COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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August 2006

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 August 1, 2006, and reflect the conditions during the month of July.

The statewide SWSI values for July range from a high of 1.4 in the South Platte Basin to a low of -1.9 in the San Juan/Dolores Basin. All of the basins except the Rio Grande Basin experienced a gain from the previous month values, with the greatest gain being in the South Platte Basin.

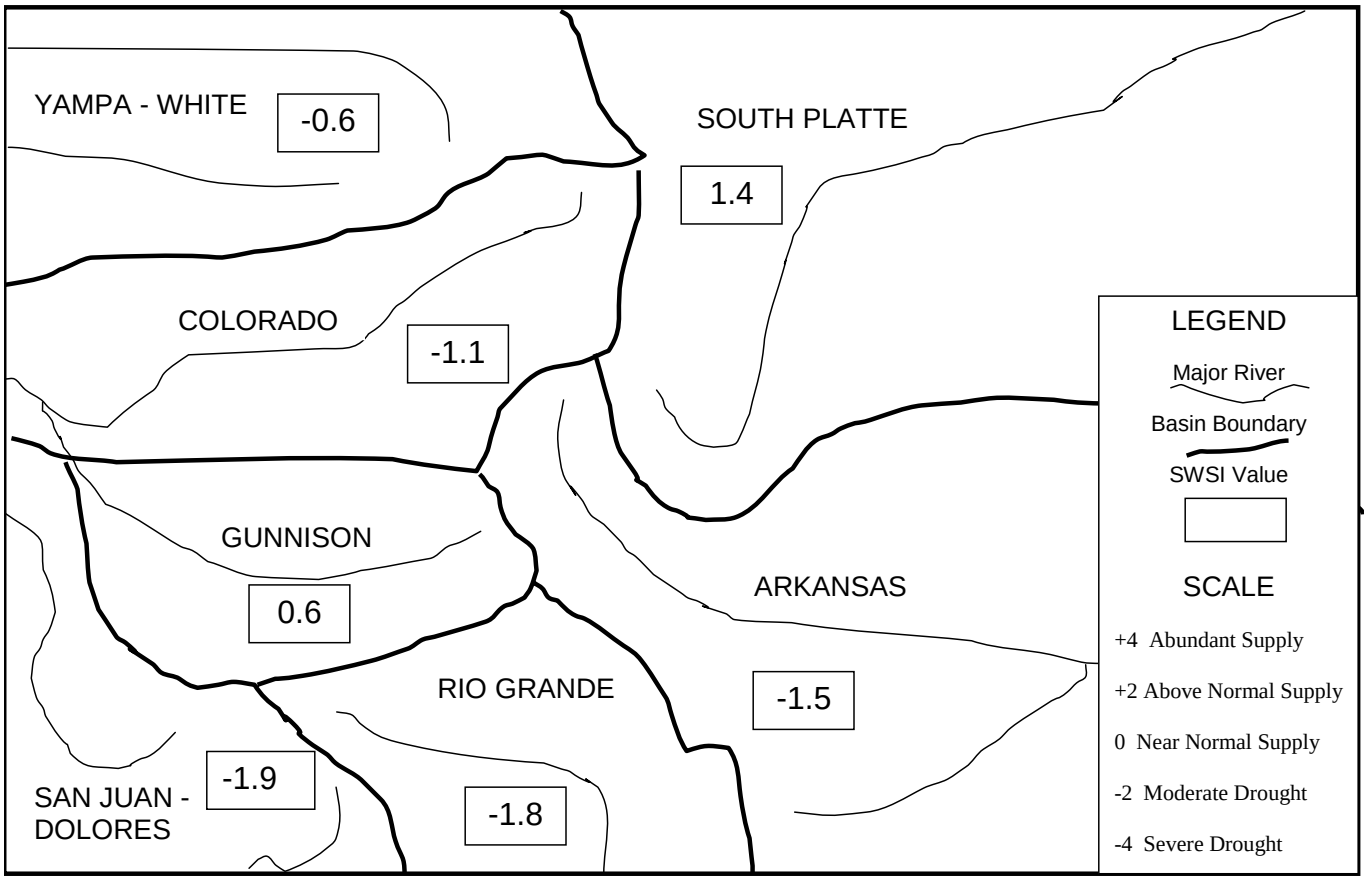
The following SWSI values were computed for each of the seven major basins for August 1, 2006, and reflect the conditions during the month of July.

Basin	July 1, 2006 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	1.4	1.9	0.5
Arkansas	-1.5	0.1	0.0
Rio Grande	-1.8	-1.0	-2.7
Gunnison	0.6	0.6	0.5
Colorado	-1.1	0.3	-1.6
Yampa/White	-0.6	0.7	-0.6
San Juan/Dolores	-1.9	0.8	-3.6

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



August 1, 2006

Basinwide Conditions Assessment

The SWSI value for the basin was 1.4. Reservoir storage, the major component in this basin in computing the SWSI value, was 95% of normal as of the end of July. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 28% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 98% of capacity. Flow at the gaging station South Platte River near Kersey was 462 cfs, as compared to the long-term average of 809 cfs. Flow at the Colorado/Nebraska state line averaged 31 cfs.

