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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SEPTEMBER 2003

No major changes in conditions have occurred over the past months, with the entire state remaining in a below normal water supply situation. The SWSI values show the South Platte basin perhaps a bit better off than the other basins, although both stream flow and reservoir storage are below average in that basin, as they are in the rest of the state. During August rains did benefit some of the southern and western areas of the state, including the Rio Grande, San Juan/Dolores, Gunnison, and Colorado basins. The Arkansas, South Platte, and Yampa/White basins were hot and dry. Reservoir levels dropped as stored water continued to be utilized across the state, helping those who had rights to that water.

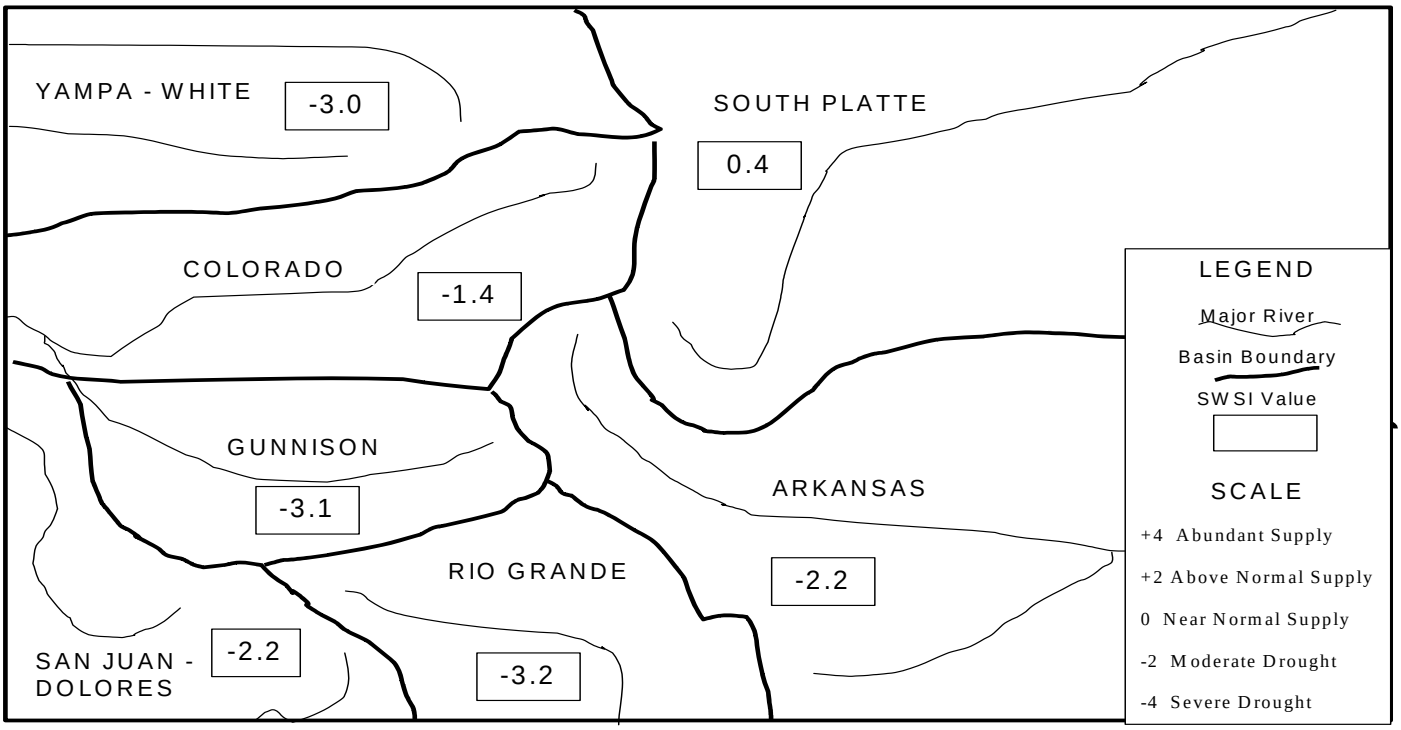
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain-based water supply conditions in the major river basins of the state. It is based on stream flow, reservoir storage, and precipitation for the summer 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 September 1, 2003, and reflect the conditions during the month of August.

Basin	Sept. 1, 2003 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	0.4	+0.7	+3.6
Arkansas	-2.2	-0.4	-0.3
Rio Grande	-3.2	+0.3	+0.4
Gunnison	-3.1	-0.4	+0.7
Colorado	-1.4	+0.8	+2.4
Yampa/White	-3.0	-1.0	+0.8
San Juan/Dolores	-2.2	+1.4	+1.9

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



September 1, 2003

Basinwide Conditions Assessment

The SWSI value of 0.4 indicates that for August the basin water supplies were near normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 87% of normal as of the end of August. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 29% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 70% of capacity. Flow at the gaging station South Platte River near Kersey was 248 cfs, as compared to the long-term average of 844 cfs. Flow at the Colorado/Nebraska state line averaged 19 cfs.

August continued dry and hot in the South Platte basin as is normally expected. Flows at the Kersey gage returned to near historic lows. However, return flows along the river were significantly higher than last year and thus the river calls on the South Platte returned to what would normally be expected in August rather than the most senior calls in over 20 years like last year.

