levels up throughout the basin heading into the winter and these levels appear to be better than the last several autumns. Major reservoir storage is at about 75-95% of last year's amounts on this date, but it is much better than in 2002. Granby Reservoir is at the low end of these percentages and Ruedi Reservoir is at the high end. Most stream base flows in the basin appear to be returning to near-average conditions heading into the winter, boosted by the recent precipitation.

Outlook

Snowmaking diversions will start up in mid-October at several ski areas in the basin.



Basinwide Conditions Assessment

The SWSI value of -1.1 indicates that for September the basin water supplies were below normal. Flow at the gaging station Yampa River at Steamboat was 122 cfs, as compared to the long-term average of 121 cfs.

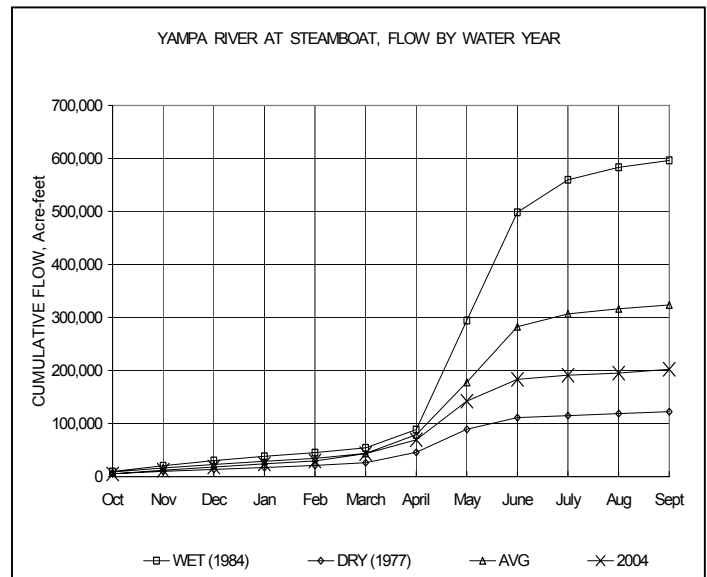
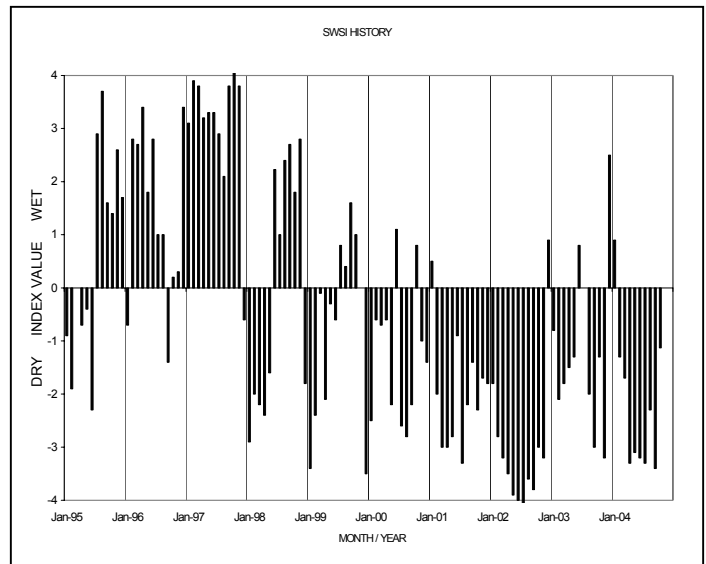
Precipitation in the first half of September was below average with river flows continuing to be below mean values. Starting mid-month, the weather pattern changed, with wide spread precipitation over the entire basin for the second half of the month. For the month, basin-wide precipitation averaged 195 % of normal, with many NRCS snotel sites recording over 250 % of average precipitation. As a result of the increase in moisture, stream flows throughout the basin rose to levels well above the mean values. Flows remained above the historical means through the end of the month.

Outlook

River flows are expected to drop to normal levels as the fall progresses.

Administrative/Management Concerns

Some tributaries continue to be administered for late season irrigation calls. These calls should end by the latter part of October.



