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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August 2005

Precipitation was uniformly poor across all parts of Colorado in July, and the Surface Water Supply Index (SWSI) index values are generally lower than last month. The lowest SWSI value is in the Arkansas Basin at –1.5 where the reservoir storage factor is about average for this time of year, but stream flow and precipitation factors are low. The highest SWSI value is recorded in the San Juan/Dolores Basin at 1.7. In general, reservoir storage values are quite good in other basins across the state.

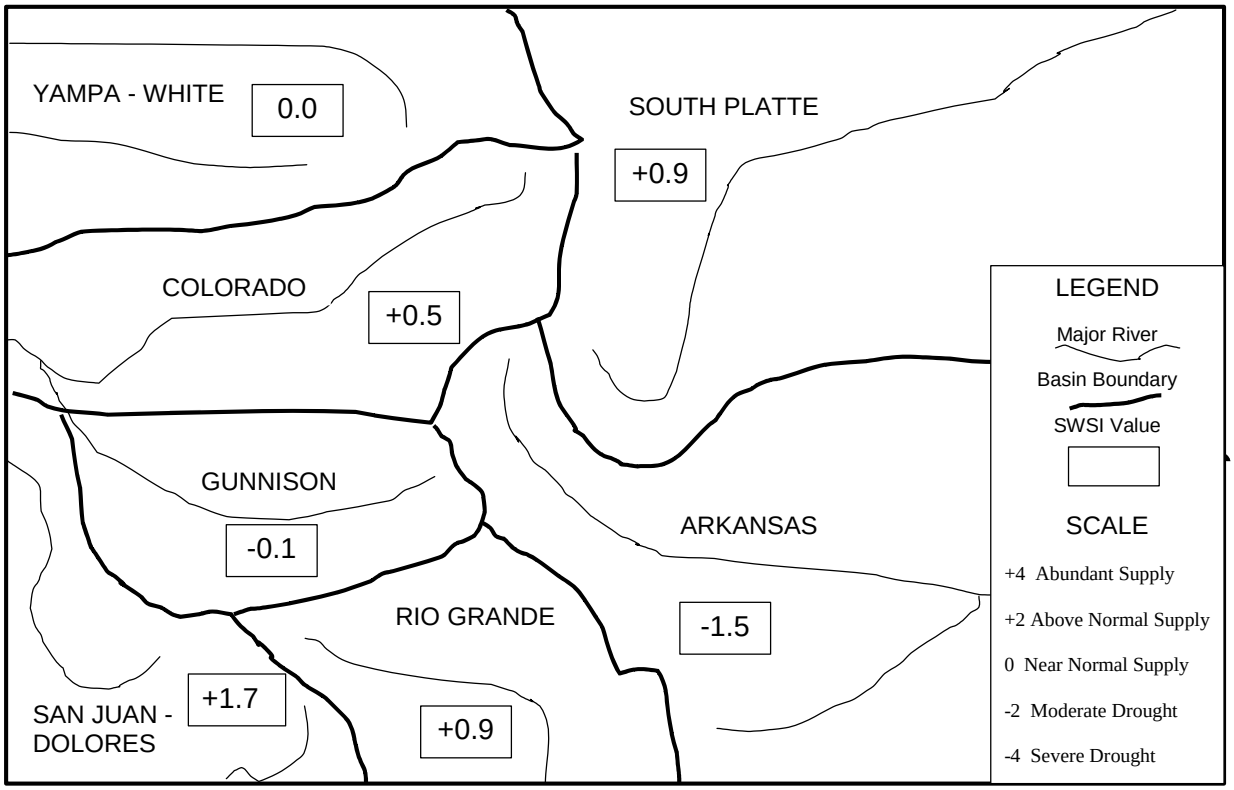
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on stream flow, reservoir storage, and precipitation for the summer 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, 2005, and reflect the conditions during the month of July.

Basin	August 1, 2005 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+ 0.9	- 0.9	0.0
Arkansas	- 1.5	- 0.3	- 0.2
Rio Grande	+ 0.9	- 1.0	+ 3.0
Gunnison	- 0.1	- 0.2	+ 1.7
Colorado	+ 0.5	+ 0.6	+ 3.4
Yampa/White	0.0	- 0.9	+ 2.3
San Juan/Dolores	+ 1.7	+ 0.1	- 3.5

