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
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October 2010

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 of May through October (June 1 through November 1). 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 (October 1) range from a high value of +2.3 in the South Platte Basin to a low value of -2.3 in the Gunnison Basin. One of the basins (Rio Grande) experienced a gain from the previous month's value, while six of the basins (South Platte, Arkansas, Gunnison, Colorado, Yampa/White and San Juan/Dolores) experienced a loss from the previous month's value.

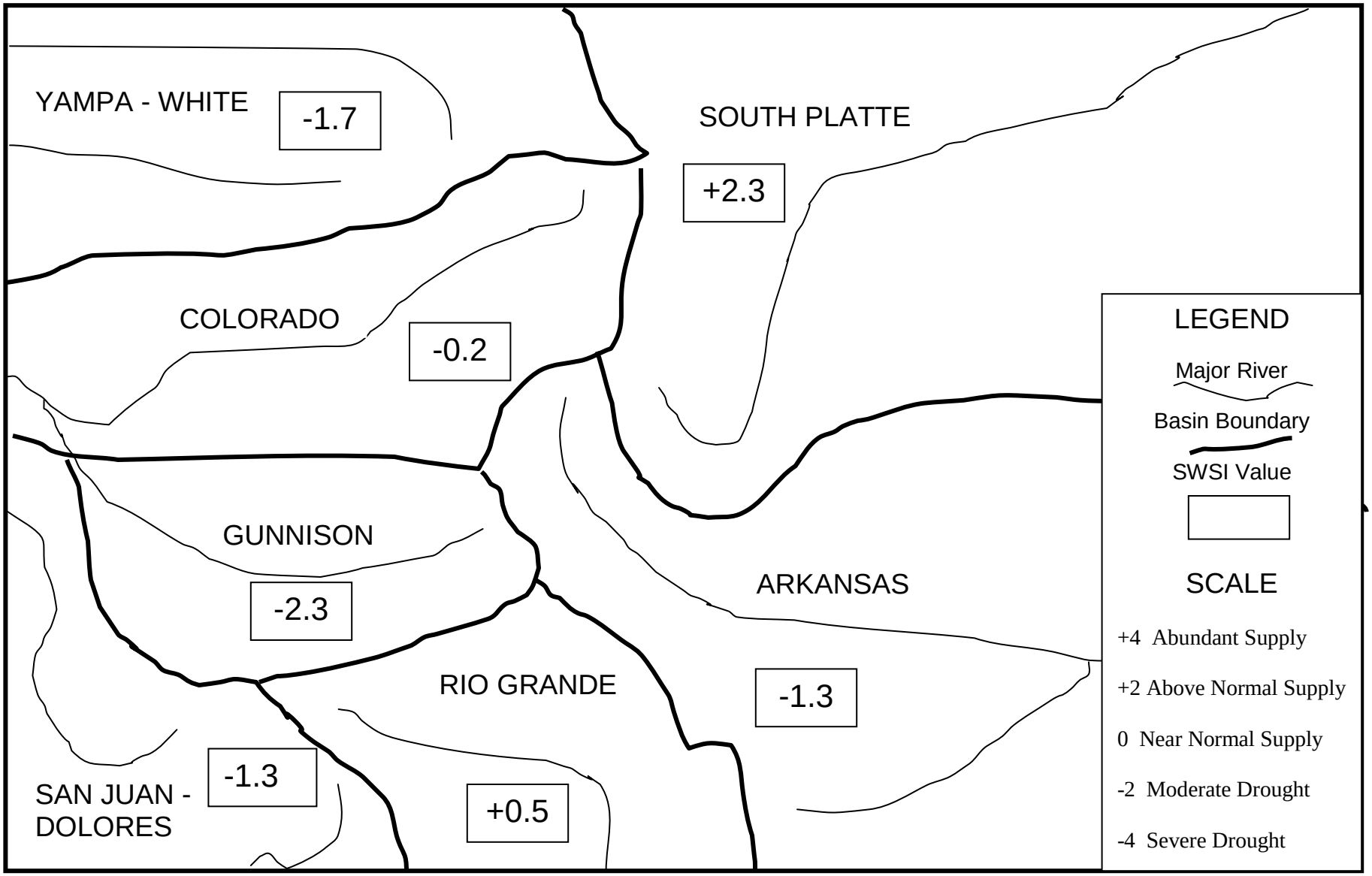
The following SWSI values were computed for each of the seven major basins for October 1, 2010, and reflect the conditions during the month of September.

Basin	October 1, 2010 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+2.3	- 0.7	- 0.9
Arkansas	- 1.3	- 1.5	- 0.6
Rio Grande	+0.5	+1.2	+1.9
Gunnison	- 2.3	- 1.0	- 0.5
Colorado	- 0.2	- 0.8	- 1.4
Yampa/White	- 1.7	- 2.1	+0.4
San Juan/Dolores	- 1.3	- 2.4	+1.2