Basinwide Conditions Assessment

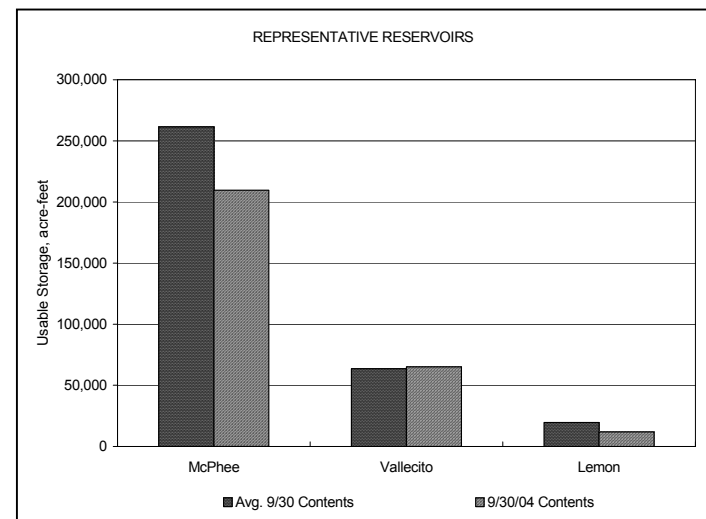
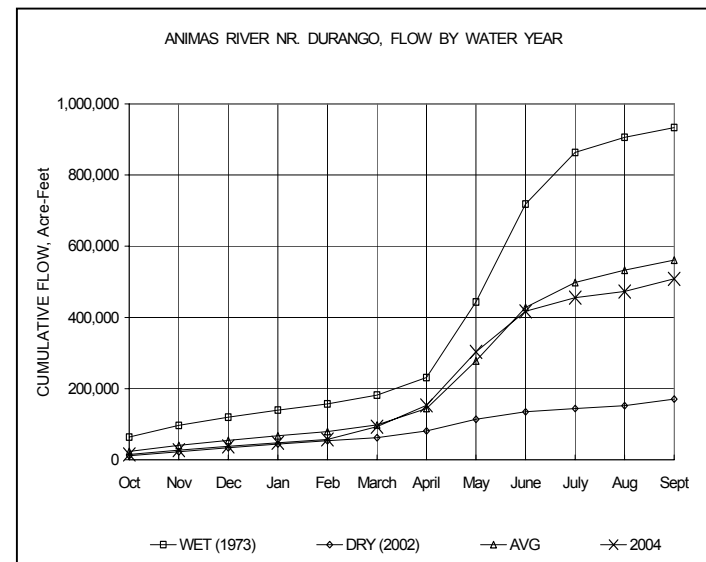
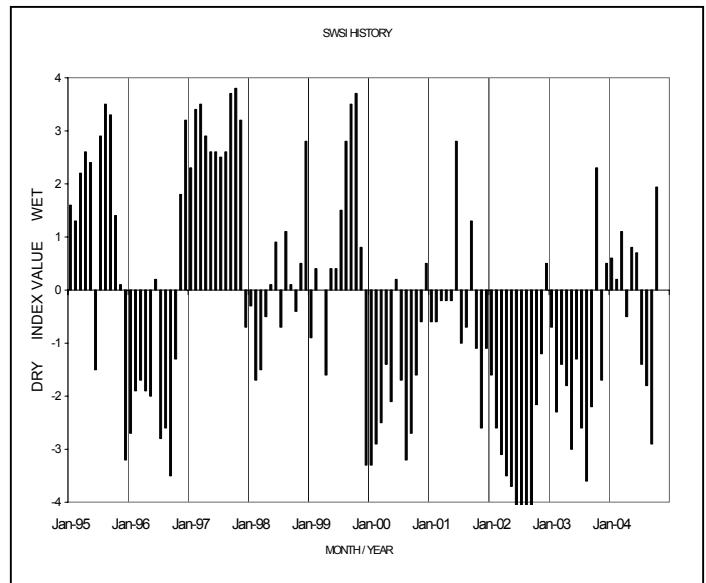
The SWSI value of +1.9 indicates that for September the basin water supplies were above normal. Flow at the gaging station Animas River near Durango was 595 cfs, as compared to the long-term average of 477 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 83% of normal as of the end of September.

The last month of the water year brought a welcome relief from the drought conditions of April-August of 2004. The yield of the snowpack in many areas was around 65% of normal after an 80% original estimate. The additional precipitation in September brought 4.5 inches of rain to the Durango area- over 200% of normal. This occurred in three events around September 4, September 19, and September 29. A significant coverage of snow occurred in the mountains around the San Juan/ Dolores River Basins.

The annual precipitation accumulation amounted to over 23 inches or 119% of normal in Durango. Stream flows rose significantly during the rainstorms of September 18-20 and most reached peak flows exceeding the earlier snow melt highs. The Animas River at Durango ran over 3400 cfs and averaged 2950 cfs on September 20. The following days led to a general freeze on September 22. Temperatures were generally close to normal although the lows were 3°F higher on the average at 44.4°.

Public Use Impacts

Rafting and kayaking activities resumed for a short time on the white water flows. The wet weather disrupted some of the hay harvest for the late season. However, with the excellent soil moisture and the snow in the mountains prospects were hopeful that a good end of season would lead to above average conditions for water in the coming water year. Significant reservoir carry over will help to keep supplies adequate in the next year.



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