Scale

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

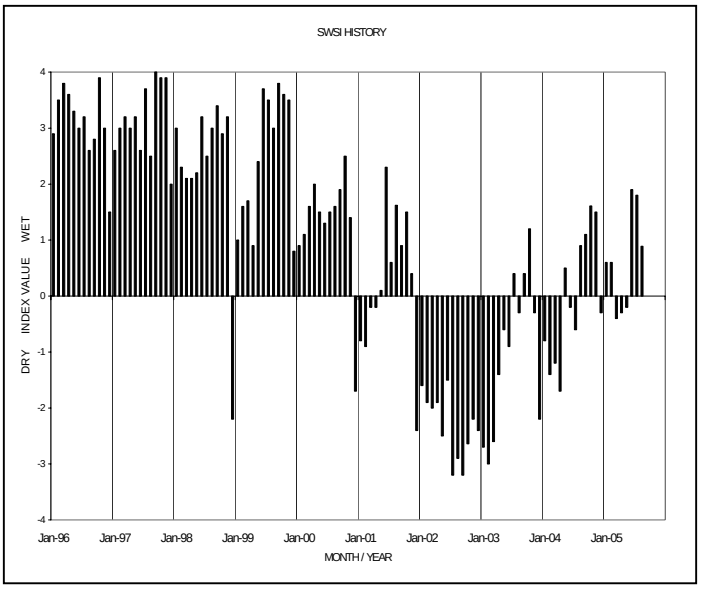
SURFACE WATER SUPPLY INDEX FOR COLORADO



August 1, 2005

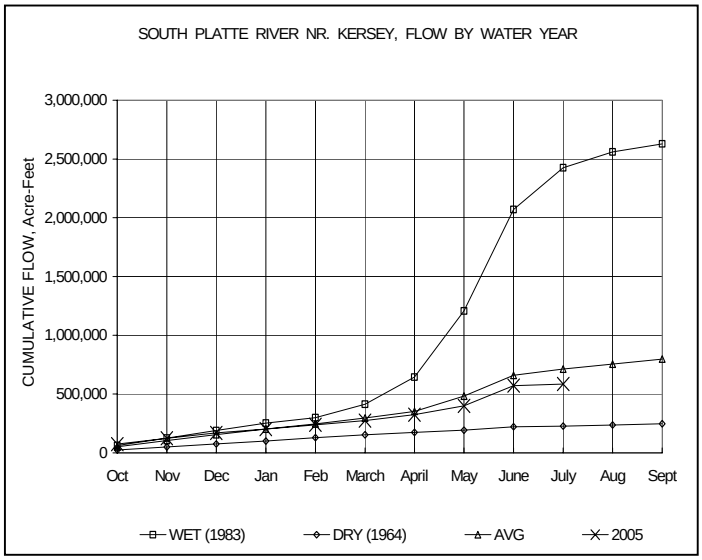
Basinwide Conditions Assessment

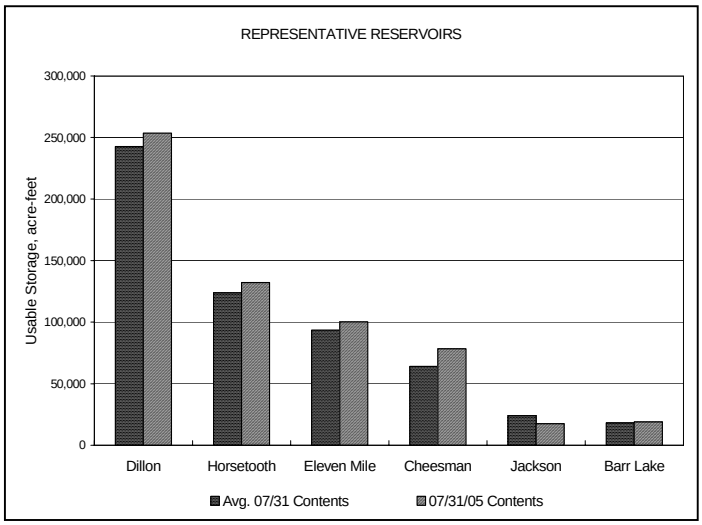
The SWSI value of +0.9 indicates that for July the basin water supplies were above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 106% of normal as of the end of July. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 67% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 89% of capacity. Flow at the gaging station South Platte River near Kersey was 216 cfs, as compared to the long-term average of 671 cfs. Flow at the Colorado/Nebraska state line averaged 91 cfs.



Outlook

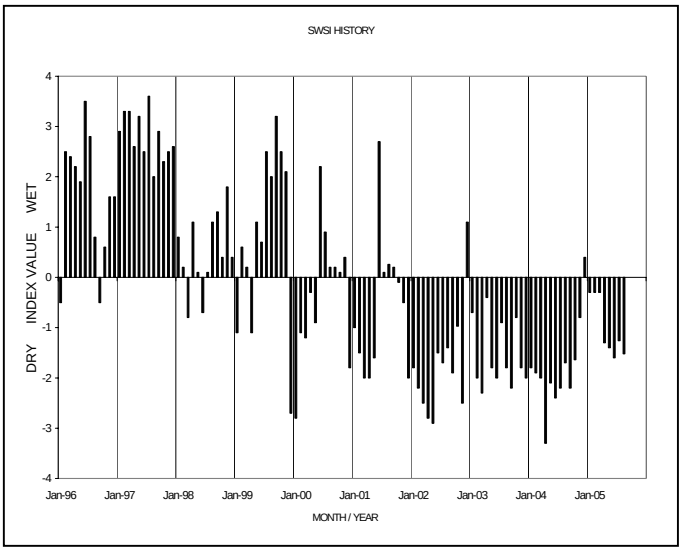
Unlike June, July was dry and very hot. However, because of the wet June conditions, most reservoirs were full or near full going into the month. Reservoir supplies, plus good return flow conditions created by the wet June provided adequate supplies for users within the basin. Calls along the mainstem and tributaries were normal or slightly less senior than normal in July. Even with significant reservoir use for irrigation, reservoir levels remain much higher than they have at the end of July in several years. With this, we do not anticipate any major supply shortages for the 2005 water year for senior water rights. Based on conditions, the next two months will determine what carryover will be available in 2006. At minimum, we expect municipal supplies to be in good shape going into next season.