Scale

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

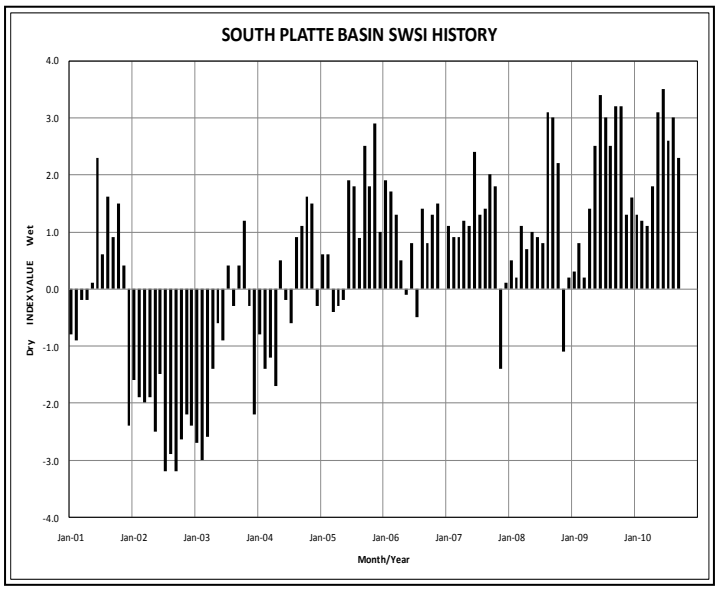
SURFACE WATER SUPPLY INDEX FOR COLORADO



October 1, 2010

Basinwide Conditions Assessment

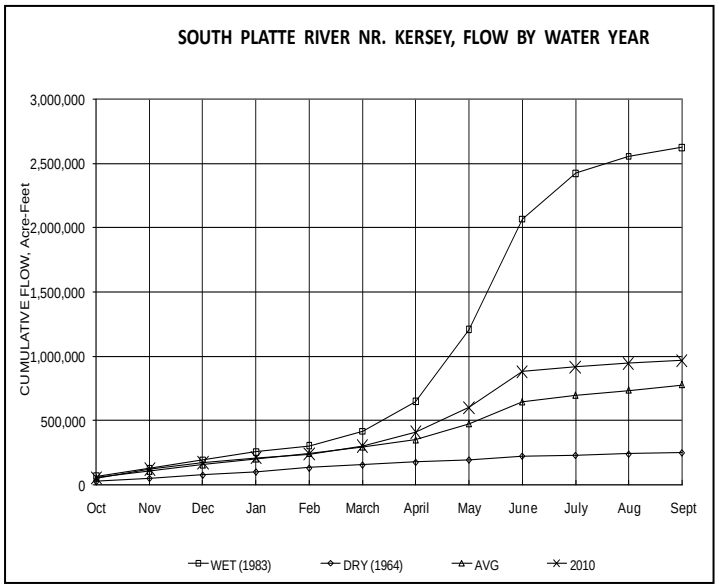
The SWSI value for the month was +2.3. Reservoir storage in Dillon, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin in computing the SWSI value, was 110% of normal as of the end of September. Cumulative storage in the major plains reservoirs (Julesburg, North Sterling, and Prewitt) is at 36% of capacity. Cumulative storage in the major upper-basin reservoirs (Cheesman, Eleven Mile, Spinney, and Antero) is at 96% of capacity. Flow at the gaging station South Platte River near Kersey was 357 cfs, as compared to the long-term average of 515 cfs. Flow at the Colorado/Nebraska state line averaged 170 cfs.

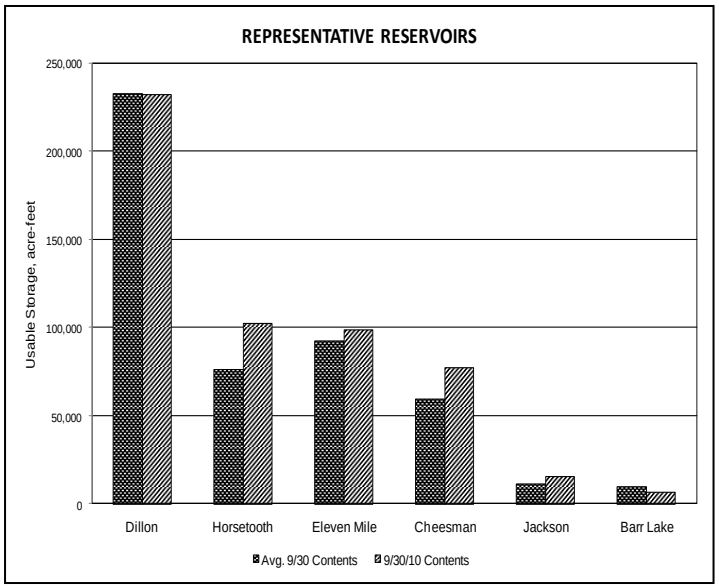


Outlook

The hot and dry conditions of the last two-thirds of August continued throughout September. September ranked in the top 10 hottest and driest Septembers on record throughout northeast Colorado with two major wild fires in the foothills in early to mid-September (the 4 Mile Canyon and Reservoir Road fires). Stream flows were well below normal for the entire month (the Cache la Poudre River at the canyon mouth approached the all time record low on September 27). As could be expected from the low flows, calls for water were more senior than normal for the entire month.

September reservoir water usage was significant and storage in most of the major reservoirs by the end of the month was below last year's levels. However, on the whole storage was above the long term average for the end of September, which should provide a good start for Irrigation Year 2011.





Basinwide Conditions Assessment

The SWSI value for the month was -1.3. Flow at the gaging station Arkansas River near Portland was 233 cfs, as compared to the long-term average of 445 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 110% of normal as of the end of September.

