COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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AUGUST 2004

Across the state water supply conditions are still suffering from the drought, which has impacted Colorado for the last 4 years, although conditions are improved over those experienced in 2002 and 2003. Virtually all stream flows continue at below normal levels for this time of year. While individual reservoir storage levels vary significantly, statewide the reservoir storage as of the end of July is about 85% of normal. Precipitation events during the remainder of the summer provide benefit both by reducing water demands and supporting stream flows.

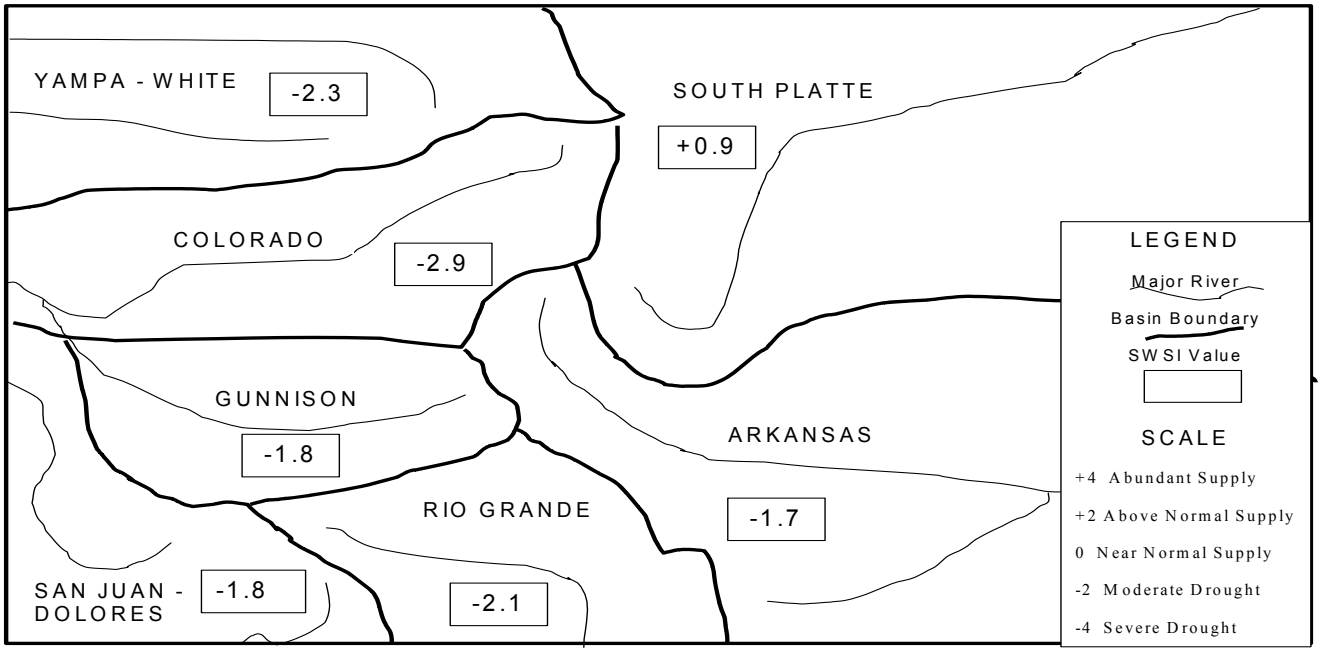
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on stream flow, reservoir storage, and precipitation for the summer 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, 2004, and reflect the conditions during the month of July.

Basin	August 1, 2004 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	0.9	+1.5	+1.2
Arkansas	-1.7	+0.5	+0.1
Rio Grande	-2.1	-0.7	+1.4
Gunnison	-1.8	+0.4	+0.9
Colorado	-2.9	+0.1	-0.7
Yampa/White	-2.3	+1.0	-0.3
San Juan/Dolores	-1.8	-0.4	+1.8