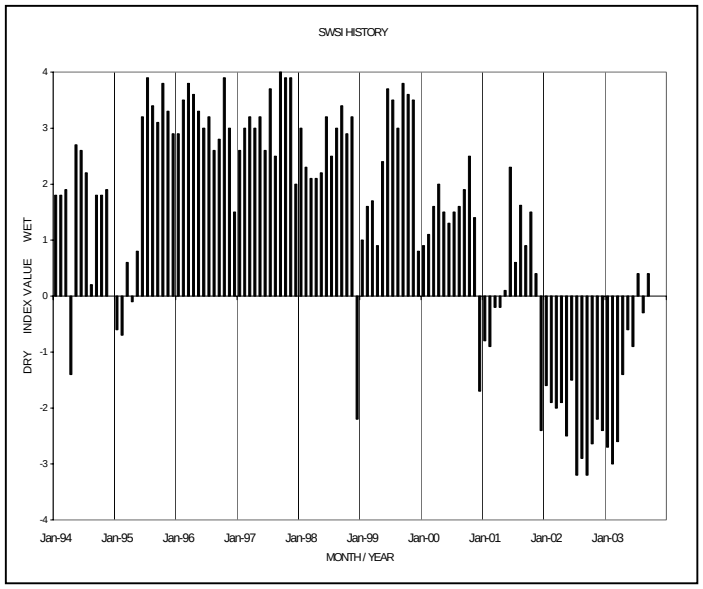
Because of better conditions, demand from reservoirs also was not near as high as in the previous year for both municipal and irrigation users. Thus, reservoir storage is in much better shape through out the basin. To assist in this, a major rainstorm the last two days of the month will help assure irrigation calls are junior for the remainder of the year. This improved present reservoir storage situation and the increased return flows along the river improve the chances of users filling reservoirs this winter.

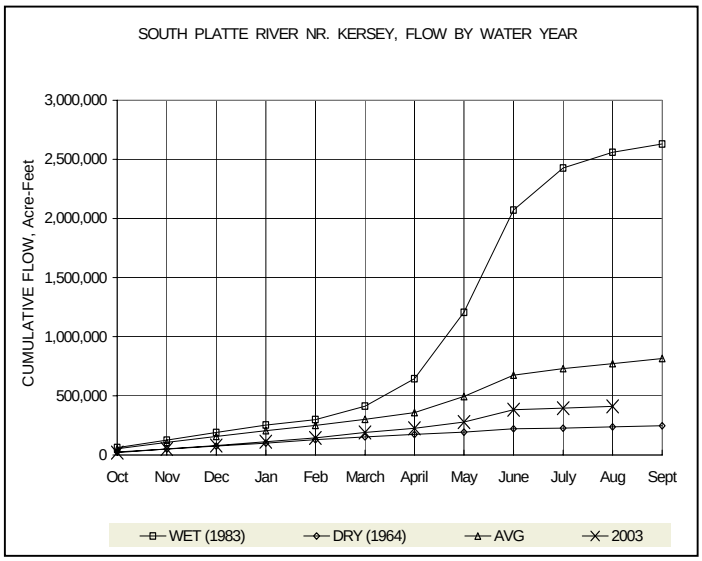
Outlook

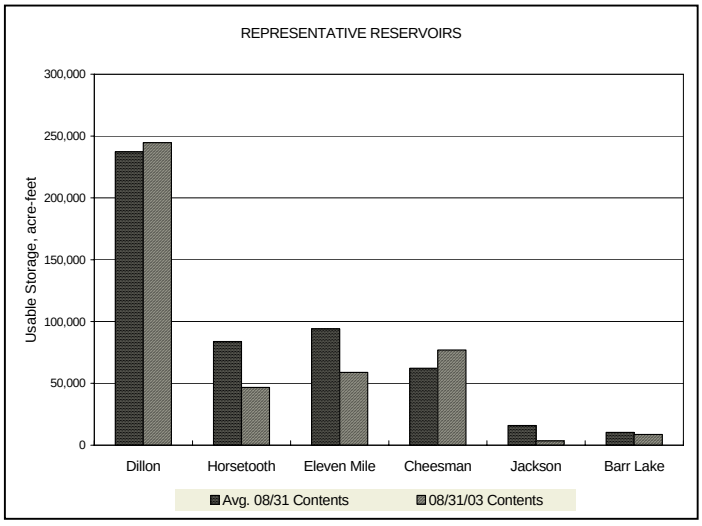
While conditions next year will be dependent on snowfall and spring rain as usual, initial water supply conditions for next year are dramatically better than the conditions at this time a year ago.

Public Use Impacts

Because of the improved conditions, many municipal providers either reduced or eliminated their water use restrictions.