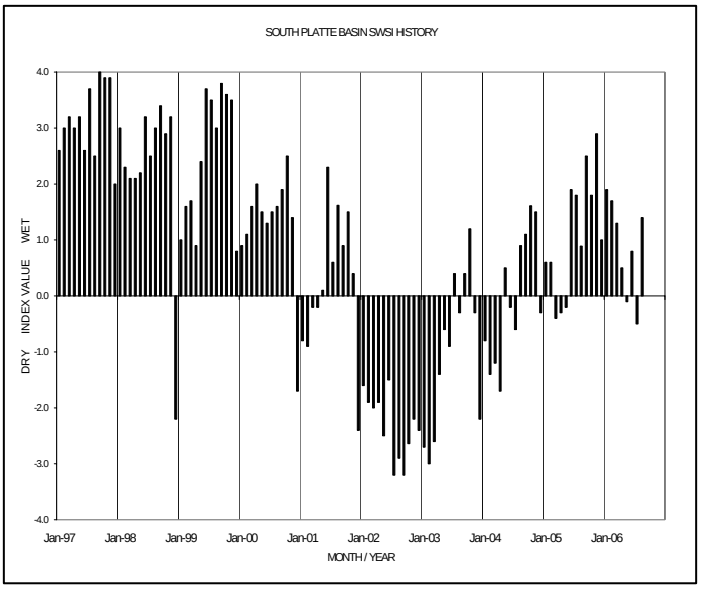
Outlook

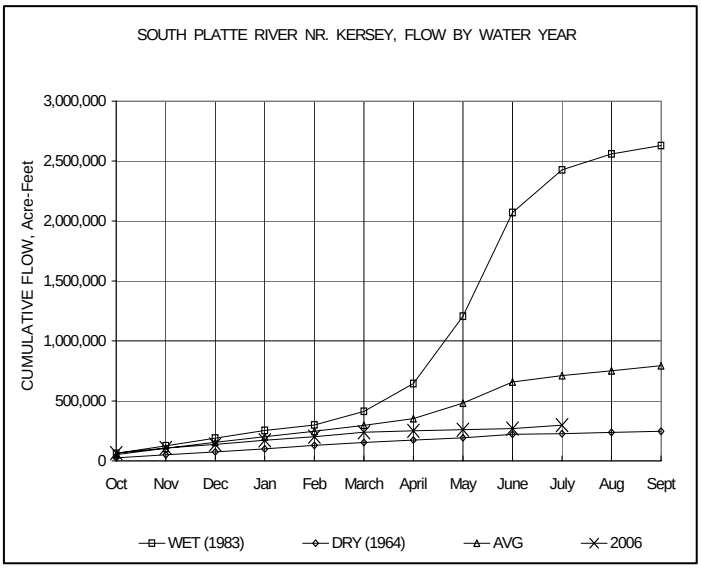
One significant extended period of rainfall in July helped reduce the severity of calls on the mainstem and tributaries of the South Platte for several days allowing some ditches to take water that had been curtailed because of the hot dry conditions. This rainfall also increased gage flows that were mimicking the very dry 2002 closely prior to the rain.

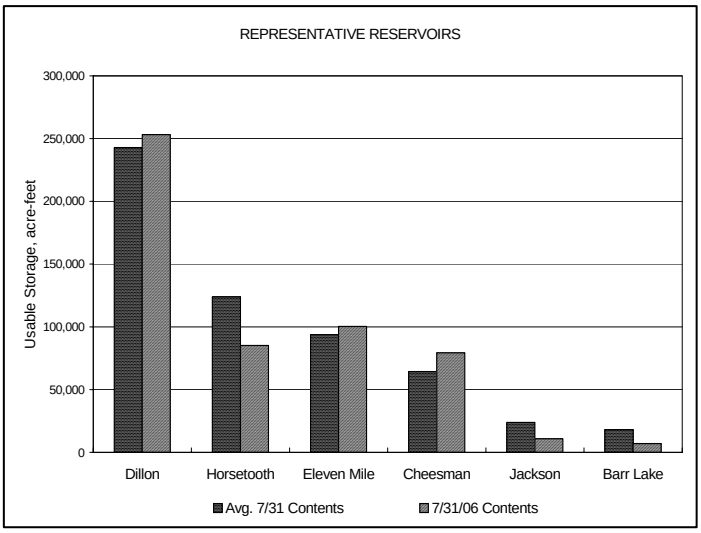
Even with this added flow, there continued to be heavy reliance on storage water for irrigation in July. Because of this reliance since April, irrigation storage levels are approximately what they were during the drought of 2002. Without significant continued rainfall in the basin in August, irrigation users along the mainstem, especially below Kersey, and along some tributaries are in significant danger of running out water prior to the end of the irrigation season. Users on the lower end of the Platte have already seen their crops be impacted dramatically by lack of supplies.

In general, municipal users have been in much better shape. This is due in part to the higher safety factor municipal users are able to maintain than irrigation interests. Users such as Denver, Thornton, Centennial, and Aurora in the Denver Metro area also benefiting from record setting diversions from the west slope.

Of note, the transit loss on high flows appears to be increasing along the South Platte reducing the amount of water which reaches the lower end of the river during high flow events caused by rain. This is due primarily to the growth in the channel of phreatophytes because of the years of low flow conditions. Thus, higher flows than ever will be required in the future to completely satisfy the irrigation demand in the basin allowing for storage and recharge to occur. In addition, the potential for flooding increases with the phreatophyte growth.