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, 2004

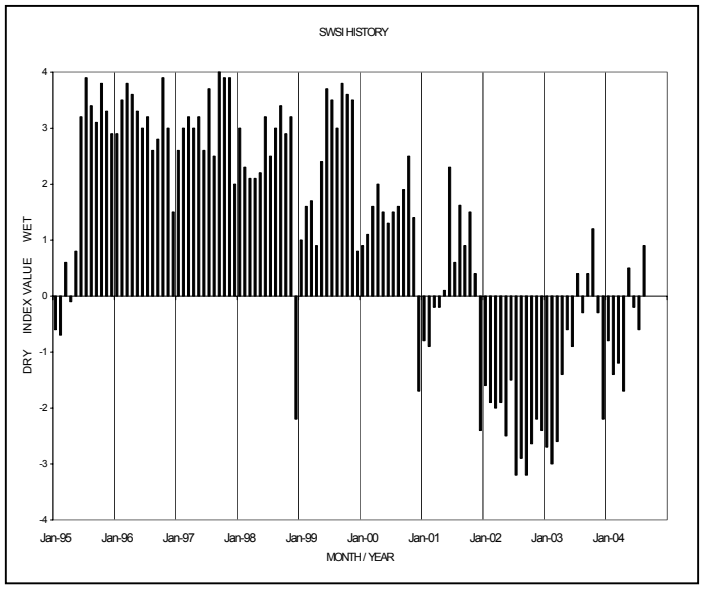
Basinwide Conditions Assessment

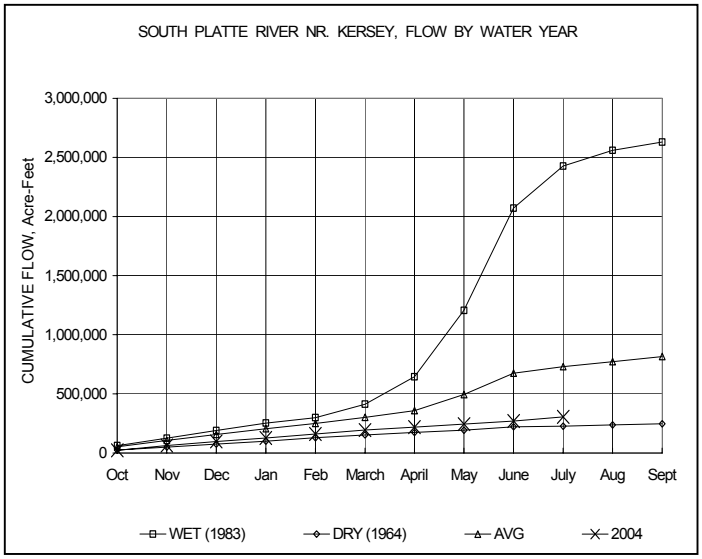
The SWSI value of 0.9 indicates that for July the basin water supplies were near normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 98% of normal as of the end of July. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 39% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 79% of capacity. Flow at the gaging station South Platte River near Kersey was 575 cfs, as compared to the long-term average of 671 cfs. Flow at the Colorado/Nebraska state line averaged 46 cfs.

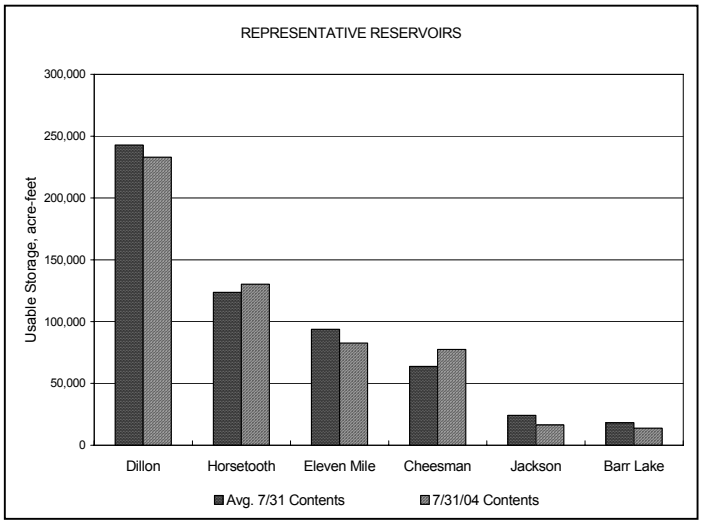
Like June, July continued as a wet month for this time of year in the South Platte basin. The increased supply and reduced demand associated with the rain continued to keep the call on the mainstem and tributaries from becoming extremely senior like those experienced last year and in 2002. For reference, the senior call along the mainstem below Kersey in July of 2002 and 2003 had either an 1881 or 1882 priority, while the call this year has at times been in the early 1900's. Calls on tributaries also reflected the wetter conditions. Because calls were not extremely senior, users who depend primarily on their direct flow rights have had an adequate supply of water.

Despite the calls not being extremely senior, agricultural users who are dependent on their reservoir supplies rather than direct flow rights for a major portion of their summer supply still remain in a very difficult situation because mainstem reservoirs did not come close to filling for the first time since the 1970's. This year at the end of July, overall storage below Kersey for large reservoirs was only 90,000 acre-feet. Last year at the end of July, there was over 142,000 acre-feet in storage below Kersey. Major irrigation suppliers who have had to limit their deliveries include North Sterling, Riverside, Farmers Reservoir and Irrigation Company and Empire. Unless there continues to be significant precipitation in August, irrigation users will empty most of the plains reservoirs this year and there will be shortages for some users.

Most municipalities remain in much better shape this year than last due to conservation efforts and leasing of additional supplies. Their storage supplies continue to exceed those that were available last summer. Most of these users do not foresee severe shortages. Emblematic of this, Denver Water recently reduced their watering restriction requirements and has looked at further reductions in restrictions.