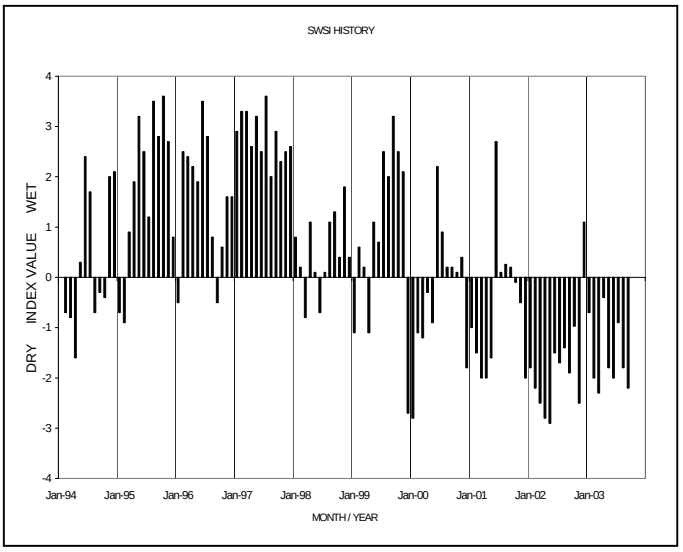




Basinwide Conditions Assessment

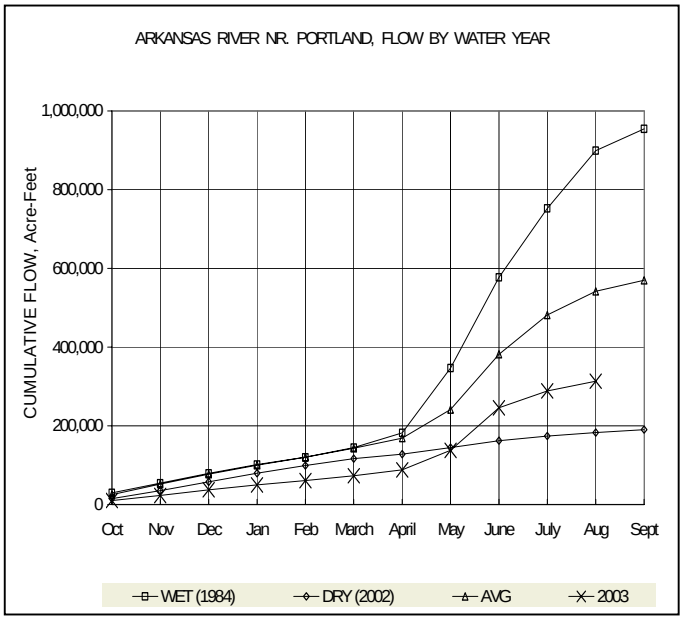
The SWSI value of –2.2 indicates that for August the basin water supplies were below normal. Flow at the gaging station Arkansas River near Portland was 406 cfs, as compared to the long-term average of 1,014 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 53% of normal as of the end of August.

River conditions in the Arkansas River basin deteriorated rapidly in August, possibly due in part to the record setting high temperatures experienced in July, as well as below average precipitation. For example, Pueblo's total precipitation for the month of August was 1.17 inches, 51.5% of the average of 2.27 inches. On a positive note, this was a vast improvement over Pueblo's August 2002 total precipitation of 0.30 inches. Stored water sources continued to be drawn upon heavily by direct flow irrigators, decreasing the water levels in Pueblo Reservoir, John Martin Reservoir and other storage vessels below even last summer's lowest levels.



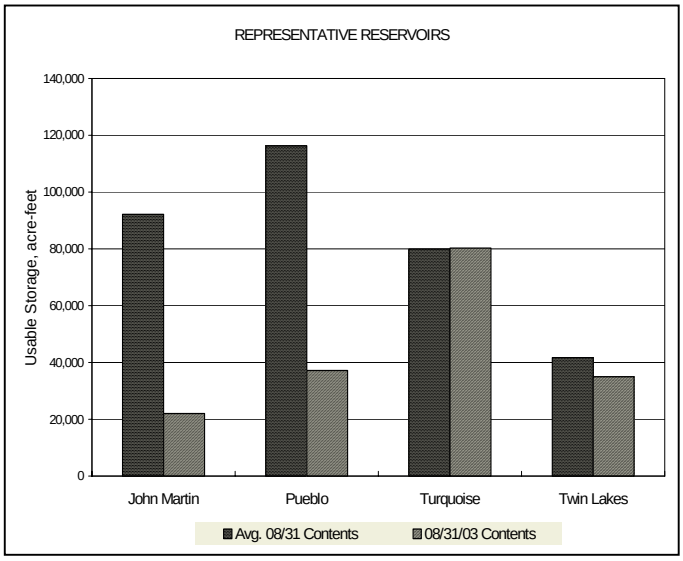
Administrative/Management Concerns

The river call on the main stem of the Arkansas River started off the month at an 1884 date, but by the middle of the month had deteriorated to an 1874 Rocky Ford Ditch call. The call lingered there until the last five days of the month, when river conditions improved somewhat with the late arrival of the monsoon.



Public Use Impacts

Government and municipal agencies cooperated during the first half of August to supplement the low flow conditions upstream of Pueblo Reservoir for recreational interests. During the second week of August, as much as 390 cfs was added to keep the flow at the stream gage Arkansas River near Wellsville at the target flow of 750 cfs.