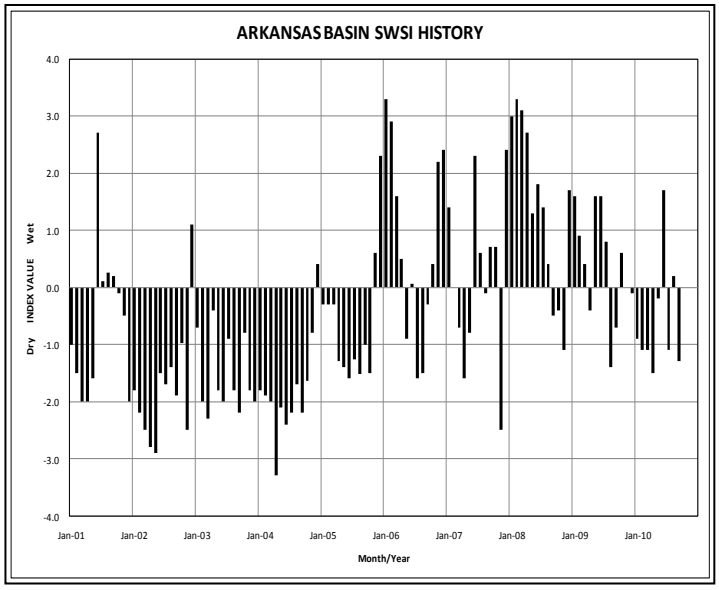
Outlook

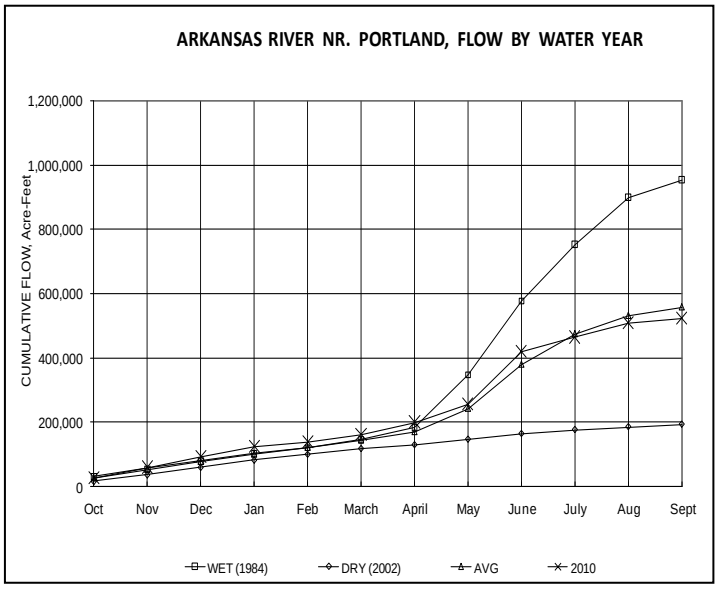
The Arkansas River call began the month set at a split call (Catlin 12/3/1884 above John Martin Reservoir and Lamar 11/4/1886 below John Martin Reservoir and ended at the Catlin 12/3/1884 call. Calls on Fountain Creek were particularly senior during the month of September due to lack of precipitation events.

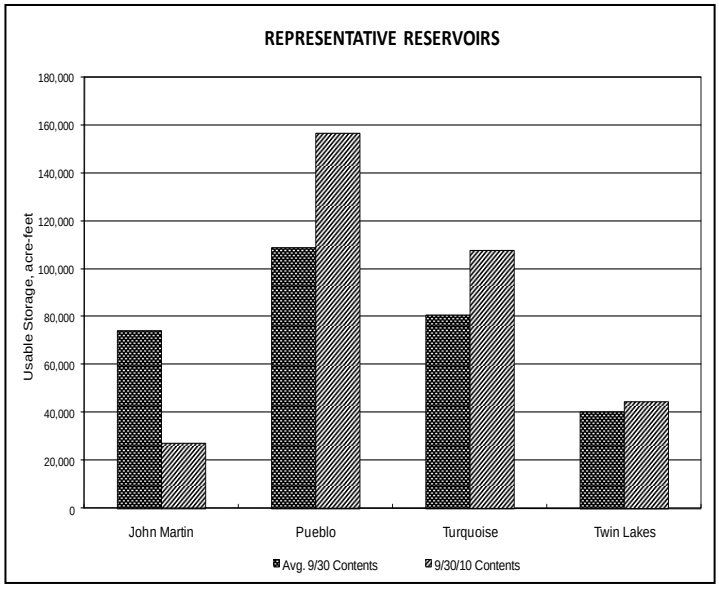
Administrative/Management Concerns

One year after the State Engineer filed Compact Rules Governing Improvements to Surface Water Irrigation Systems in the Arkansas River Basin in Colorado in September 2009 stipulations have been agreed to with all but two of the 21 objectors in the case. A trial date on the new rules may be unnecessary if all objectors have agreed to stipulations and the new rules will likely take effect in January of 2011 once the Water Court judge approves the rules agreed to in the stipulations.

Lower Arkansas Valley Water Conservancy District has taken a proactive role in developing a compliance plan available to most of the farmers who will be impacted by the new rules and this effort has been facilitated by a grant from the Colorado Water Conservation Board.







Basinwide Conditions Assessment

The SWSI value for the month was +0.5. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 95% of normal as of the end of September.

Flow at the gaging station Rio Grande near Del Norte averaged 414 cfs (80% of normal). The Conejos River near Mogote had a mean flow of 206 cfs (161% of normal). Streamflow in the upper Rio Grande basin was generally below average during September as rainfall on the mountains and plains was scarce after rainstorms early in the month. The Conejos River had near-average flow due only to storage releases from Platoro Reservoir for irrigation demand. Runoff throughout the basin has been poor since June 1, but strangely, some medium-sized drainages such as LaJara Creek near Capulin, Goose Creek near Creede, and Rito Alto Creek near Crestone had average runoff during August. The reason for this must be due to localized snowpack and rainfall.

The temperatures during September were a hot topic in the San Luis Valley. The month was very warm and dry. New record high temperatures were posted in Alamosa for September 17th through 21st and 27th through the 30th. Daily highs stayed in the 80's throughout most of the month. There have now been six consecutive months of well above normal temperatures in the San Luis Valley.