Basinwide Conditions Assessment

The SWSI value of –1.5 indicates that for July the basin water supplies were below normal. Flow at the gaging station Arkansas River near Portland was 917 cfs, as compared to the long-term average of 1,576 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 72% of normal as of the end of July.

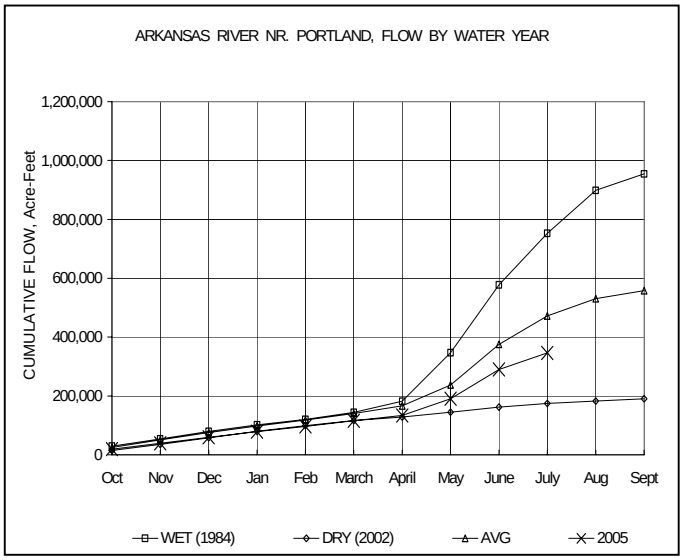


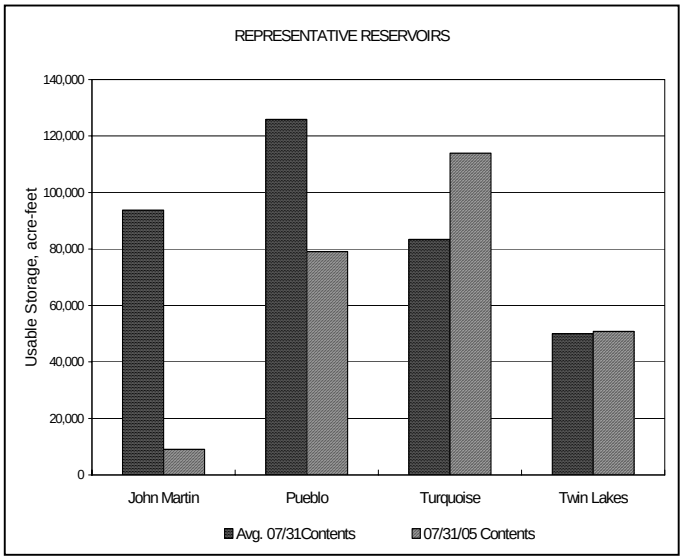
Outlook

The Arkansas River call began the month set at the Fort Lyon #2 call (3/1/1887). The river call at the end of July was the Catlin call (12/3/1884). The month was marked by significantly high temperatures, which were welcomed by farmers with adequate irrigation supplies to finish off key vegetable and forage crops. High temperatures in Pueblo averaged approximately 98^{o} with twelve days where high temperatures exceeded 100 ^{o}. The July 20, 2005 high temperature reached 108^{o}.

Administrative/Management Concerns

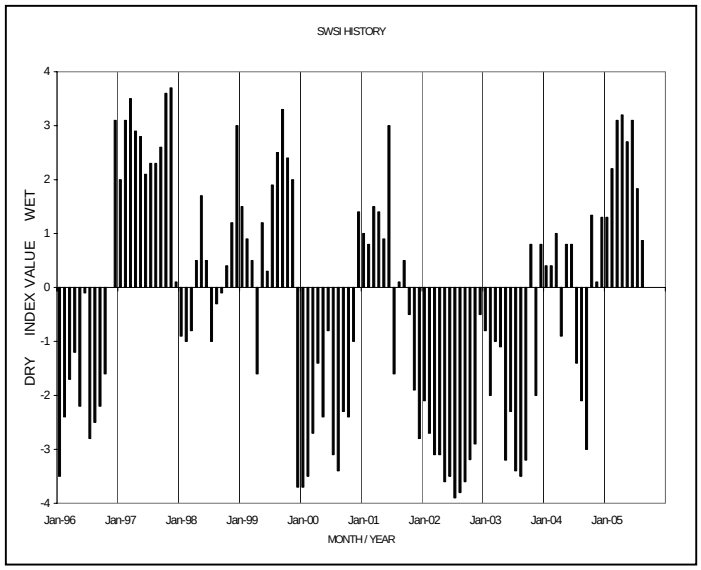
The Southeastern Colorado Water Conservancy District allocated an additional 14,500 acre-feet of Fryingpan Arkansas Project water for municipal and agricultural use in the basin during July. The combination of this allocation along with the 30,000 acre-feet allocated in June 2005 mark a welcome return of increased supply from this important supplemental water source. This resource benefits Arkansas Basin communities and agricultural users as they continue to recover from prior drought years.