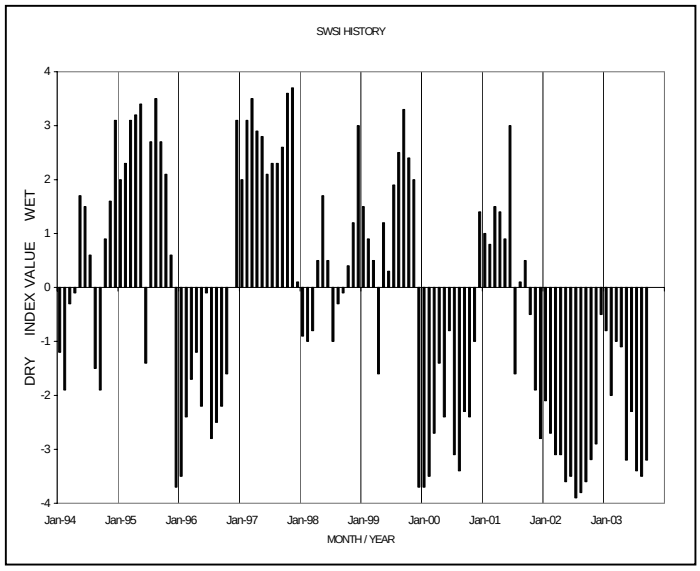


Basinwide Conditions Assessment

The SWSI value of –3.2 indicates that for August the basin water supplies were well below normal. Flow at the gaging station Rio Grande near Del Norte was 232 cfs (29% of normal), as compared to the long-term average of 719 cfs. The Conejos River near Mogote had a mean flow of 90 cfs (44% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 39% of normal as of the end of August.

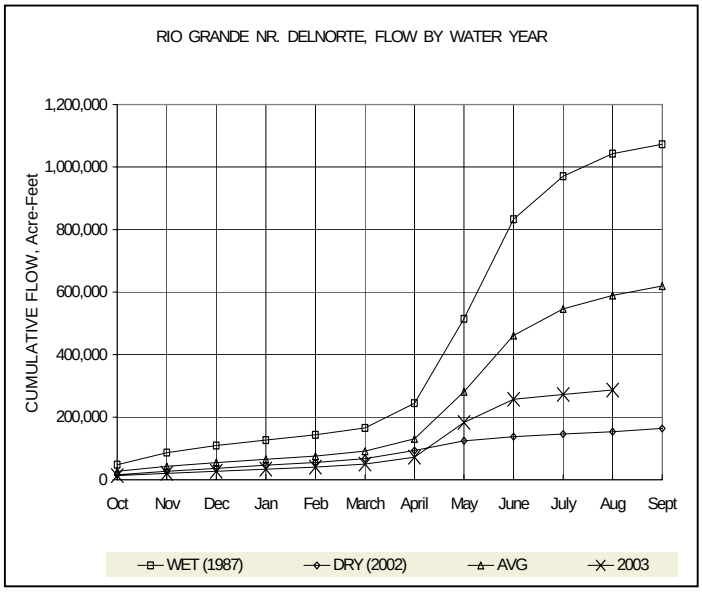
At the close of the month, stream flow in the upper Rio Grande Basin had improved due to recent rainfall, but remained at very low levels. Soil moisture conditions are improving and the foothills are taking on a greener hue.

The San Luis Valley continued to lag behind normal precipitation amounts, about one inch below average year-to-date. August was not quite the scorcher that July was, but temperatures still remained above normal.



Outlook

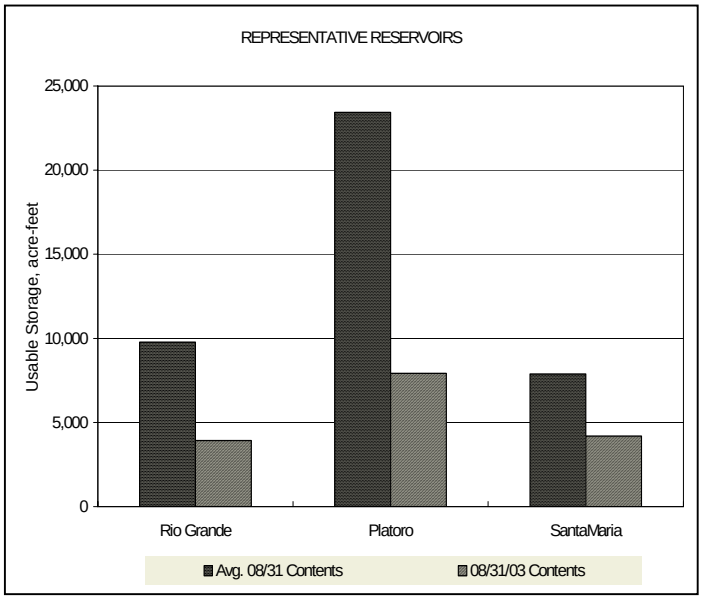
Near normal precipitation amounts during July and August encouraged water users and administrators. However, barring a consistent deluge of rain, the call for water from area creeks and rivers should remain very senior until winter. The aquifers of the region are particularly stressed as nearly all irrigation water used in the area must come from wells.



Administrative/Management Concerns

Aquifer monitoring by the Rio Grande Water Conservation District (RGWCD) and Davis Engineering Service revealed that water storage in the unconfined aquifer in a defined study area of the Closed Basin had dropped nearly 1,000,000 acre-feet below the baseline established in 1976. This translates into three years of groundwater consumption in that area.

Extreme measures must be taken to reverse this dramatic trend. A group of area water users are proposing the creation of a special subdistrict of the RGWCD. The objective of the subdistrict would be to provide a water management alternative to state-imposed regulations limiting the use of wells within the subdistrict, by allowing subdistrict members to self-regulate water consumption with economic-based incentives that promote responsible water use and management. The concept of the subdistrict is gathering interest and is being brought to a vote of the constituents within the proposed subdistrict boundary (an area comprising nearly 200,000 acres).