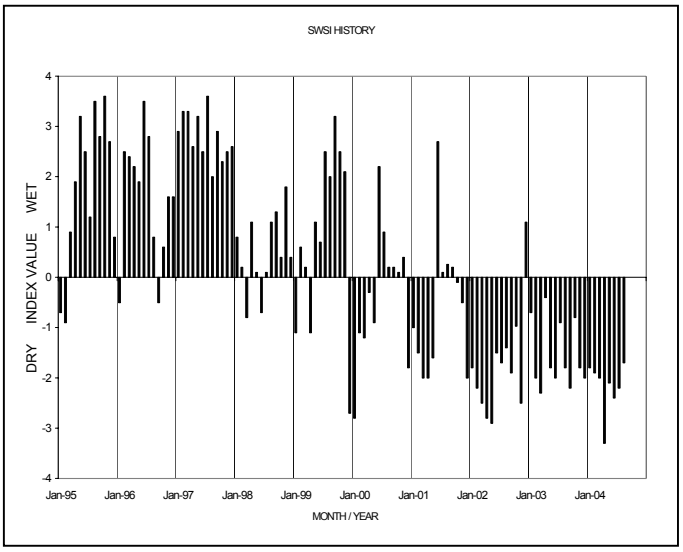




Basinwide Conditions Assessment

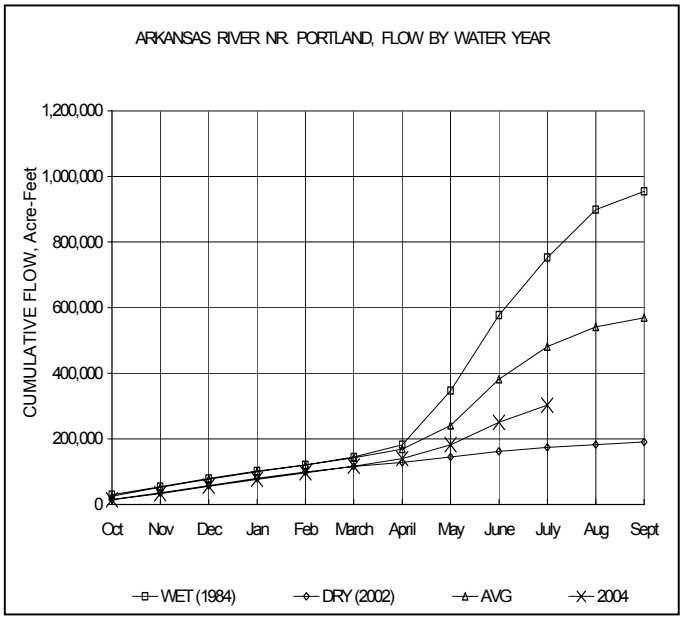
The SWSI value of -1.7 indicates that for July the basin water supplies were slightly below normal. Flow at the gaging station Arkansas River near Portland was 849 cfs, as compared to the long-term average of 1,680 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 58% of normal as of the end of July.

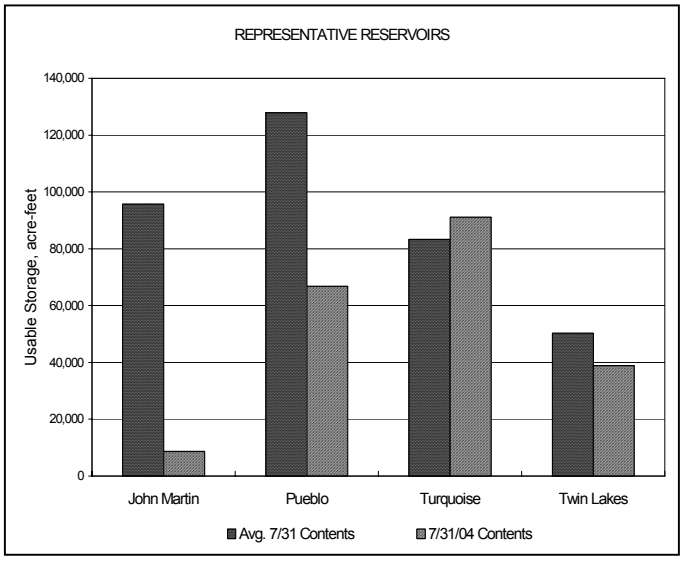
River conditions during July were buoyed by rainfall events. River calls were typically at dates junior to those seen in July 2002 and July 2003. Tributary flows on Fountain Creek, the Purgatoire River, and most of the other tributaries between Pueblo and the stateline contributed to improvement of the conditions. On July 24, 2004 a Conservation Storage event occurred in John Martin Reservoir, which increased storage from just under 6,000 acre-feet to approximately 8,400 acre-feet. Although 8,400 acre-feet is a meager amount of storage in the 340,000 acre-foot plus reservoir, this Summer Storage Event was the first to occur since 1999.



Administrative/Management Concerns

During some periods of heavy rainfall in July there were isolated occurrences of heavy stream flow that caused flooding concerns. With the recent years of sustained drought all involved agencies had to re-familiarize themselves with emergency procedures related to flood conditions.





Basinwide Conditions Assessment

The SWSI value of –2.1 indicates that for July the basin water supplies were below normal. Flow at the gaging station Rio Grande near Del Norte was 578 cfs (40% of normal). The Conejos River near Mogote had a mean flow of 288 cfs (61% 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 0.72 inches, just 0.22 inches below normal. The average temperature during July was one degree cooler than normal.