Basinwide Conditions Assessment

The SWSI value of +0.9 indicates that for July the basin water supplies were above normal. Flow at the gaging station Rio Grande near Del Norte averaged 1463 cfs (102% of normal). The Conejos River near Mogote had a mean flow of 503 cfs (106% of normal). Precipitation in Alamosa was only 0.17 inches, a significant 0.77 inches below normal. This was the third driest July in the past 30 years. The average temperature was 2.2 degrees above normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 93% of normal as of the end of July.



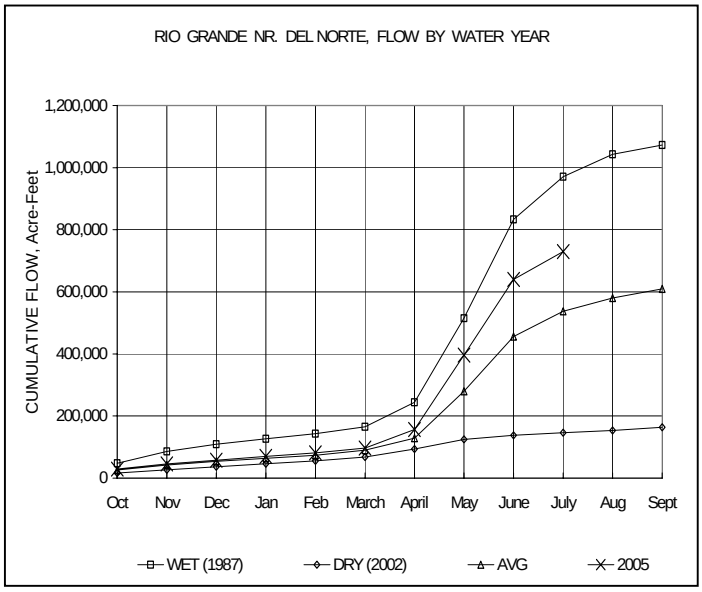
Outlook

Stream flow levels in the basin's streams fell off drastically during July. The high runoff in May and June must have run out the majority of the snowpack. Irrigators and recreators should expect below average stream flows and reservoir levels through the end of the summer unless the monsoonal activity picks up.

Administrative/Management Concerns

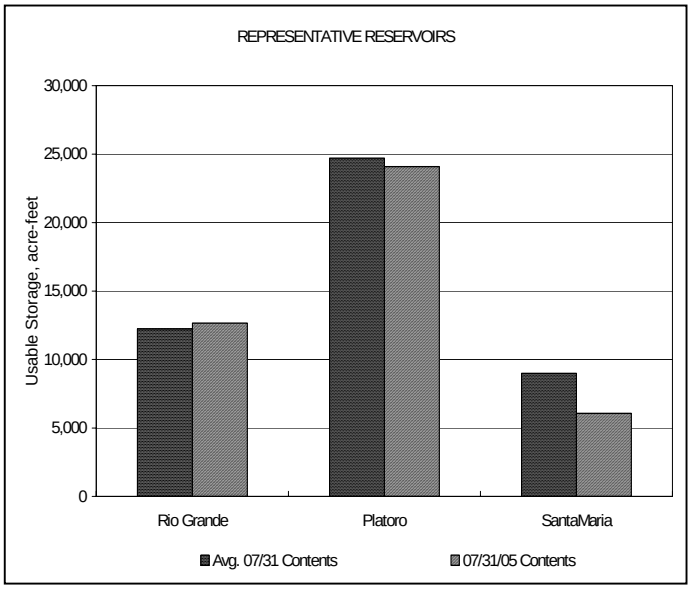
Reservoir releases in the upper Rio Grande basin ceased in mid-July. Other basins may have a block of water left to release, but most farmers and ranchers will need help from Mother Nature if they need another irrigation run. Junior water right owners in Division 3 should expect senior calls to keep them out of priority for the rest of the irrigation season.

Deliveries of water to the State line required by the Rio Grande Compact have been more than adequate. The drop in stream flow has forced administrators to reduce the curtailment percentage on both the Conejos and Rio Grande drainages. Normally, this is good news for irrigators. However, the adjustment this year is a reflection of the extreme drop in native stream flow and doesn't result in a huge benefit to water users.