Public Use Impacts

On September 9, **heavy** rainfall on the valley floor and snowfall on the high peaks of the basin resulted in a significant increase of stream flow. Alamosa received 1.17 inches of rain on this date. This is monumental because there has not been a single rainfall event in Alamosa of over one inch since 1993. Perhaps this is an indication of what is to come?

Basinwide Conditions Assessment

The SWSI value of –3.1 indicates that for August the basin water supplies were well below normal. Flow at the gaging station Uncompahgre River near Ridgway was 108 cfs, as compared to the long-term average of 171 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 75% of normal as of the end of August.

Temperatures in the Gunnison and San Miguel Basins were higher that normal in August. Occasional and isolated rain showers in various parts of the basins helped the flows from becoming too low.

Administrative/Management Concerns

River calls from major irrigation ditches occurred in July, as expected, and continued through the month of August. On the Gunnison River, the Gunnison Tunnel called out the entire upper Gunnison River Basin and water rights were curtailed down to a 1940 adjudication date. While the 1941 and 1943 water rights account for a large portion of the irrigation diversions, most users were able to finish their hay crop irrigation before they were curtailed down to their small senior rights.

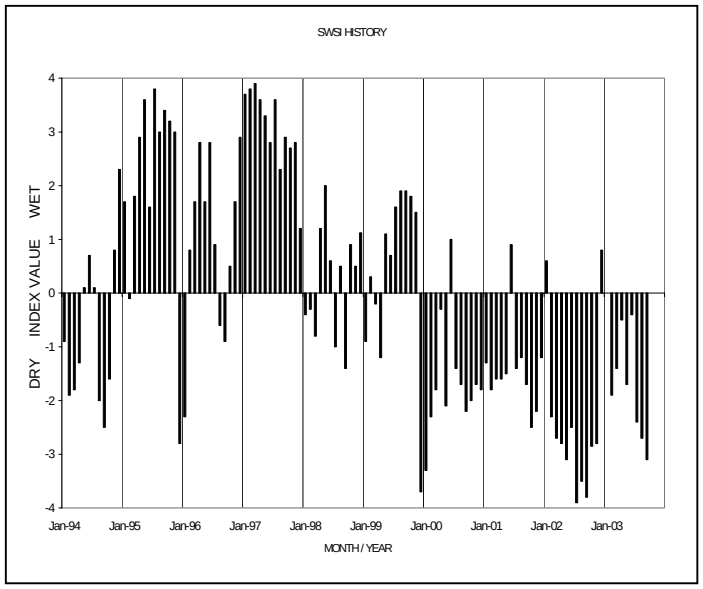
On the Uncompahgre River, the M & D Canal call forced curtailment of water rights down to an 1883 adjudication date. On the San Miguel River, the flows in August approached the level for the Highline Canal Near Naturita, which would place the entire basin on call, but timely rains kept the flows just high enough to keep them satisfied. It is not expected that they will need to place a call for the remainder of the irrigation season.

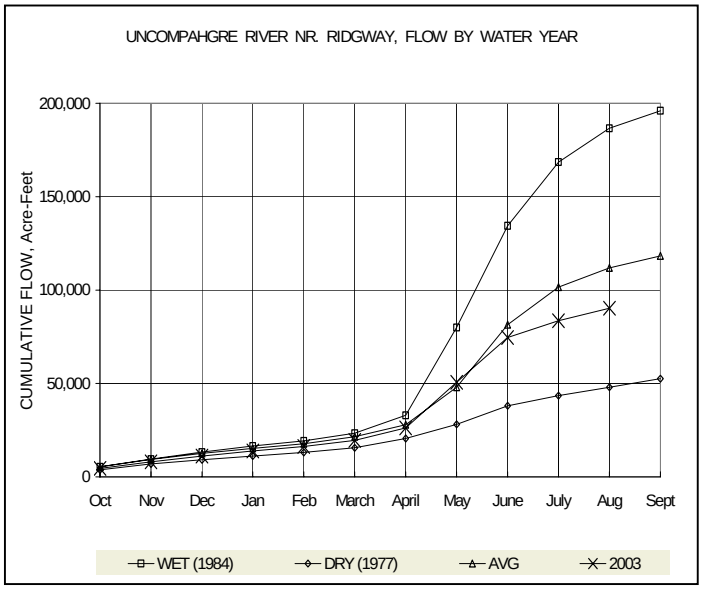
Irrigators in the Gunnison and San Miguel Basins have had a good irrigation season this year, although a large portion of the flows have been from reservoir storage. The Uncompahgre Valley Water Users Association used their reservoir storage out of Ridgway and Taylor Park Reservoirs to supplement their irrigation deliveries. It is expected that they will use their entire 11,200 af pool in Ridgway Reservoir and about 40 percent of their 106,230 af account in Taylor Park Reservoir this year. Among the crops irrigated with storage water was the world famous “Olathe Sweet, Sweet Corn” produced in the Uncompahgre valley.