Outlook

Stream flow levels in the basin's streams fell off drastically during the latter part of June and throughout July. The high runoff in May and early June must have run out the majority of the snowpack. Without consistent rainfall during August and September, junior water right owners in Division 3 should expect senior calls to keep them out of priority for the rest of the irrigation season.

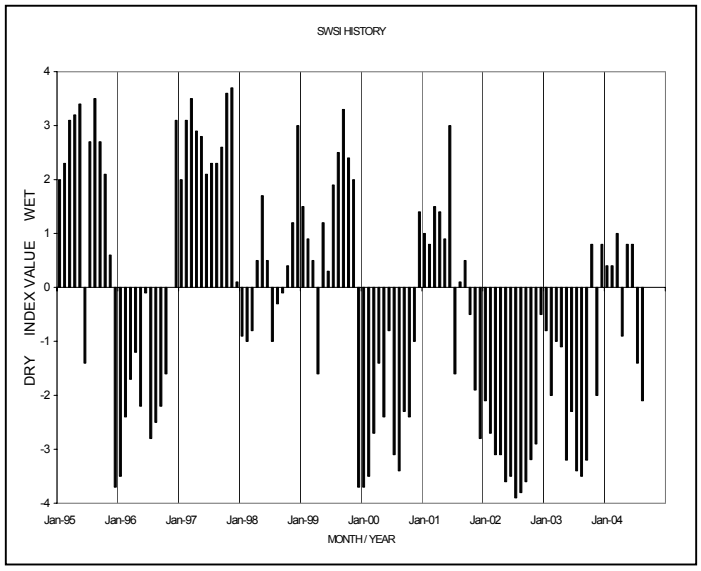
Water users and recreators should anticipate below average stream flows and reservoir levels through the end of the summer.

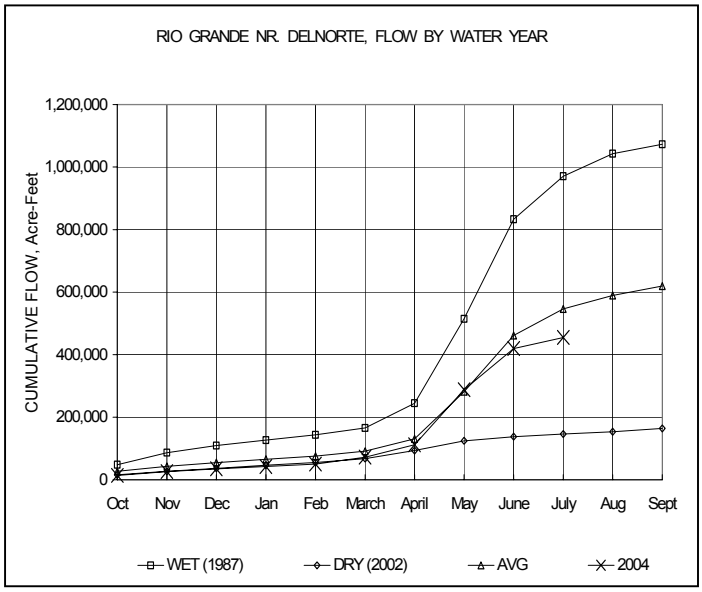
Administrative/Management Concerns

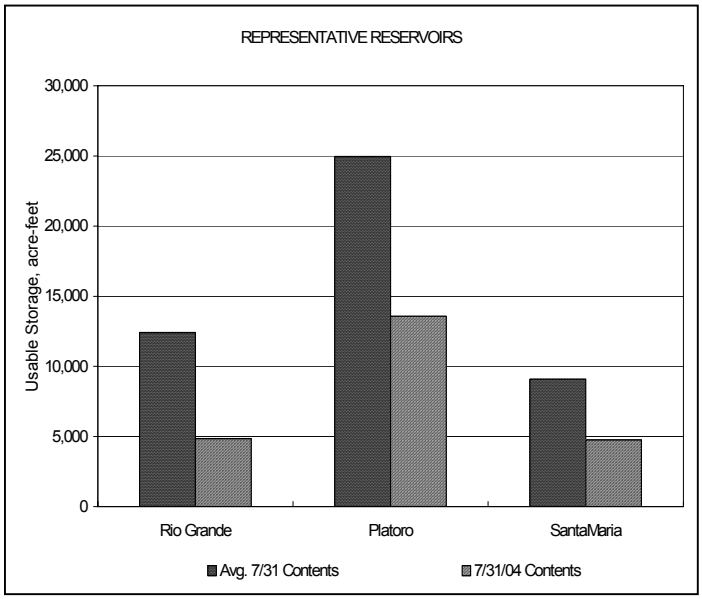
The giant drop in stream flow at the upper index gaging stations on the Rio Grande and Conejos systems enabled water administrators to reduce the amount of water curtailed from diversion to meet Compact delivery requirements.