Public Use Impacts

The warm, dry conditions have been a boon for irrigators with adequate water supplies. But the native grassland and forest have suffered greatly from the lack of rainfall.



Basinwide Conditions Assessment

The SWSI value of –0.1 indicates that for July the basin water supplies were about normal. Flow at the gaging station Uncompahgre River near Ridgway was 332 cfs, as compared to the long-term average of 321 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 96% of normal as of the end of July.

The flows in the Gunnison Basin have held up fairly well, despite the weeks of extended heat in July. An example of the heat was the new all-time high temperature of **106 degrees** set in Grand Junction on July 21, 2005. This beat out the old record of 105 degrees, which was reached 11 times in recorded history (3 of which occurred earlier in July 2005).

Outlook

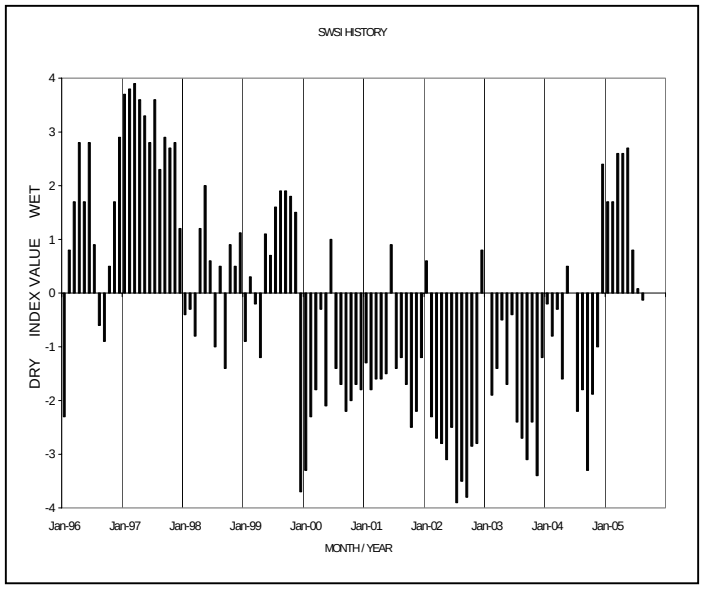
The major reservoirs in the basin have held fairly steady in July, and it does not look like they will be drawn down much this fall. Now that the summer monsoonal weather patterns have started, the basin is getting afternoon showers. This will boost stream flows and decrease irrigation demands.

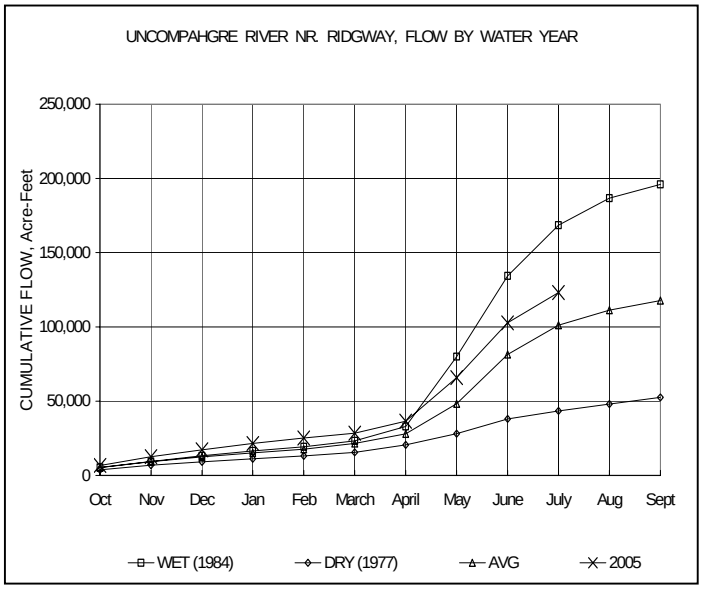
Administrative/Management Concerns

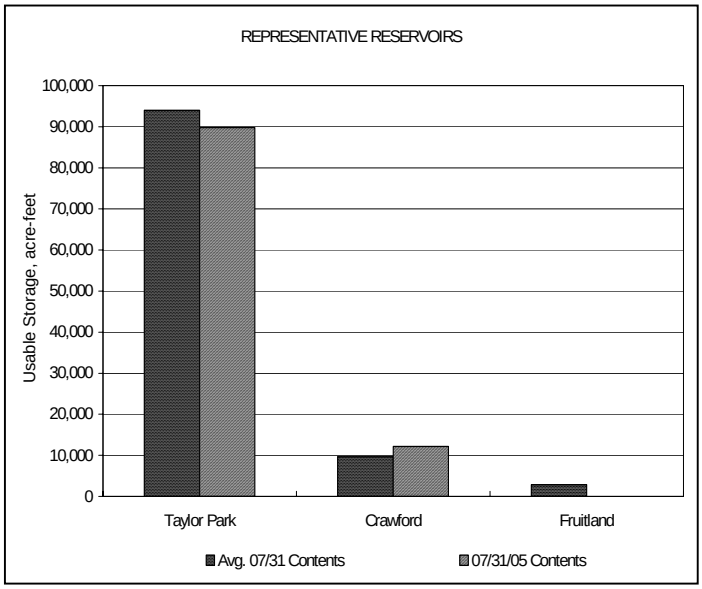
In those areas that had a high snowpack, such as Kannah Creek, the Grand Mesa, and the Paradox Valley, the steams have continued to flow enough to keep the water rights whole. After years of extended drought, the Water Commissioner's in those areas are enjoying the ability to keep the ditches running longer than usual without expensive curtailment. There will be plenty of reservoir water to satisfy needs the rest of the irrigation season, and a large amount of carry-over storage this fall will help next year. It does not appear that there will be a river call on the Gunnison, Uncompahgre, or San Miguel Rivers this season.