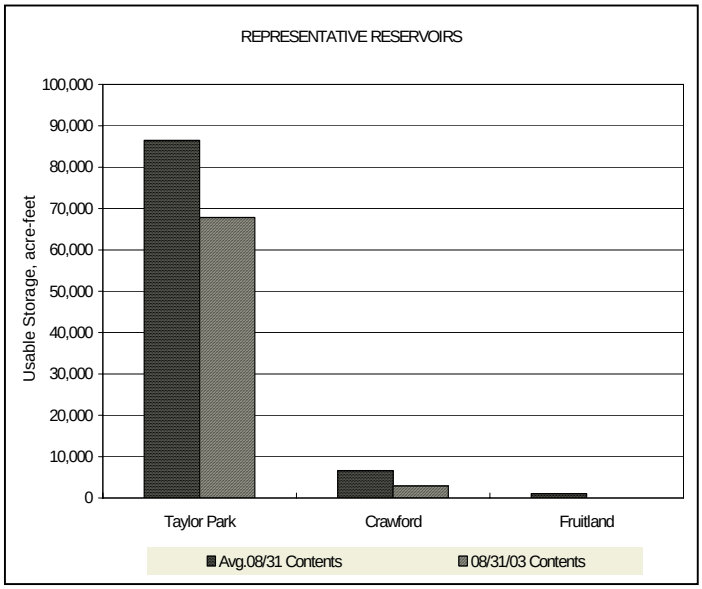
The storage reservoirs on the Grand Mesa are likely to be fully utilized this year with very little carry over for the next year.

Public Use Impacts

Recreationalists have also benefited form the higher reservoirs levels and flows.







Basinwide Conditions Assessment

The SWSI value of –1.4 indicates that for August the basin water supplies were below normal. Flow at the gaging station Colorado River near Dotsero was 1,358 cfs, as compared to the long-term average of 1,848 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 100% of normal as of the end of August.

Monsoon rains in late August and early September have provided relief to agricultural produces locally and have also kept the main stem Colorado River call reduced.

Outlook

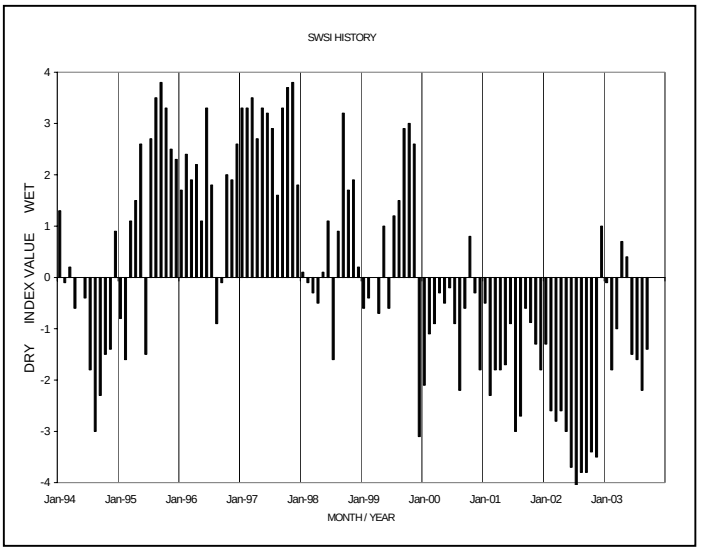
River flows are approaching normal (i.e., average) on many tributaries, which is much better than last year when flows were substantially below average at this time of year. Ground moisture heading into fall is looking much better than last year, as well.