Public Use Impacts

Rainfall patterns around the San Luis Valley have been very erratic. Even though the Alamosa area may be seasonally near normal, the foothills near Crestone are well below normal. The Saguache area received an intense rainstorm during mid-July, dropping about three inches in a one-hour period. The San Luis Valley does look a bit greener this summer than it has the past two summers.







Basinwide Conditions Assessment

The SWSI value of –1.8 indicates that for July the basin water supplies were slightly below normal. Flow at the gaging station Uncompahgre River near Ridgway was 238 cfs, as compared to the long-term average of 337 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 91% of normal as of the end of July.

Outlook

Some timely rains have helped maintain river flows. If the normal monsoonal weather patterns will produce thunderstorms in August creeks should not drop to critical levels.

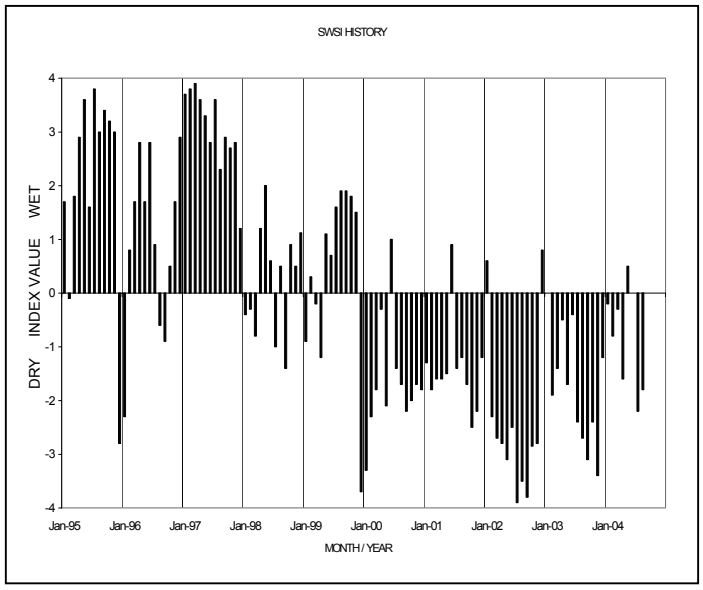
Administrative/Management Concerns

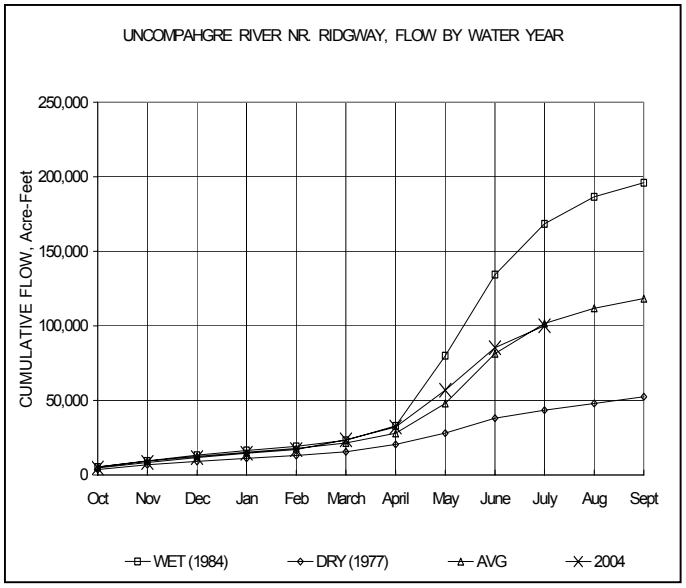
So far, the basin has avoided any major river calls on the Uncompahgre, Gunnison, or the San Miguel Rivers. On the Uncompahgre River, the flows have been sufficient so that the Uncompahgre Valley Water Users Association (UVWUA) have only used a small portion of their storage account in Ridgway Reservoir. The remaining amount should be enough to satisfy their needs for the rest of the irrigation season, especially if the basin gets any rainfall. On the upper Gunnison River, the UVWUA have 100,000 AF available in the reservoirs. As a result, it is not anticipated that they will place a call with the Gunnison Tunnel.

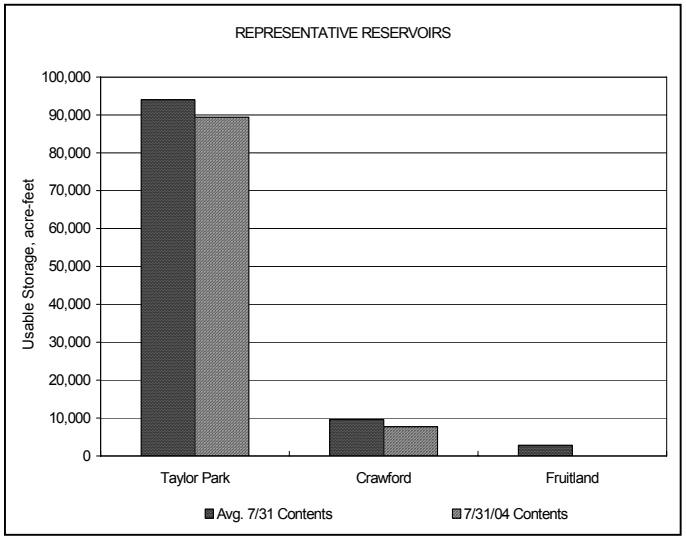
However, on the San Miguel River, the flows have dropped enough that the Highline Canal will likely place a call during the first part of August. This triggers the extensive administration of the entire San Miguel Basin, including the release of hundreds of augmentation ponds that were built to satisfy augmentation plans.