Outlook

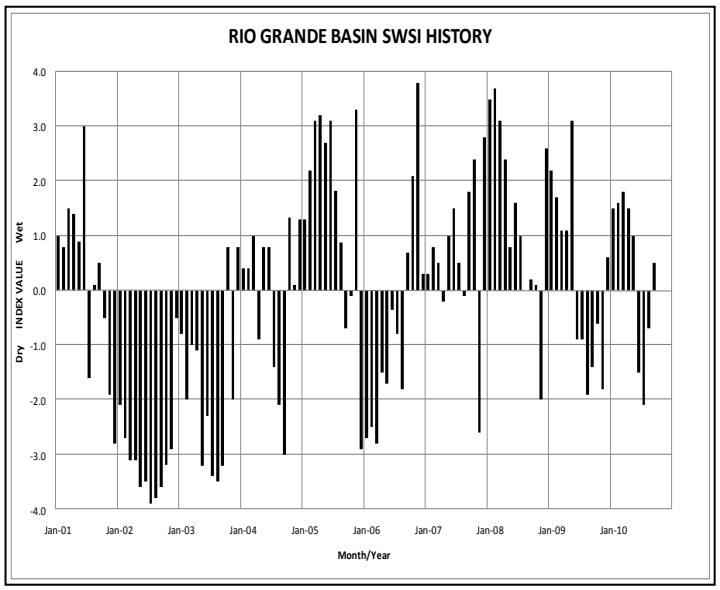
September in the upper Rio Grande drainage had warmer and drier conditions when compared to long-term records. Year to date precipitation is below normal for the San Luis Valley. NOAA weather forecasts for the next month and beyond call for below precipitation and warmer than normal temperatures.

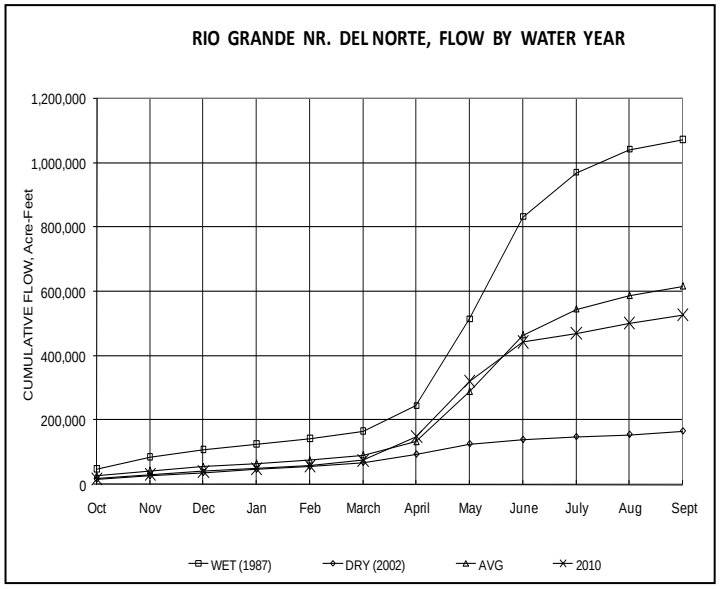
Administrative/Management Concerns

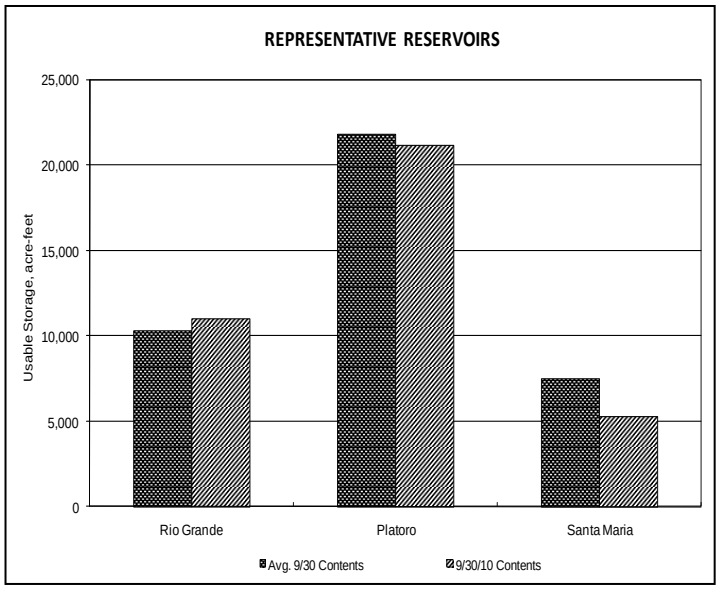
The quick drop-off from an early runoff and lack of rainfall has resulted in heavy use of the Valley's aquifers for irrigation. The slow recovery of the aquifers from the drought of 2002 through 2004 will take a step backward this year.

Public Use Impacts

The streamflow and weather conditions this irrigation season have had a bad influence on ranch and cropland dependent on rainfall or surface water rights. Those irrigators with wells or reservoir storage will have a decent year, but those without will suffer greatly.