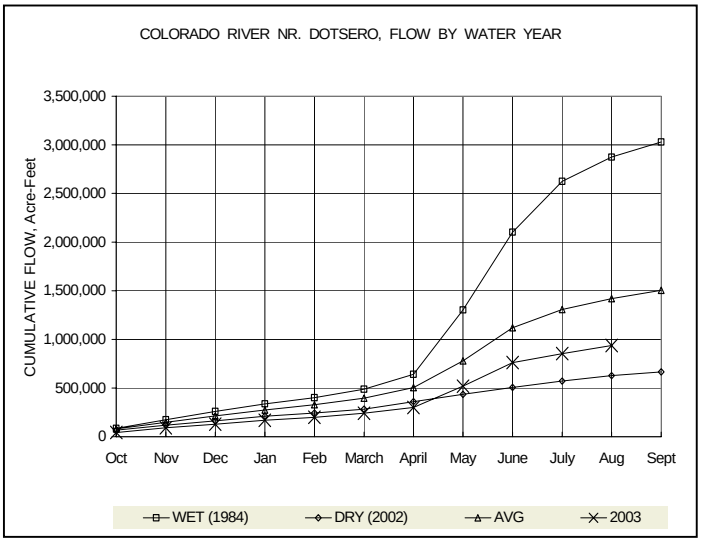
Administrative/Management Concerns

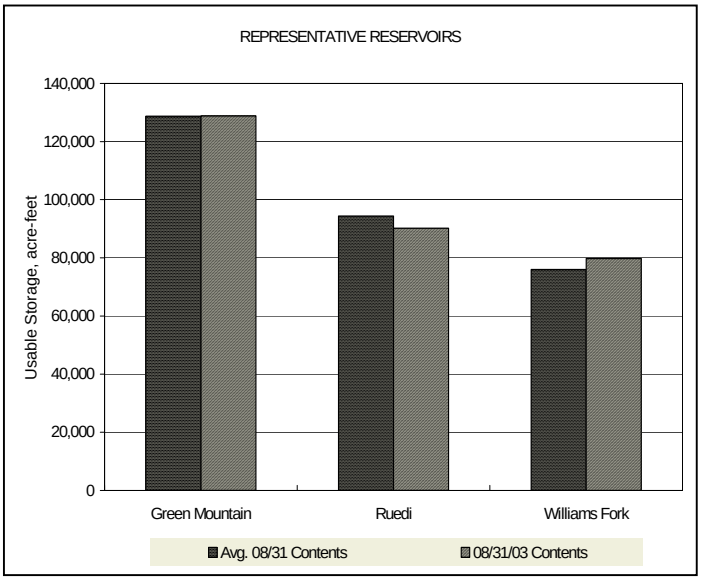
The senior call at the Shoshone Power Plant has been partially satisfied by increased river flows, allowing some upstream juniors to divert. The Cameo river call has remained off much of last month due to the increased flows.

Public Use Impacts

For outdoor recreationalists, many fire bans have been lifted as of Labor Day.







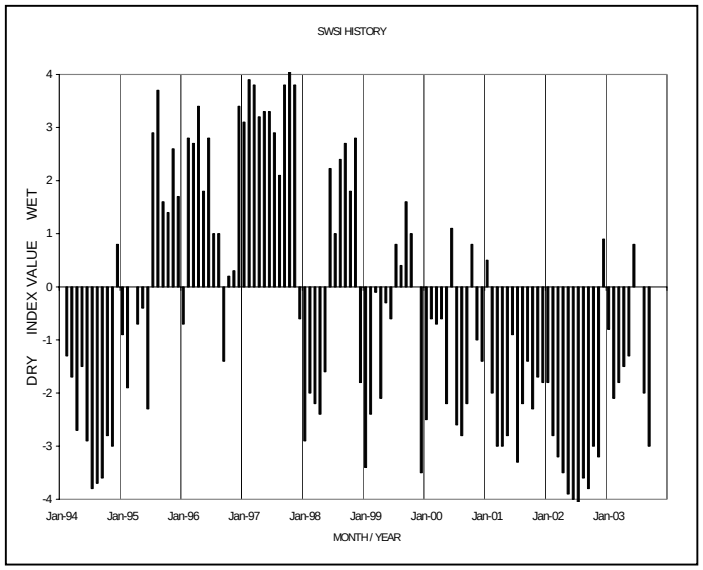
Basinwide Conditions Assessment

The SWSI value of –3.0 indicates that for August the basin water supplies were well below normal. Flow at the gaging station Yampa River at Steamboat was 88 cfs, as compared to the long-term average of 159 cfs.

August continued the trend of warm temperatures and below average precipitation. Rainfall was widely scattered, and for the most part consisted of short duration thunderstorms. Stream flows were largely unaffected by these rainfall events.

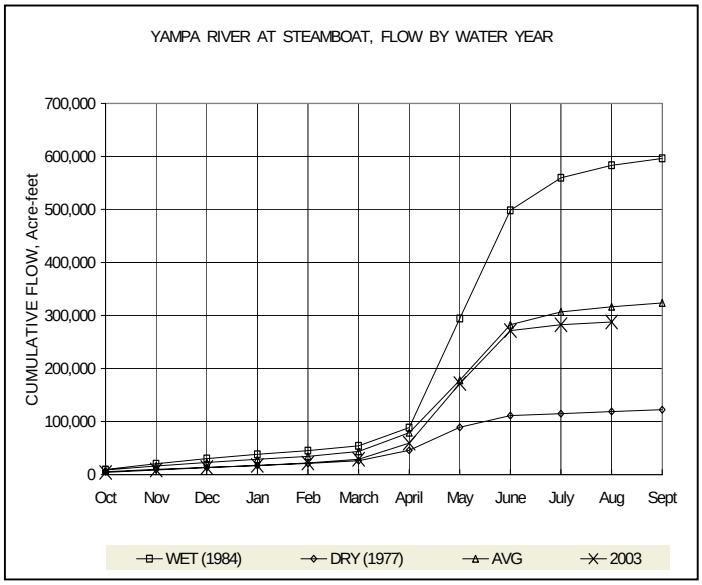
Rivers and streams in the basin continued to flow at levels well below average, although flows were much improved from the same period last year.

Reservoir storage levels have held up well, with the exception of irrigation reservoirs on the Bear River at the headwaters of the Yampa River.



Outlook

The monsoon moisture has been relatively absent from the basin this summer. As fall approaches, hopes are high that precipitation amounts will return to a more normal level and provide much needed moisture to replenish the soil moisture content.



Administrative/Management Concerns

Water was released in August from Steamboat Lake to supplement flows in the critical habitat on the Yampa River. These releases helped to maintain flows at the Maybell gage above 100 cfs. Releases began on August 8th and stopped on the August 29th. Public meetings for the Statewide Water Supply Initiative (SWSI) were held in Steamboat Springs and Walden in August.