Public Use Impacts

Irrigators are doing well this year, and should have enough water to be able to produce a full crop. The 'Olathe Sweet' sweet corn has reached its seasonal peak and will have a bumper crop. After it is finished towards the end of August, the water demands will be less in the Uncompahgre River basin. The hay produced in the upper Gunnison Basin will be put up between thunderstorms, but should be a good crop. Given the below average runoff conditions, the adverse impacts have not been too bad.

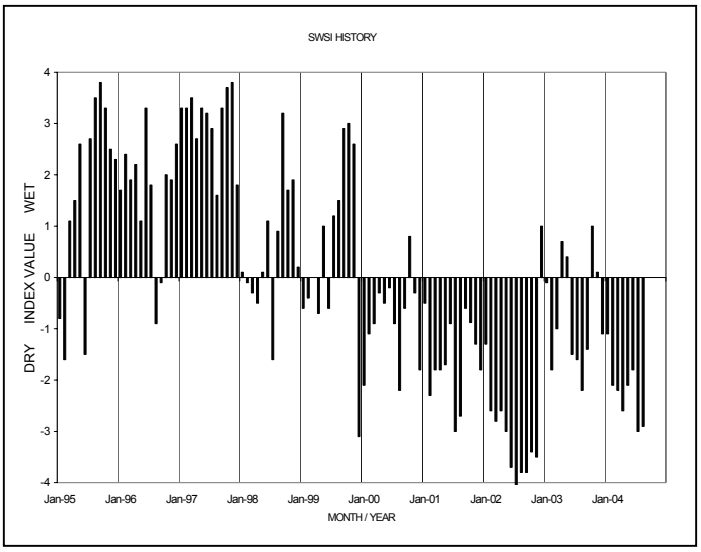


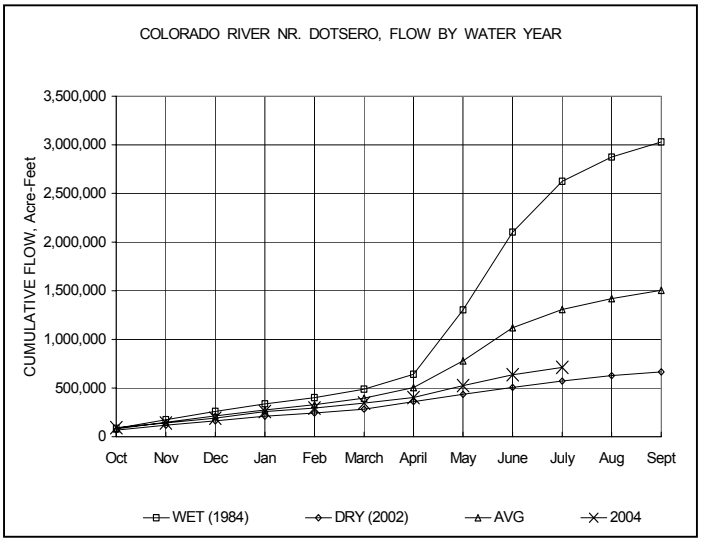


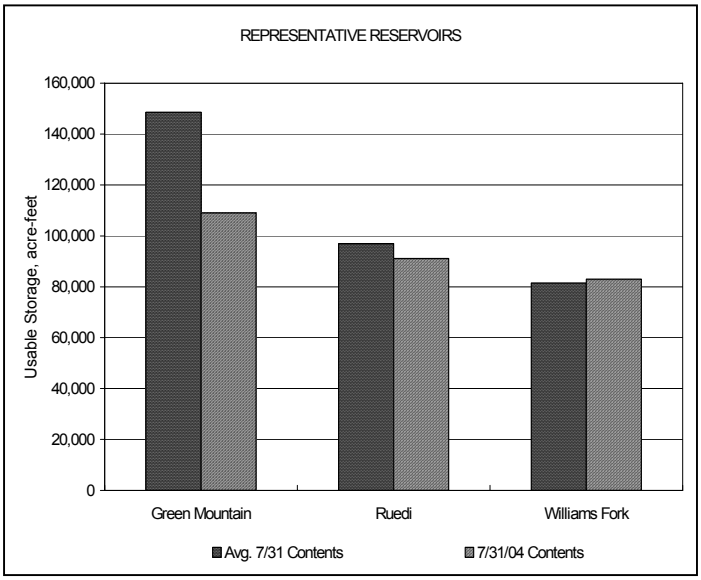


Basinwide Conditions Assessment

The SWSI value of –2.9 indicates that for July the basin water supplies were below normal. Flow at the gaging station Colorado River near Dotsero was 1,213 cfs, as compared to the long-term average of 3,128 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 87% of normal as of the end of July.