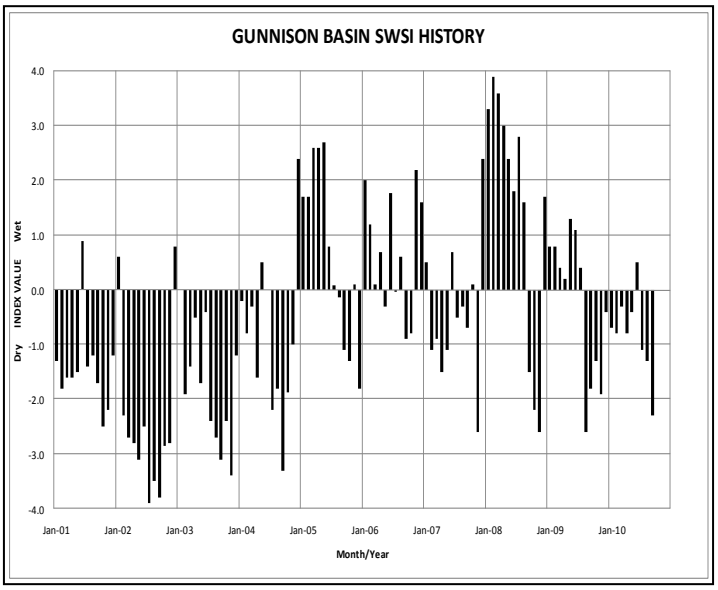




Basinwide Conditions Assessment

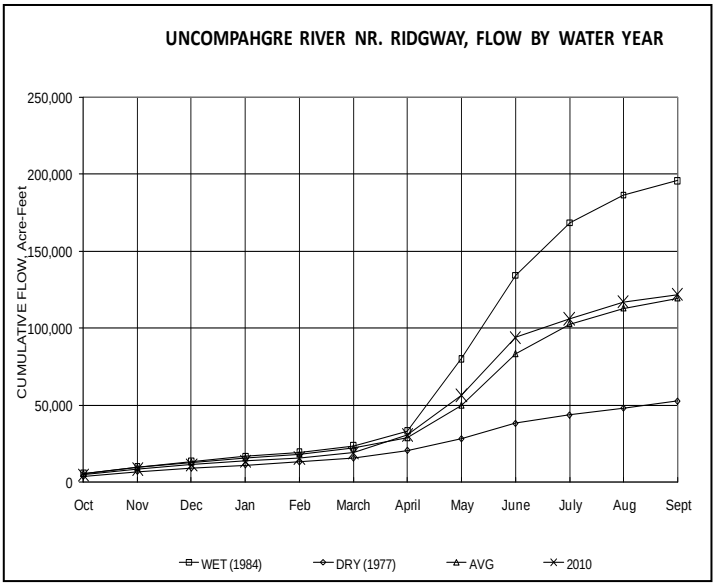
The SWSI value for the month was -2.3. Flow at the gaging station Uncompahgre River near Ridgway was 78.4 cfs, as compared to the long-term average of 109 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 97% of normal as of the end of September.

September continued the roller coaster weather year in the Gunnison and San Miguel basins. In fact, precipitation in the basins (as reported by the Colorado Basin River Forecast Center) went from above average in August to well below average in September, at between 50 to 69 percent of average. That coupled with temperatures between 3 and 5 degrees above average kept water use up and streamflows down during most of the month. Most upper basin streams ended the month at values below or near the 20th percentile, which has kept many upper basin calls on the stream and even added some calls in areas such as the East River drainage. Basin wide reservoir storage, although lower than last year due to heavy use in September, remains near average at 94 percent.



Outlook

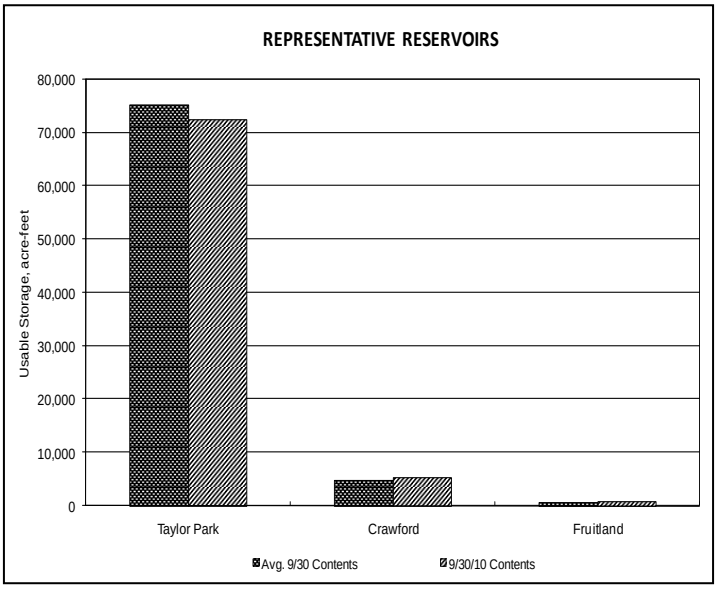
The National Weather Service climate forecasts have not changed since last month and continue to include above average temperatures and below average precipitation for the Gunnison and San Miguel basins during the 30 and 90 day outlook periods. Their prediction includes a higher probability of below average precipitation during the 30 day period as the Gunnison basin is clearly within the below average area for the 30 day period, but appears to be on the fringe of the below average area during the 90 day outlook. The previous 30 day forecast was relatively accurate and if that trend continues we may be in for a warm and dry beginning to 2011 water year.



Administrative/Management Concerns

Most reservoirs; with the exception of Fruitgrowers and Paonia (33 and 8 percent of normal respectively) in the North Fork of the Gunnison, are near average storage levels for this time of year. Consequently, barring a below average snowpack, most areas in the basins should have adequate storage in 2011.

As previously stated, calls remain on many upper basin streams, but that should change during the next month as most irrigators shut down for the season.



Public Use Impacts

Most irrigators had sufficient supply this season and welcomed the monsoon rains in August that prevented a continued decline in natural streamflow. Spotty precipitation during the first week in October increased the soil moisture in some areas, but in others it remains drier than normal. Additional fall precipitation would prevent us from going into the snowpack season with a soil moisture deficit and help increase runoff into streams and reservoirs in the spring of 2011.