Basinwide Conditions Assessment

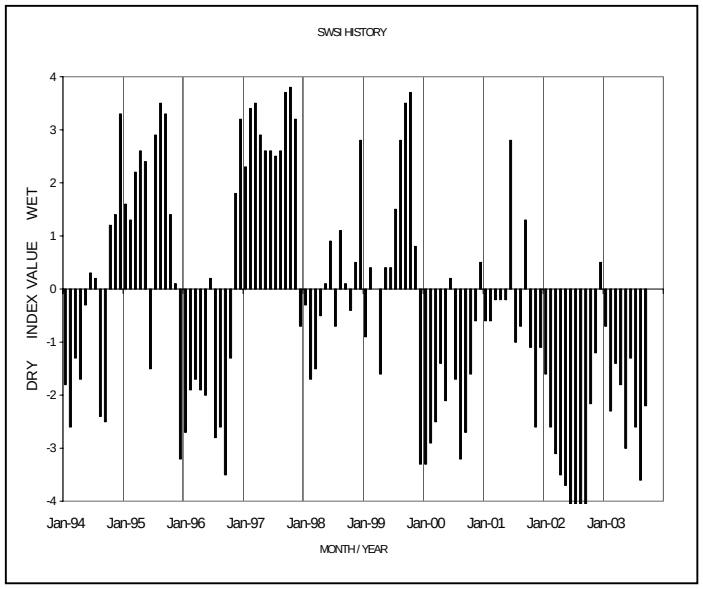
The SWSI value of –2.2 indicates that for August the basin water supplies were below normal. Flow at the gaging station Animas River near Durango was 359 cfs, as compared to the long-term average of 574 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 56% of normal as of the end of August.

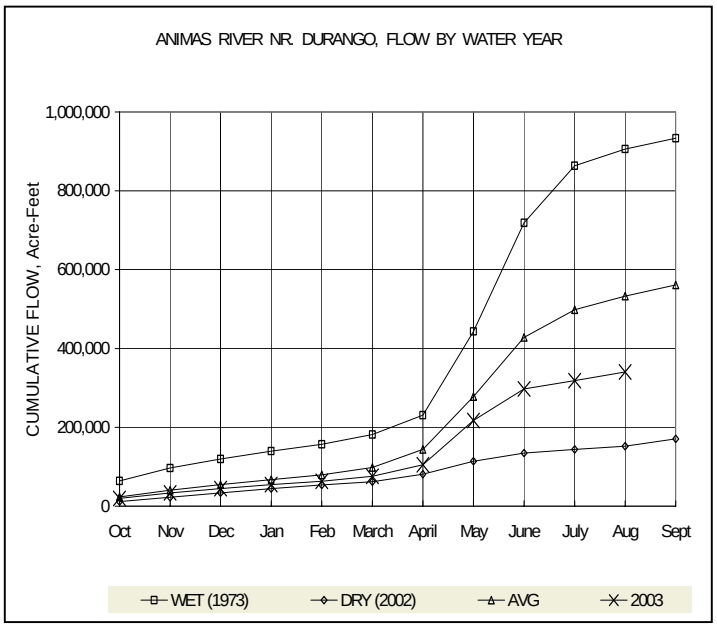
The summer rainy season arrived in August with a set of welcome storms, which gave some relief from the drought. Durango received 2.89 inches of precipitation, which was 13% above normal. The precipitation came through daily events, none of which exceeded .61 inches of precipitation. Rain was measured on 15 days during the month. Temperatures moderated and remained near or slightly above normal across the area.

The La Plata River and several other streams did not run through reaches of dry river bed, but the sections that had water increased enough to be helpful to users in those areas. Stream flows on the average remained well below normal until the end of the month when the base flows rose in most areas. McElmo Creek went off call by the middle of the month. The Dolores River was called for the first time in recent memory during the summer irrigation season.

Mud from the burned areas of last year caused murky flow in the runoff and left users with the choice of using very silty water or shutting down until the stream cleared up.

Reservoirs were drawn down to well below normal levels. Lemon Reservoir stopped storage releases when it dropped to 300 acre-feet. Navajo Reservoir was reporting 25% of average total inflow this year.



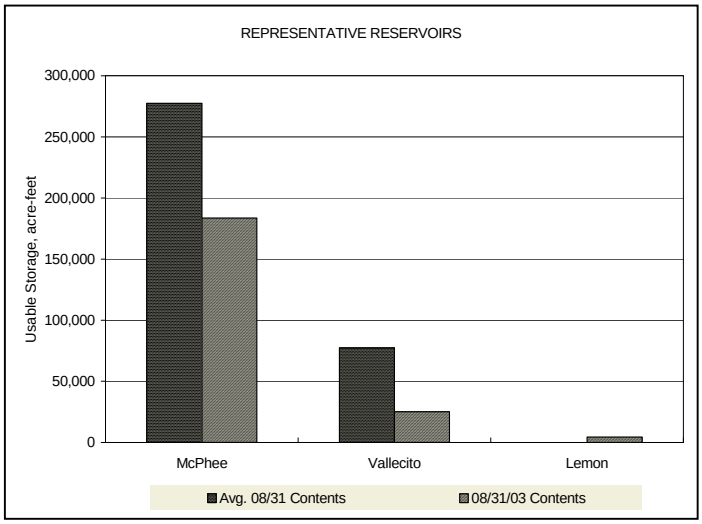


Outlook

The outlook is always much better after rain occurs. The rainy weather that occurs this time of year leads to conditions which may allow the reservoirs to refill slightly and carry over a small amount of storage into the new year. However, if the basic weather pattern during the winter months continues to follow previous years the drought would continue.

Public Use Impacts

Reduced but continued sports activity continued on the Animas River and others. Hay production was much better than last year but not as much needed in many areas.



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