Basinwide Conditions Assessment

The SWSI value for the basin was –1.5. Flow at the gaging station Arkansas River near Portland was 959 cfs, as compared to the long-term average of 1560 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 73% of normal as of the end of July.

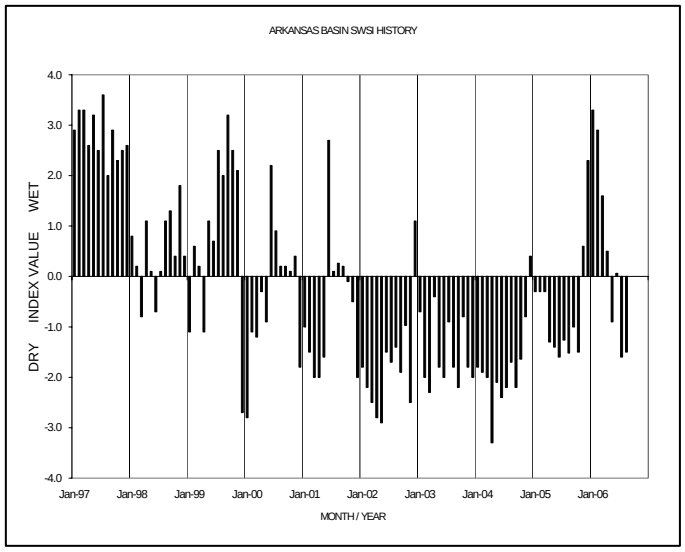
Outlook

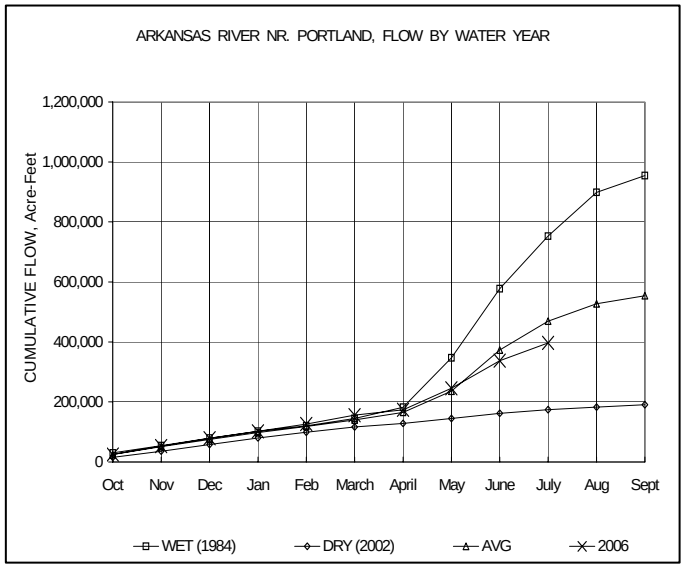
The Arkansas River call began the month set at the Amity #1 call (2/21/1887). The river call at the end of July was the Catlin call (12/3/1884). There was a significant amount of rain that occurred during the first half of July that caused higher river flows and even produced some localized flooding. The high river flows enabled a number of junior water rights to enjoy a period of diversions that did not look possible once the peak of the snowmelt runoff was past.

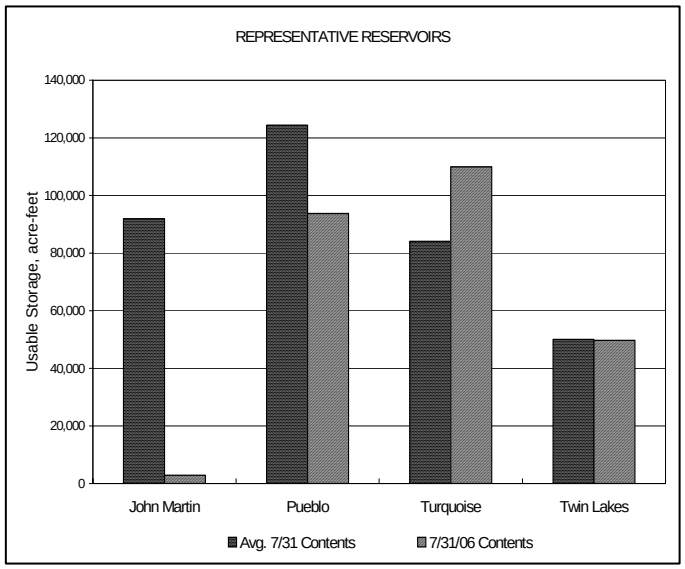
Administrative/Management Concerns

Flood flows above Pueblo Reservoir on the Arkansas River and local tributaries such as Beaver Creek caused some fairly significant damage including washing out a portion of Highway 115 and flooding the hydrographic gage on the Arkansas River at Portland. The estimated peak flow at the Portland gage was in excess of 12,000 cubic feet per second.

Subsequent to the large rain events above Pueblo Reservoir the Division Engineer met with the Arkansas Valley Ditch Association to discuss how flows are passed through the reservoir and how flood operations may impact the release rate through the reservoir. The discussion was helpful to all parties and prompted the Division Engineer to agree to take steps to improve communication of reservoir and operational data to help the ditch superintendents make informed decisions about the impacts of changing river conditions.