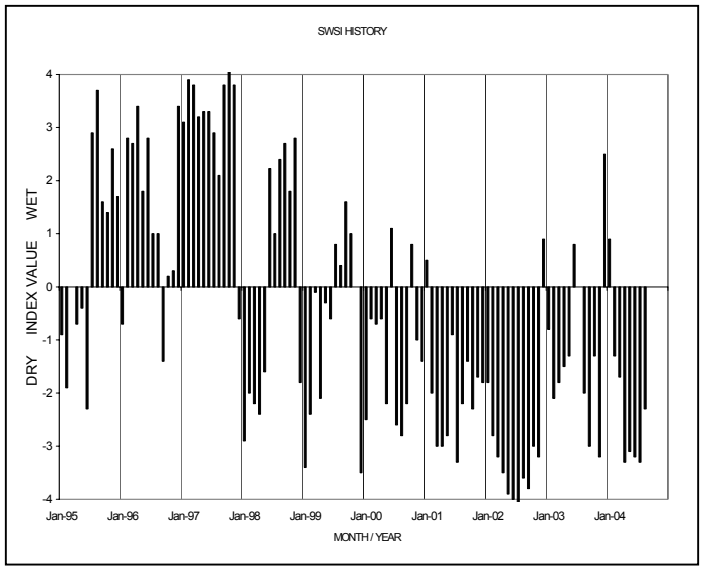




Basinwide Conditions Assessment

The SWSI value of –2.3 indicates that for July the basin water supplies were below normal. Flow at the gaging station Yampa River at Steamboat was 127 cfs, as compared to the long-term average of 410 cfs.

Rains in early and mid-July provided much needed moisture to the basin. These precipitation events helped maintain stream flows at acceptable levels. While flows were still well below normal, ample water was available in many areas to finish irrigation of crops. The second half of the month saw fewer storms and declining flows. A large high-pressure area that covered the northwestern part of the state cut off the monsoon moisture flow to the basin. By the end of the month, flows in many of the stream and rivers were approaching levels of 2002. Irrigation reservoir volumes have dropped significantly this month.

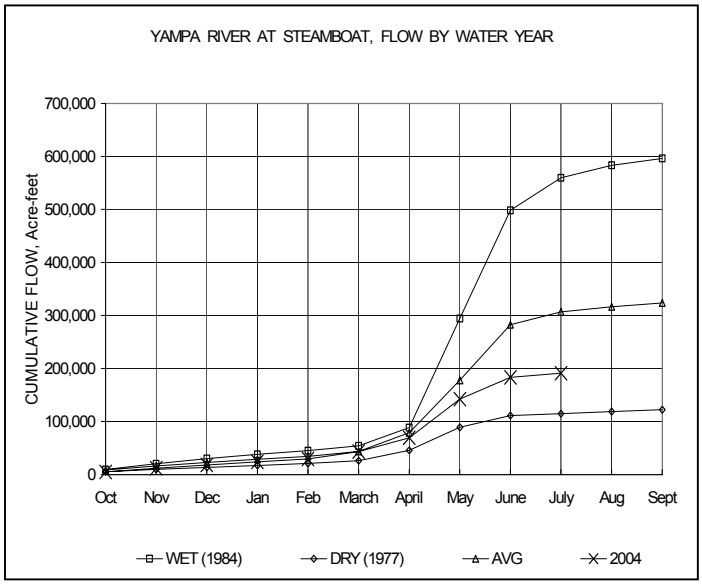


Outlook

River flows are expected to remain well below average for the rest of the summer. The precipitation forecast for the next 30-days is for normal precipitation. Below normal water supplies will exist for late season irrigation.

Administrative/Management Concerns

Haying season is underway for many ranchers, which has resulted in the reduction in the number of streams under administration at the present time. Flows on the Yampa River in Steamboat Springs are reaching levels that could trigger restrictions on access to the river for recreational use. Flows in the critical habitat area on the Yampa River downstream of Craig are approaching levels that may initiate a release from Steamboat Lake by the U. S. Fish and Wildlife Service.



Public Use Impacts

While recreational reservoirs remain full, recreational activity on many streams and rivers has declined.

Basinwide Conditions Assessment

The SWSI value of –1.8 indicates that for July the basin water supplies were slightly below normal. Flow at the gaging station Animas River near Durango was 622 cfs, as compared to the long-term average of 1,180 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 92% of normal as of the end of July.

The July water supply conditions in southwestern Colorado were about the same as expected. Precipitation in the form of summer showers began around the middle of the month and led to near normal totals at the Durango weather station. The surrounding areas received varying amounts since the thundershowers were not generalized, but most areas received some rain. Montezuma and Dolores Counties may have received less as stream levels in those areas dropped severely.

