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 1999

Water supply conditions continue to do quite well statewide, as evidenced by all basins having a positive SWSI value. Most stream flows are holding to near normal rates. Reservoir storage levels continue to be high, with most of the reservoirs in the state full or nearly full.

Frequent rain throughout the state has supported stream flows and reduced the demand for diversions to irrigation, both of which are producing administrative river calls of a more junior date than is typical for this time of year. While the rain has helped increase the available water supply, it has also resulted in wet fields, hindering hay cutting and harvesting of other crops.

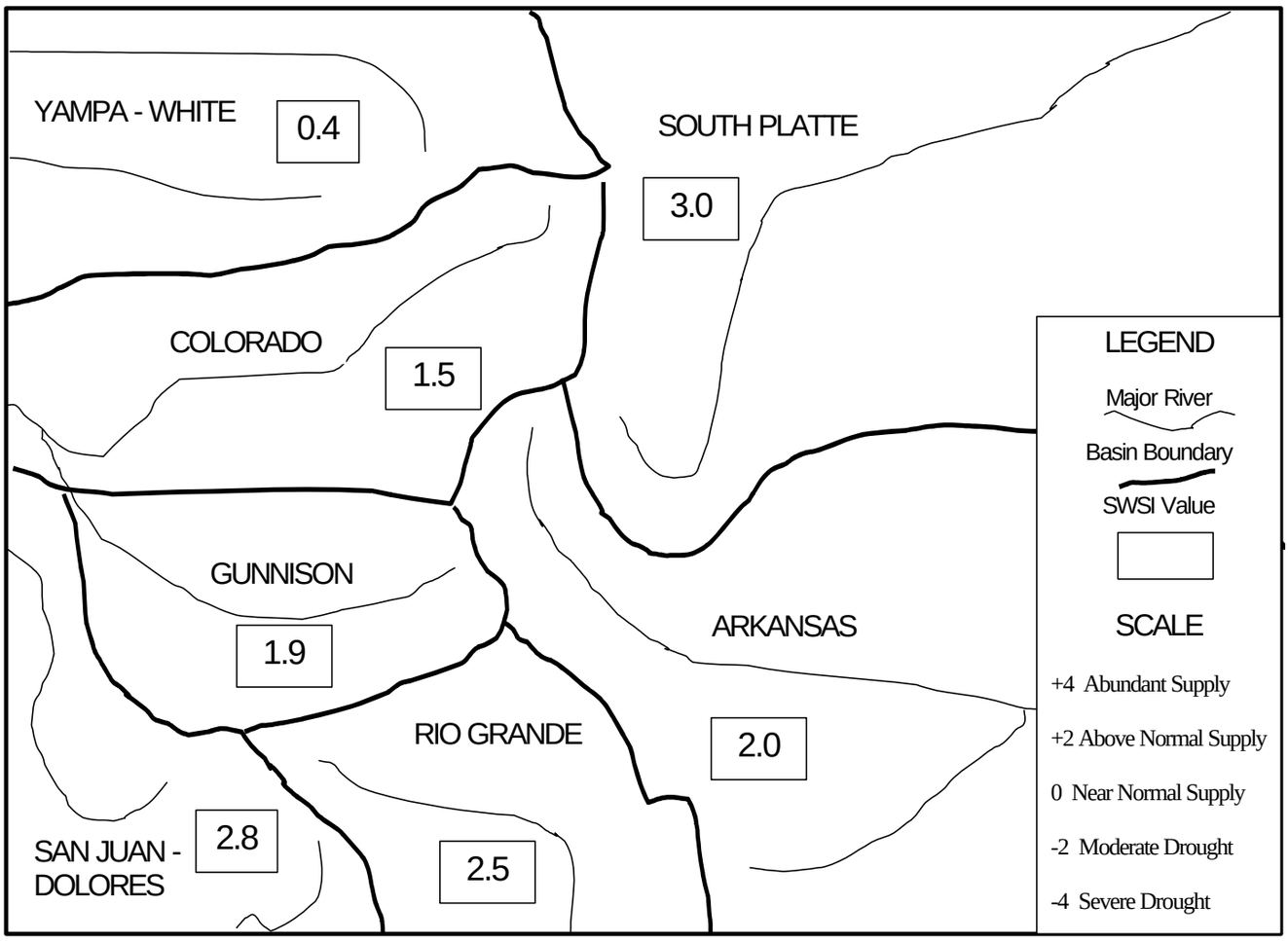
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain based water supply conditions in the major river basins of the state. It is based on stream flow, reservoir storage, and precipitation for the summer 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, 1999, and reflect the conditions during the month of July.