Basinwide Conditions Assessment

The SWSI value for the basin was -1.8. Flow at the gaging station Rio Grande near Del Norte was 603 cfs (42% of normal), as compared to the long-term average of 1340 cfs. The Conejos River near Mogote had a mean flow of 246 cfs (52% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 50% of normal as of the end of July.

Precipitation in Alamosa was 2.94 inches, a generous 2.00 inches above normal. This was the rainiest July in the last 30 years. The plentiful rain did not stop the trend of warmer than normal temperatures. The average temperature was over one and a half degree above normal.

Outlook

The rainfall during July benefited area stream flow levels greatly. Although area streams won't reach average annual flow, streamflow during July was much more than expected. Despite the rain, water users and recreators should expect below average stream flows and reservoir levels through the end of the summer.

Administrative/Management Concerns

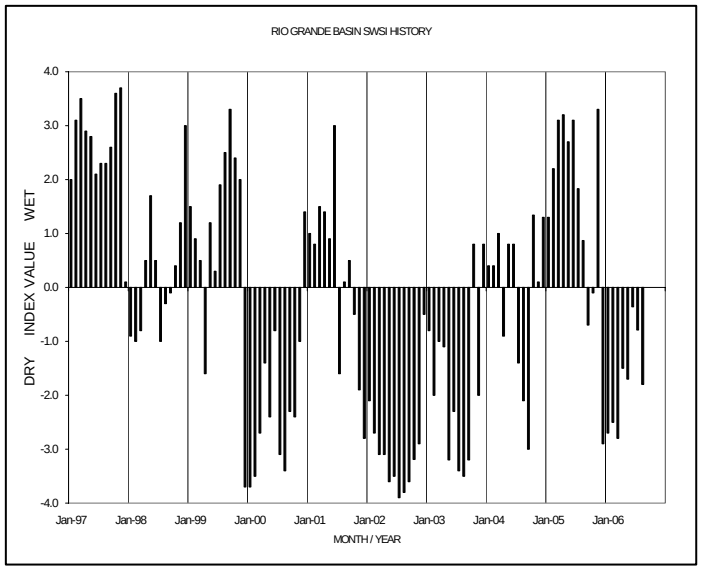
The Well Measurement Rules for Water Division No. 3 were formally accepted by Judge O. John Kuenhold on August 1, 2006. Case No. 05CW12, filed by the State Engineer, requires those owners of wells producing more than 50 gpm to install a metering device acceptable to the Division Engineer prior to March 1, 2007. A variance may be requested for a method other than a totalizing flow meter. A well may also be designated as inactive. The meters will require field verification for proper accuracy.

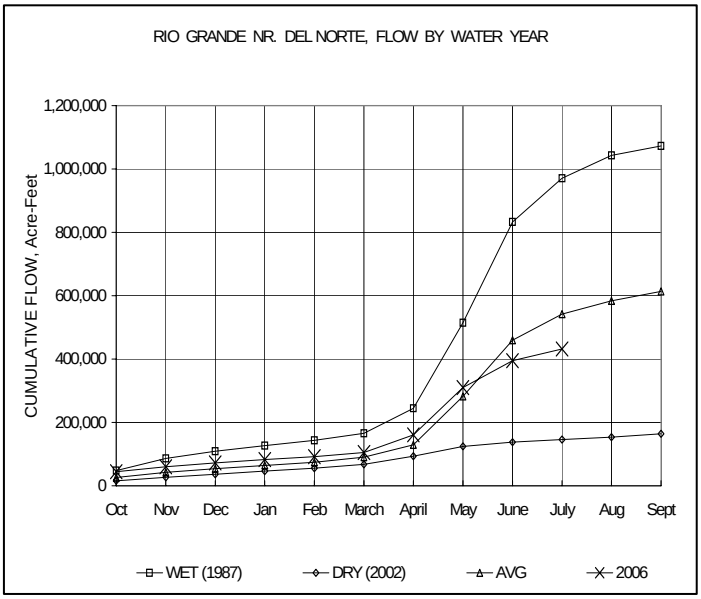
The formation of the first groundwater management subdistrict was approved by Judge Kuenhold during July. This subdistrict of the Rio Grande Water Conservation District will address groundwater withdrawals in the unconfined aquifer of the Closed Basin. The purpose of the subdistrict is to adopt a water management plan with the purpose of reducing the amount of irrigated acreage and the amount of consumptive water use within the subdistrict sufficient to permit the recovery of the groundwater levels in the aquifer below the subdistrict. The next step is to appoint a Board of Managers and develop the plan. This subdistrict may be the first of several to be formed pursuant to Senate Bill 04-222.