Most rivers ran between 40% and 60% of normal for this time of year. Springs on the lower end of the mesas, especially Fort Lewis Mesa, were observed to be drying up and were running at historic lows.

Reservoirs retained nearly average or slightly below normal storage. Vallecito was the one reservoir that continued to operate with higher supplies. Project users on the Dolores and Florida were obtaining normal use of reservoir water, but this was based on a 61% supply.

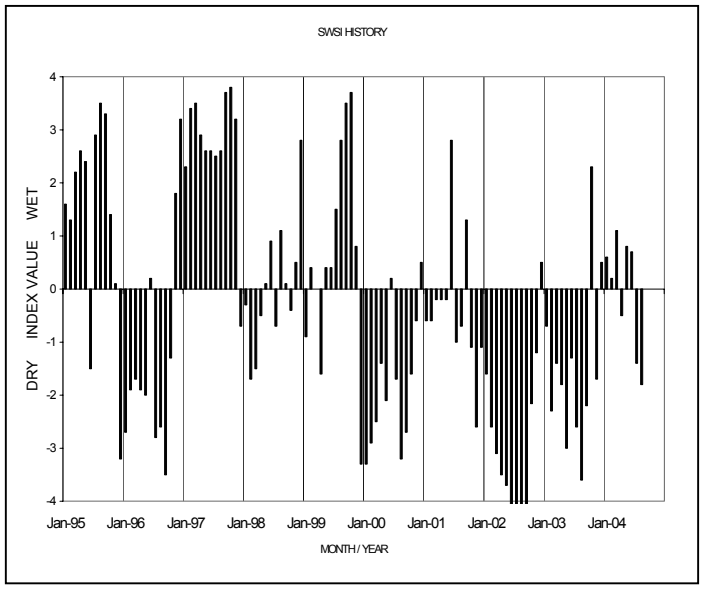
Fires in Arizona and Utah may have impacted the weather in this area.

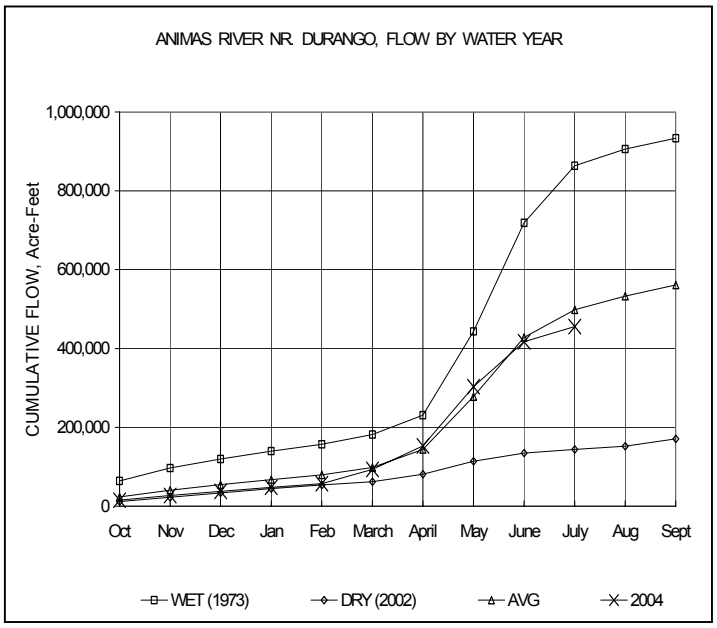
Outlook

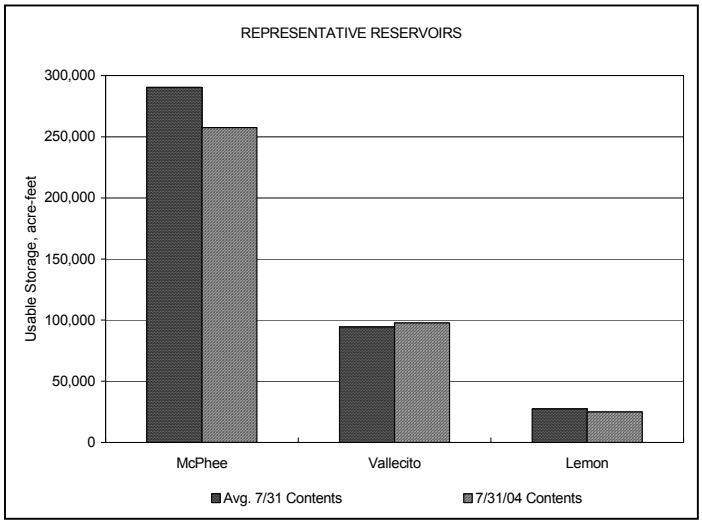
High pressure remained an impediment on the natural flow of moist air into the four corners. The outlook is for more hot and dry weather leading to continued drought conditions. However, there are possibilities of change showing up as storms develop each day.

Public Use Impacts

First cuttings of hay occurred early and without the mishap of being rained on. Good crops were observed in some areas.







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