Public Use Impacts

The abundant supplies of water have been producing good crops this year. Although hay prices are down somewhat, the fruit orchards should have a bumper crop. Those that come from all over Colorado to the Western Slope should have their fill of peaches from the Palisade and Hotchkiss areas.







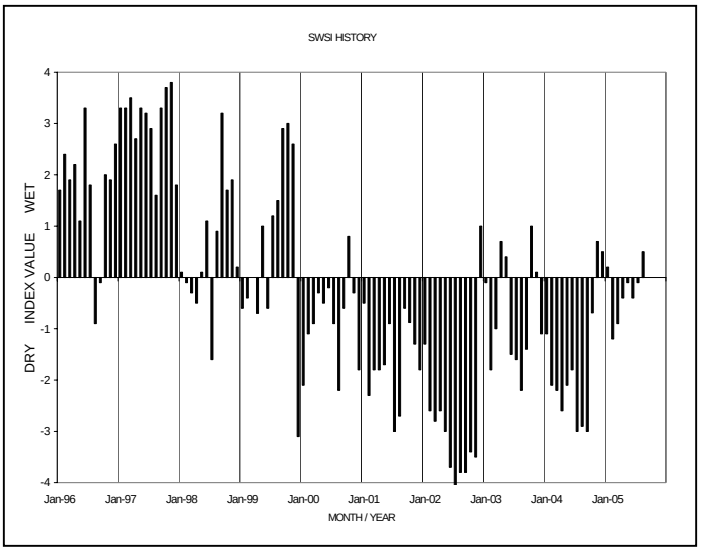
Basinwide Conditions Assessment

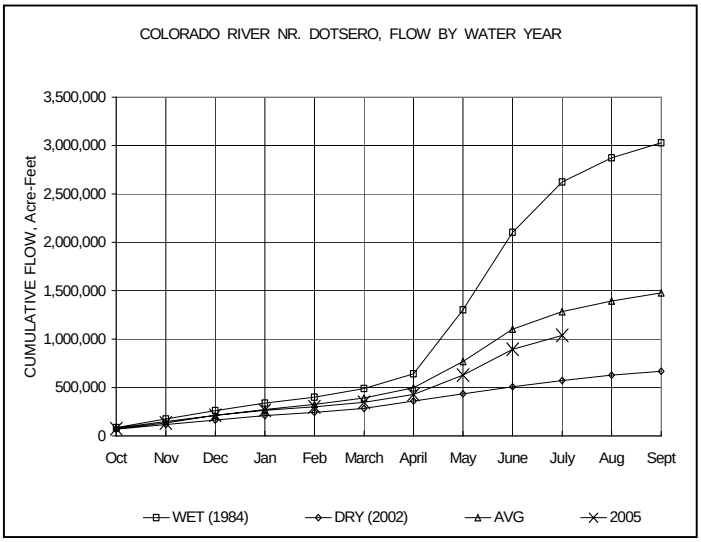
The SWSI value of +0.5 indicates that for July the basin water supplies were above normal. Flow at the gaging station Colorado River near Dotsero was 2,348 cfs, as compared to the long-term average of 2,962 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 108% of normal as of the end of July.