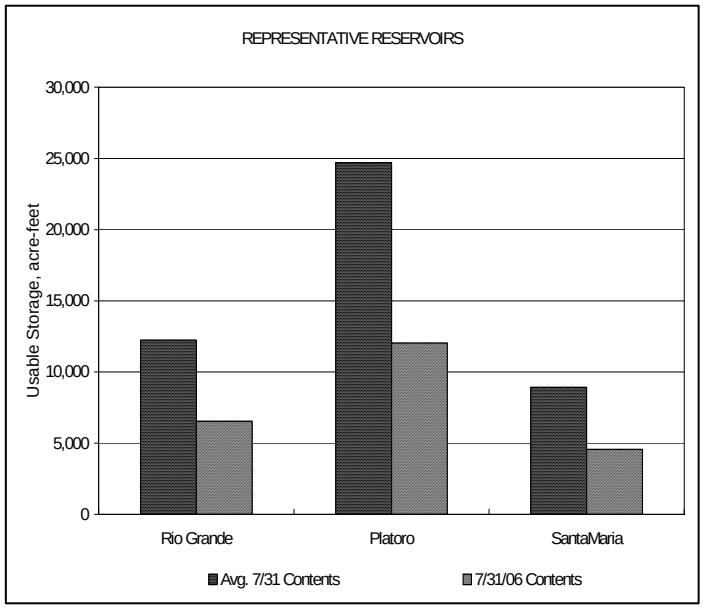
Deliveries of water to the State line required by the Rio Grande Compact have been bolstered by the rainfall. But the curtailment percentage was increased during July in an effort to keep up with the rising delivery obligation.

Public Use Impacts

The abundant rainfall during July has had a beautifying effect on the San Luis Valley and the surrounding forest land. Green has replaced the brown hues that colored the Valley back in June. It has been several years since the upper Rio Grande basin has seen this extent of monsoonal activity. Fire danger has been downgraded to moderate. However, that same rainfall and some hail have damaged alfalfa and hay crops.







Basinwide Conditions Assessment

The SWSI value for the basin was 0.60. Flow at the gaging station Uncompahgre River near Ridgway was 221 cfs, as compared to the long-term average of 321 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 94% of normal as of the end of July.

Administrative/Management Concerns

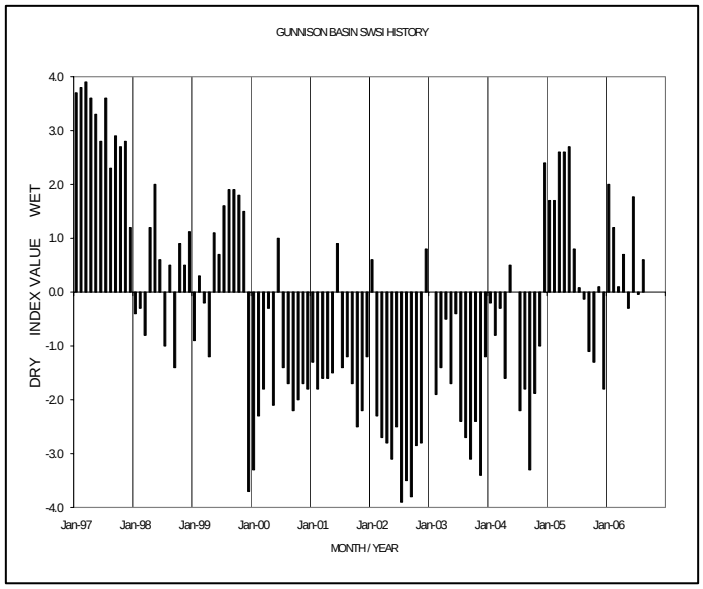
The flows on the south part of the basin have been very low during the first part of the summer. On July 5, the Uncompahgre Valley Water Users Association put a call on the Uncompahgre River at the M&D Canal near Colona. That afternoon, the Water Commissioners started to administer the river. But the rains started, resulting in high flows, flooding, and a gain of 1.5 feet in storage at Ridgway reservoir just above the Canal. The flows stayed high enough to keep the call off during the entire month of July. There will not likely be a call on the Uncompahgre River the rest of the summer. It also appears that there will not be a call on the San Miguel River either.

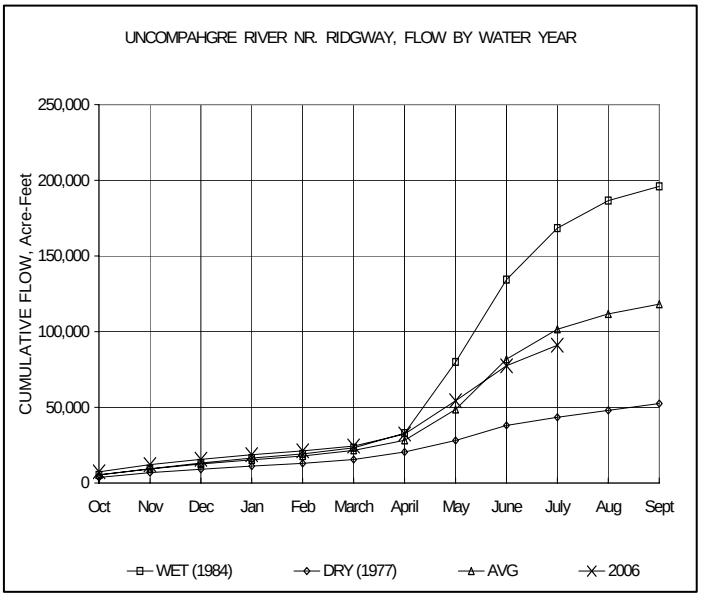
For the Grand Mesa area, the rains have greatly reduced the amount of reservoir water that has been ordered. It looks like there will again be a lot of carryover storage at the end of the year. Blue Mesa and Taylor Park Reservoirs are also staying high, even though the releases have been increased.