Basinwide Conditions Assessment

The SWSI value for the month was -0.2. Flow at the gaging station Colorado River near Dotsero was 1389 cfs, as compared to the long-term average of 1430 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 99% of normal as of the end of September.

Outlook

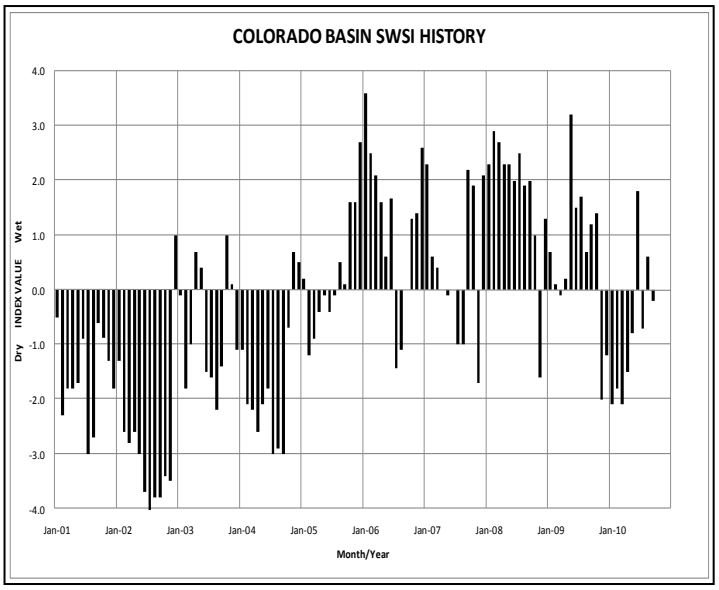
Colorado River flows should remain near average through the month of October, despite the significantly below average flows currently in the Roaring Fork River. Blue River and Crystal River flows should also remain average or slightly below. Fryingpan River flows below Ruedi Reservoir have fallen from well above, to well below average with stepped down reservoir releases which began September 10th.

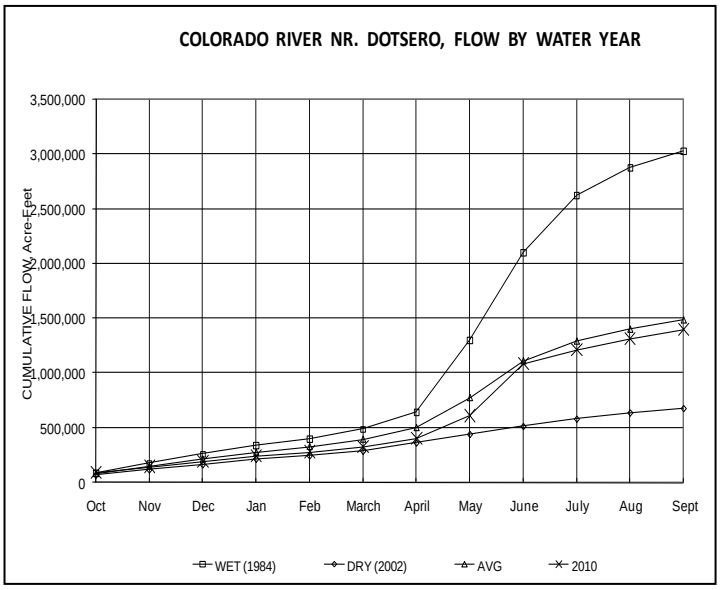
Administrative/Management Concerns

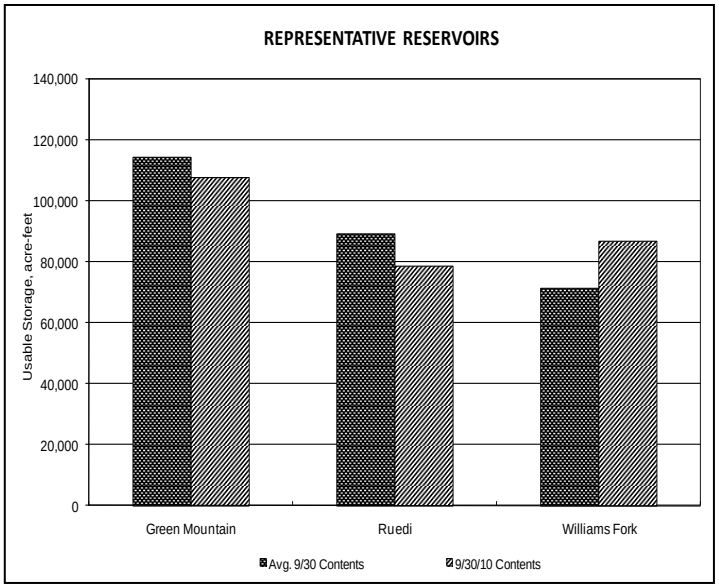
Nearing the end of the irrigation season, the average to below average flows seen in the Colorado Basin have resulted in few calls. A single call was administered for the Grand Valley Irrigation Canal between September 3rd and 10th. A call involving a 4th generation family owned historic irrigation right was placed on Cataract Creek beginning August 16th for the first time ever. This particular tributary to Green Mountain Reservoir has historically produced enough water for 30 cfs of irrigation rights. Its current discharge allows only 1 cfs. The Orchard Mesa Irrigation District and the Grand Valley Water Users Association will likely turn off October 28th and November 5th respectively. Shoshone Power Plant will remove both turbines from service mid-October through mid-December for spillway work and maintenance.

Public Use Impacts

Rafting and kayaking activity has remain below average since August. Angling on the lower Fryingpan River has improved significantly with stepped down Ruedi Reservoir release rates in October.