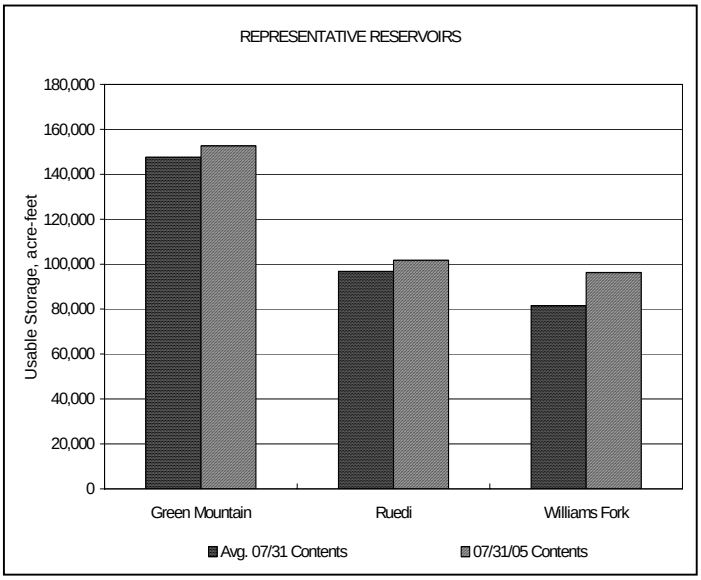
Outlook

July precipitation was only approximately fifty percent of the monthly average for the entire Colorado River basin, but, as is typical, some tributary basins had much better rainfall than others. Late July and early August rains had a significant impact on many tributaries to the Colorado River, keeping flows above average on many streams.

The Colorado River call in the upper basin remained off in July for all but about 8 days. This was due to rainfall in the upper basin and maintenance at the Shoshone Power Plant. The call in the lower basin, i.e., the Cameo call, was off for the entire month. Rare, free-river conditions continued on the Blue River above Green Mountain Reservoir because of maintenance at the Green Mountain power plant, in conjunction with the Shoshone call relaxation.



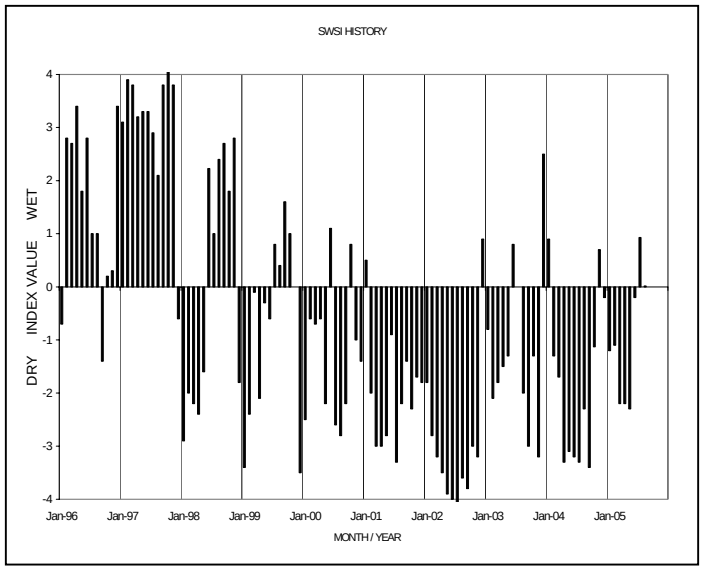




Basinwide Conditions Assessment

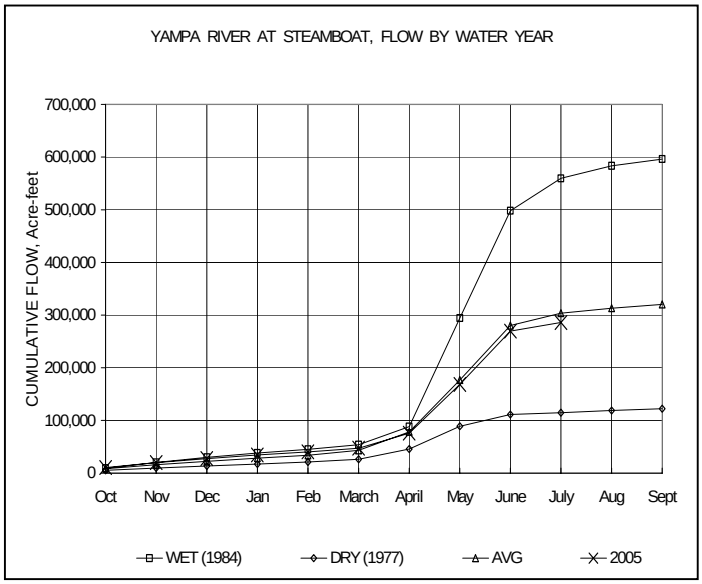
The SWSI value of 0.0 indicates that for July the basin water supplies were normal. Flow at the gaging station Yampa River at Steamboat was 264 cfs, as compared to the long-term average of 384 cfs.

July was an exceptionally dry month for the basins. Precipitation, as recorded at the SNOTEL sites operated by the NRCS, totaled only 45% of average and only 35% of July of last year. Additionally, temperatures were well above average for most of the month. The precipitation totals would have been even lower if not for a significant rainfall event at the very end of the month. Despite the very dry, hot month, river flows held up very well. Most rivers in the basins remained at, or above, long-term seasonal flows. One exception was the Yampa River in Steamboat Springs, where flows dropped below average values mid-month, and remained below average until the end-of-month storm.



Administrative/Management Concerns

Very few streams are still under administration.



Public Use Impacts

Flows in the rivers and streams are near the long-term average flow rates.