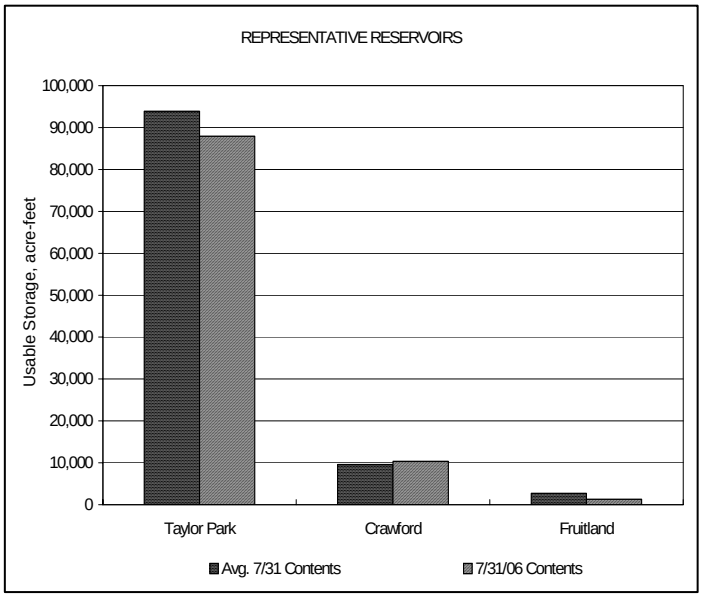
Public Use Impacts

The valleys and mountains are greener that they have been in a long time. Even the poorest of irrigators have fields that look good this year. The biggest problem now for irrigators is finding a dry spell to be able to cut and bail their hay. Grass and alfalfa hay are some of the biggest crops in the Gunnison Basin, both the local use and exportation.

The fire danger is down, and campers are enjoying the abundance of wild flowers.







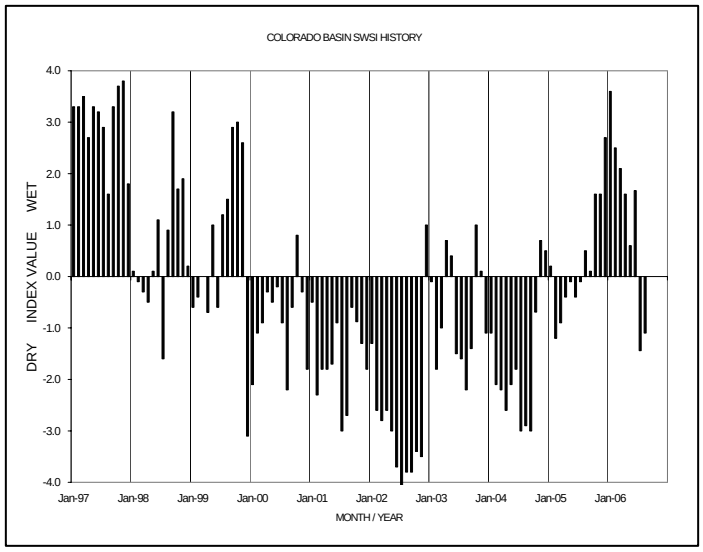
Basinwide Conditions Assessment

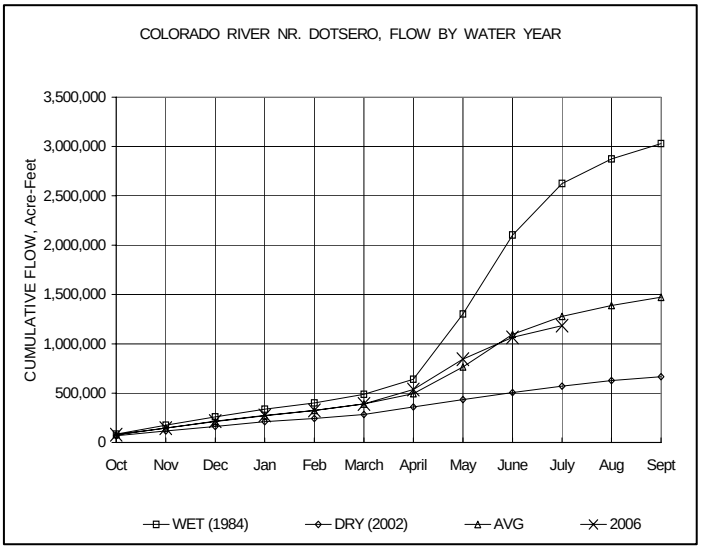
The SWSI value for the basin was –1.1. Flow at the gaging station Colorado River near Dotsero was 1924 cfs, as compared to the long-term average of 2948 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 104% of normal as of the end of July.