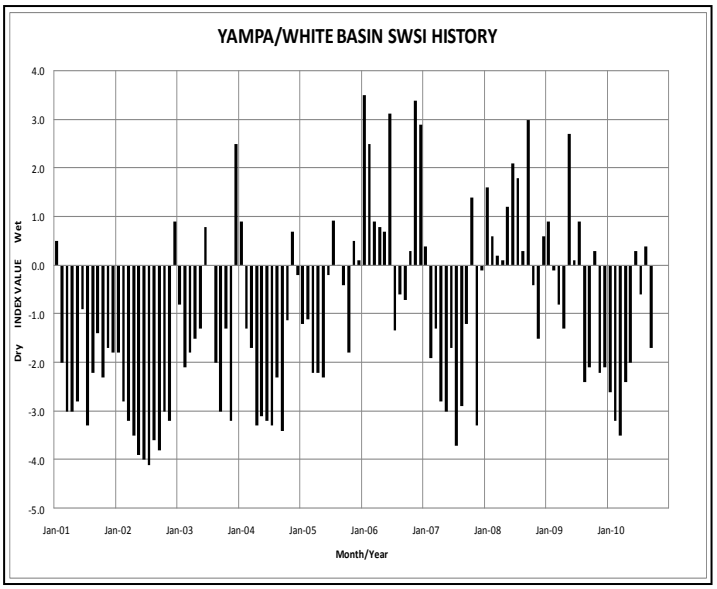
Basinwide Conditions Assessment

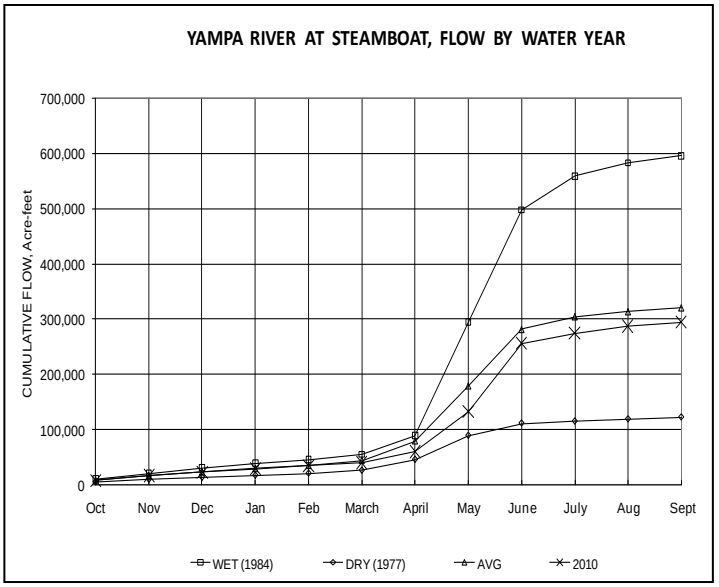
The SWSI value for the month was -1.7. Flow at the gaging station Yampa River at Steamboat was 124 cfs, as compared to the long-term average of 119 cfs.

September precipitation was well below average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by NRCS, was reported at approximately 38% of average for the Yampa/White River basin and 75% of average for the North Platte River basin. Precipitation for the combined Yampa, White, and North Platte River basins was 94% of average for the water year to-date. The precipitation value for the Willow Creek Pass Snotel site located in the North Platte River basin is speculative in reporting a precipitation of 8.7 inches when all other stations were reporting around 0.6 inches. If this value is removed from the averages, precipitation for the month would be approximately 27% for the North Platte River basin.

Daily average temperatures were near or slightly above average for the month of September. Daily temperatures varied significantly with 40 degree plus swings in temperature.

As one would expect with the minimal precipitation, streamflows were well below average. By way of example, the average daily streamflow for the month of September on the Elk River near Milner was 61 cfs while the historic daily average was 113 cfs; the average daily streamflow for the Yampa River at Maybell was 147 cfs while the historic daily average was 243 cfs; the daily average streamflow for the White River below Boise Creek was 228 cfs while the historic daily average was 422 cfs; and the daily average streamflow for the North Platte near Northgate was 81 cfs while the historic daily average was 145 cfs.





Outlook

At the end of September, Fish Creek Reservoir was storing 3,034 AF. The capacity of Fish Creek Reservoir is 4,167 AF. Yamcolo Reservoir released a significant amount of water during the irrigation season, most of which occurred in the month of July. At the end of September, 4,759 AF remained in storage. The capacity of Yamcolo Reservoir is 9,580 AF. At the end of September, Elkhead Creek Reservoir was storing 20,631 AF or 6.1 feet below spill. The capacity of Elkhead Creek Reservoir is 24,778 AF. Stagecoach Reservoir released a significant amount of water in August in preparation for construction of an enlargement of the spillway. The reservoir was dropped to 15 feet below spill before construction began. The capacity of Stagecoach Reservoir is 33,275 AF. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, Elkhead Creek Reservoir for municipal, industrial, recreational and fish recovery purposes and Stagecoach Reservoir is primarily used for recreation though a significant amount of water stored is allocated for municipal, industrial, irrigation and augmentation uses.