Basinwide Conditions Assessment

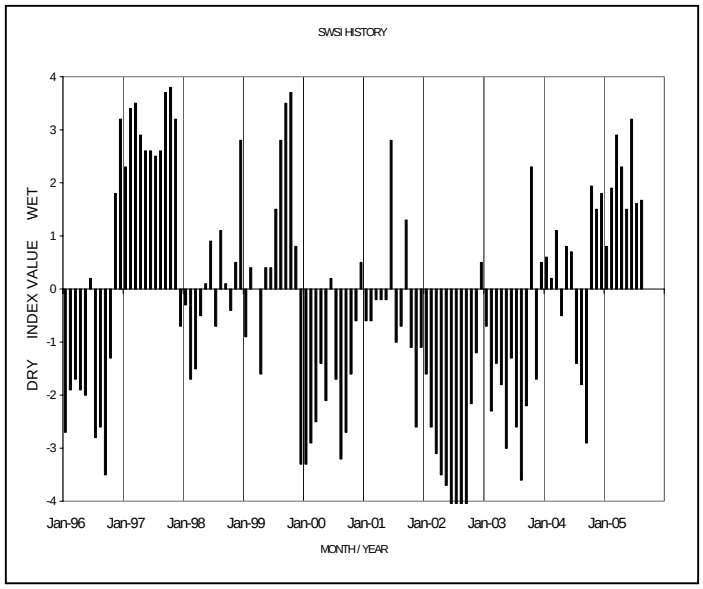
The SWSI value of +1.7 indicates that for July the basin water supplies were above normal. Flow at the gaging station Animas River near Durango was 1,447 cfs, as compared to the long-term average of 1,112 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 121% of normal as of the end of July.

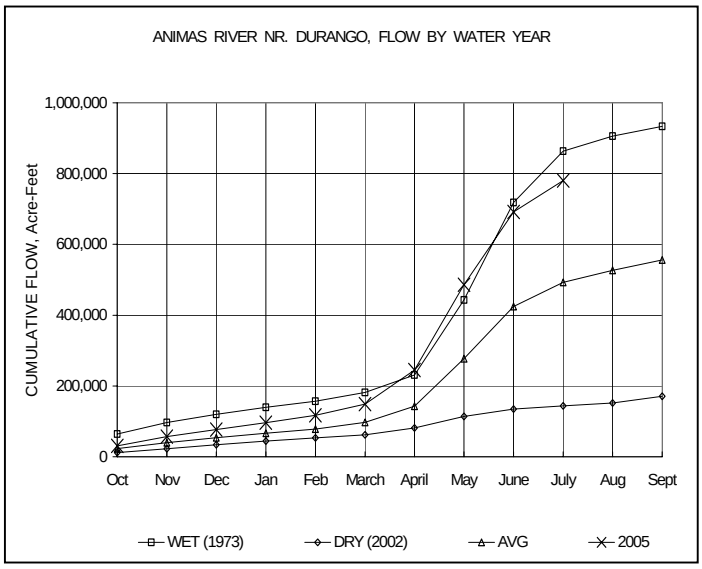
July weather in southwestern Colorado was extremely dry. Temperatures were hot as a 13-day period over 90°F was experienced in Durango. Temperatures were nearly 4° above normal. Only .33 inch of precipitation was recorded over six separate days in the latter part of the month, leaving the average for the year at 120% of normal.

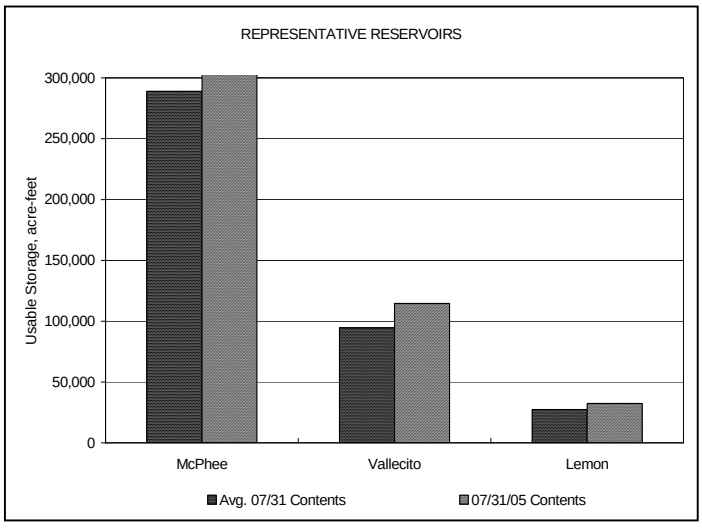
River flow remained above normal throughout the month except on the Dolores which did not reflect a typical release from Groundhog Reservoir which usually occurs earlier. At the end of the month, the Animas River had dropped to 609 cfs and the La Plata River was running 27 cfs.

Reservoirs maintained levels near 120% or higher with significant carryover likely for the next year. The soil moisture is down significantly in the lower elevations. Springs and snow banks are still common in the high mountains areas, however.

The outlook is encouraging for rain to help the streams for the rest of the year as the monsoonal conditions were developing early in August.







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