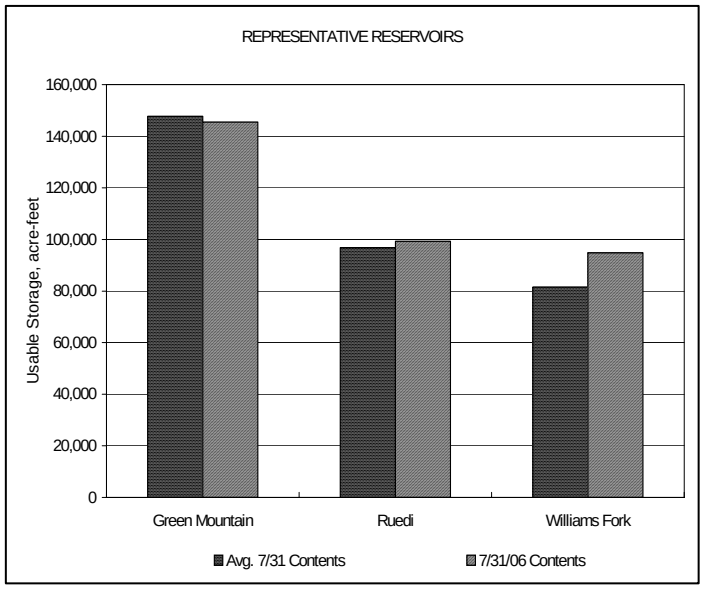
Outlook

July precipitation in the Colorado River Basin was approximately 60 percent above average and this kept the mainstem flows at near average levels. The Grand Valley irrigators have not yet had to place a call to satisfy their diversions. And, the Palisade peach crop has been especially tasty this year.

The ring seal project at Green Mountain Reservoir is scheduled for completion in late August, which will allow for power generation through both turbines.



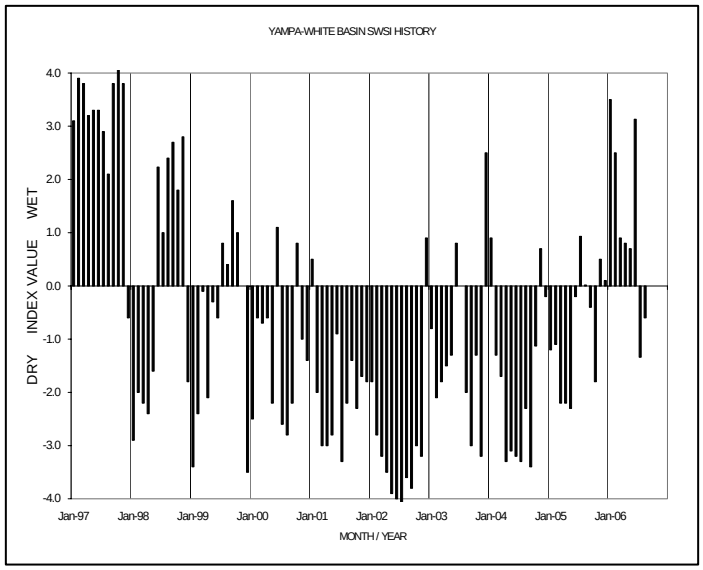




Basinwide Conditions Assessment

The SWSI value for the basin was –0.6. Flow at the gaging station Yampa River at Steamboat was 226 cfs, as compared to the long-term average of 381 cfs.

July had its share of afternoon thunderstorms that produced a fair amount of precipitation in the mountain areas. Precipitation, as recorded at the SNOTEL sites operated by the NRCS, totaled 127% of average (average period being from 1971 to 2000) and 242% of July of last year for the Yampa and White River Basins and totaled 137% of average and 364% of July of last year for the North Platte River Basin. At the beginning of July, there was a precipitation event that provided a fair amount of moisture to the entire area. The stream flows for the most part are holding around average throughout the basins except for the North Platte River which is well below average. Due to good winter snowpack, the reservoirs in the area were able to fill. The reservoir levels have dropped though not significantly.



Outlook

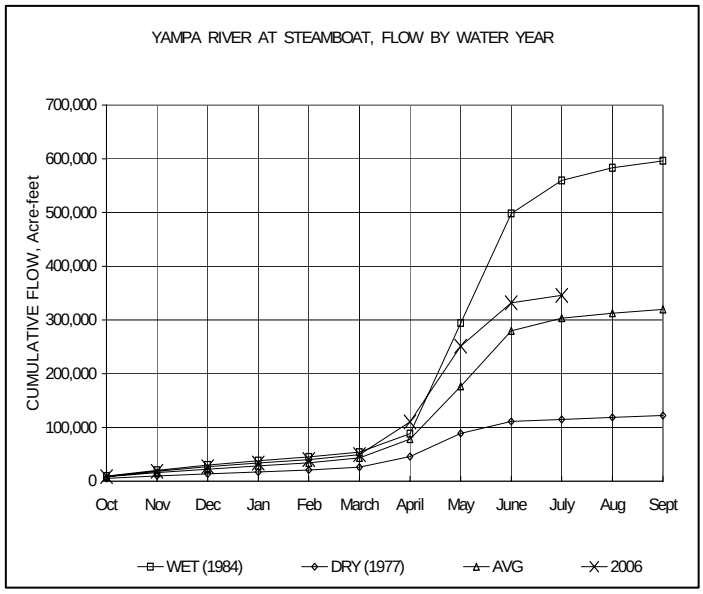
It is anticipated that stream flows will level out and remain near normal.

Administrative/Management Concerns

Only a few streams are presently under administration. Having full reservoirs going into the summer has provided water for irrigators that have access to storage supplies.

Public Use Impacts

Area streams and rivers are around normal levels except for those streams in the North Platte River basin which are below average. Elkhead Reservoir continues to remain closed for all recreational activities for the summer of 2006.