Administrative/Management Concerns

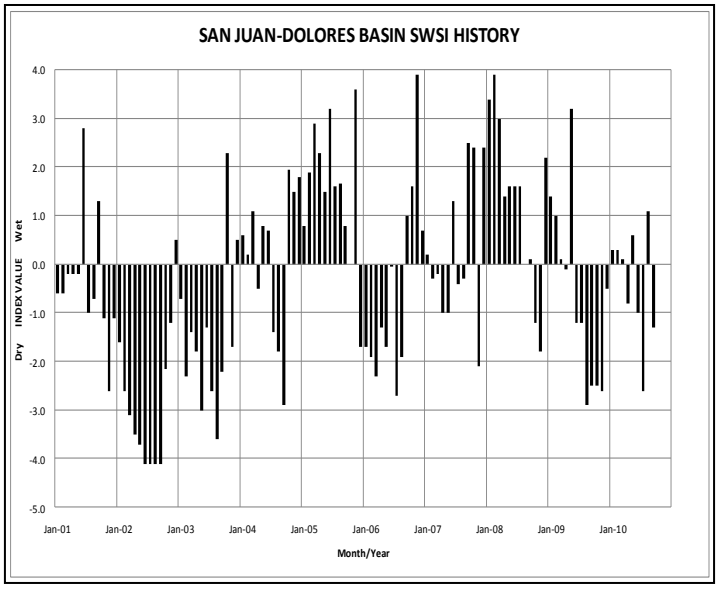
The usual administration has occurred this summer throughout all of Division 6 with the exception of Piceance Creek, which to date has not gone on call. Through the month of September there were no streams under administration in the North Platte River or White River basins; however, there were several streams under administration in the Yampa River (and Green River) basin(s).

Public Use Impacts

As mentioned above, Stagecoach Reservoir is currently under construction to enlarge the reservoir by adding 4-feet to the existing spillway.

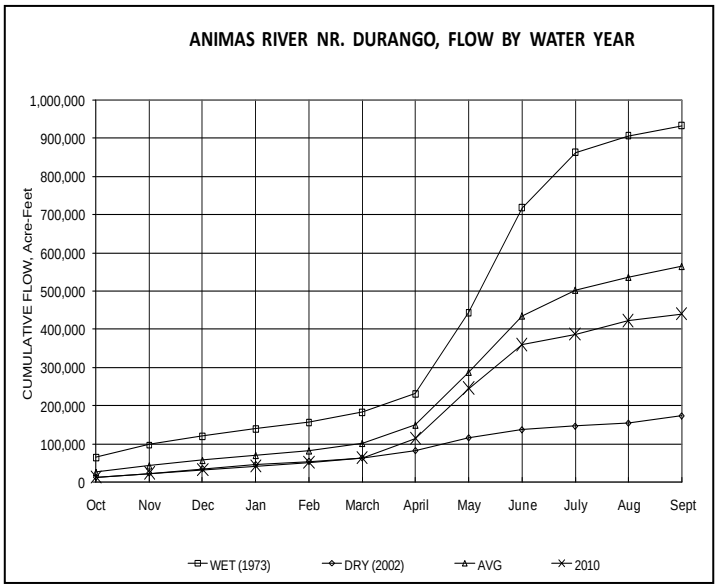
Basinwide Conditions Assessment

The SWSI value for the month was +1.1. Flows at the Animas River at Durango averaged 288 cfs (63% of average). The flow at the Dolores River at Dolores averaged 136 cfs (76% of average). The La Plata River at Hesperus averaged 8.9 cfs (44% of average). Precipitation in Durango was 1.36 inches for the month, 58.6% of the 30-year average of 2.32 inches. Precipitation to date in Durango, for the water year, is 21.69 inches, 111% of the 30-year average of 19.53 inches. The average high and low temperatures for the month of September in Durango were 78° and 46°. In comparison, the 30-year average high and low for the month is 76° and 44°. At the end of the month Vallecito Reservoir contained 59,700 acre-feet compared to its average content of 57,425 acre-feet (104% of average). McPhee Reservoir was up to 283,029 acre-feet compared to its average content of 263,604 (107% of average), while Lemon Reservoir was up to 12,400 acre-feet as compared to its average content of 19,288 acre-feet (64% of average).



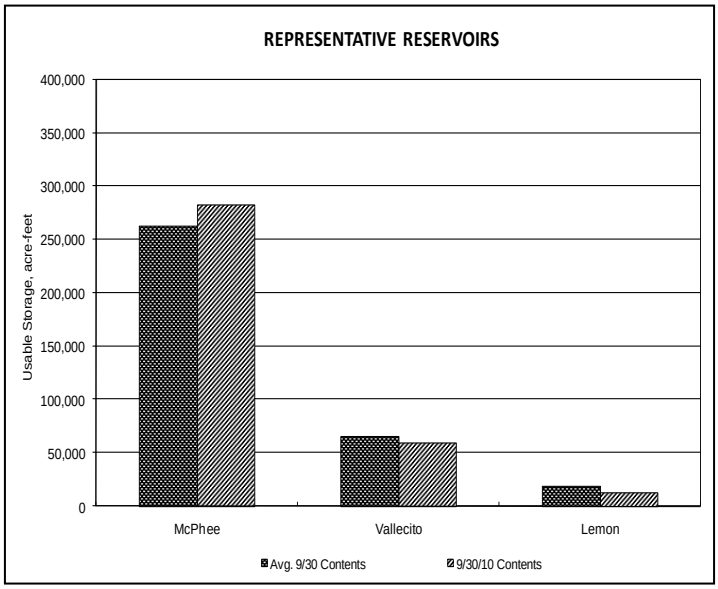
Outlook

Reservoirs have been heavily relied upon for irrigation supplies all summer long this year. All rivers within the basin are flowing below average. We hope we will have an above average snowpack season to replace the water that was used in the reservoirs this summer.



Administrative/Management Concerns

The La Plata River compact between Colorado and New Mexico remained on call for the entire month. The compact requires that half the flow at the upper index gages (Hesperus and above) must be delivered across the Stateline the following day.



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