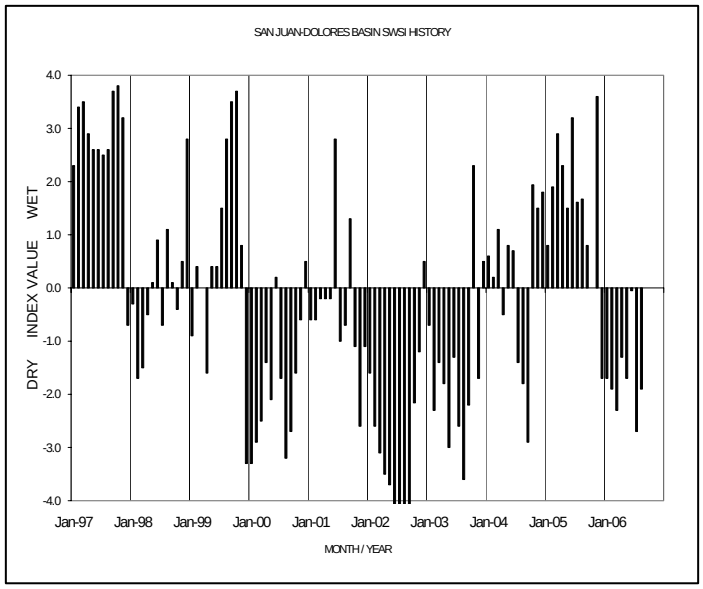


Basinwide Conditions Assessment

The SWSI value for the basin was –1.9. Flow at the gaging station Animas River near Durango was 581 cfs (49% of normal), as compared to the long-term average of 1120 cfs. The Dolores River averaged just 232 cfs for the month, well below the 402 cfs normal, and the La Plata River at Hesperus averaged only 18.5 cfs for the month compared with its normal flow of 38.8 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 97% of normal as of the end of July.

July weather brought an early start to the monsoon season but precipitation was spotty. In Durango, 2.83 inches of precipitation were recorded, 154% of average. So far this Water Year Durango is at 81% of normal precipitation.

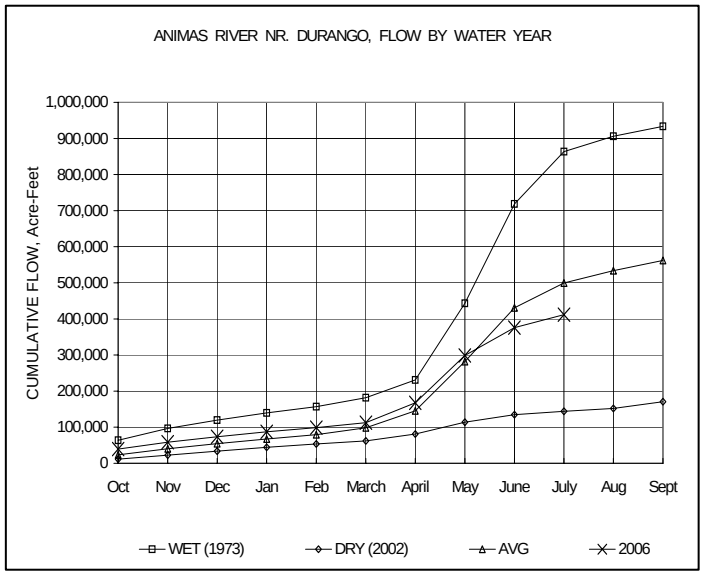
The above normal precipitation is not reflected in streamflow. They continue to reflect the below normal snowpack of last winter. The Animas River peaked at 1000 cfs on July 9th.

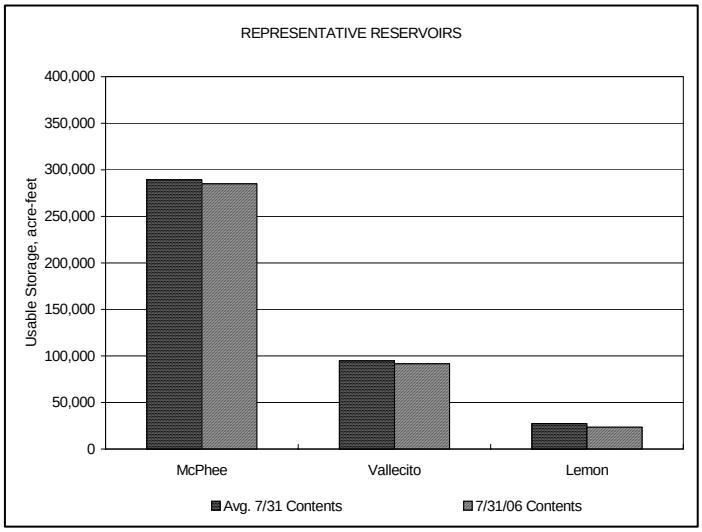


Outlook

Reservoirs are finally 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 91,596 acre-feet compared to its normal contents of 86,555 acre-feet. McPhee Reservoir was down to 97% of normal and Lemon Reservoir was down to 85% of normal.

The humid and cloudy weather from the monsoons kept the high temperatures lower and the low temperatures higher than normal. Overall Durango was 1.2° below its 30-year average high and 6.7° above its 30-year average low.





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