Basin	August 1, 1999 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	3.0	-0.5	0.0
Arkansas	2.0	-0.5	+0.9
Rio Grande	2.5	+0.6	+2.8
Gunnison	1.9	+0.3	+1.4
Colorado	1.5	+0.3	+0.6
Yampa/White	0.4	-0.4	-2.0
San Juan/Dolores	2.8	+1.3	+1.7

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, 1999

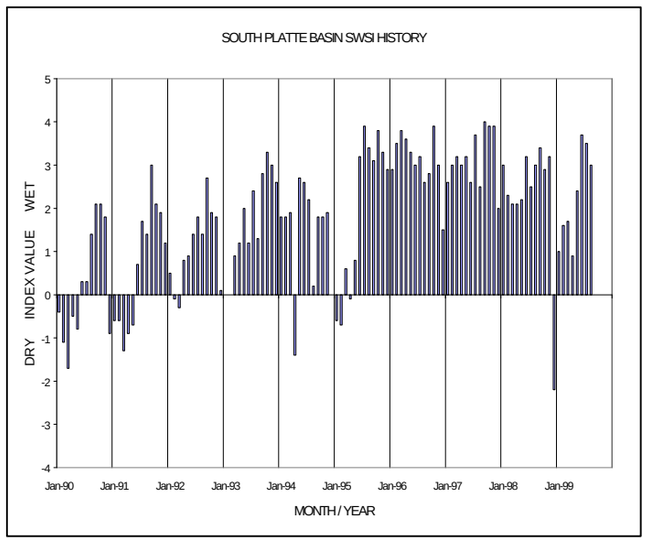
Basinwide Conditions Assessment

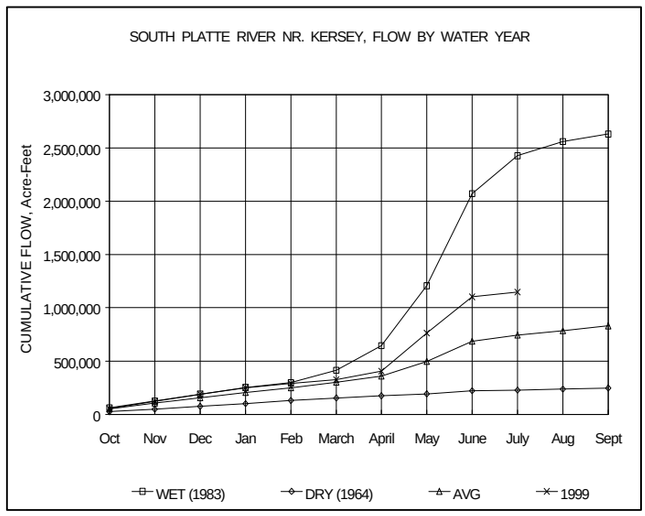
The SWSI value of 3.0 indicates that for July the basin water supplies were above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 110% of normal as of the end of July. Cumulative storage in the major plains reservoirs: Julesburg, North Sterling, and Prewitt, is at 57% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero, is at 101% of capacity. Flow at the gaging station South Platte River near Kersey was 728 cfs, as compared to the long-term average of 1,098 cfs.

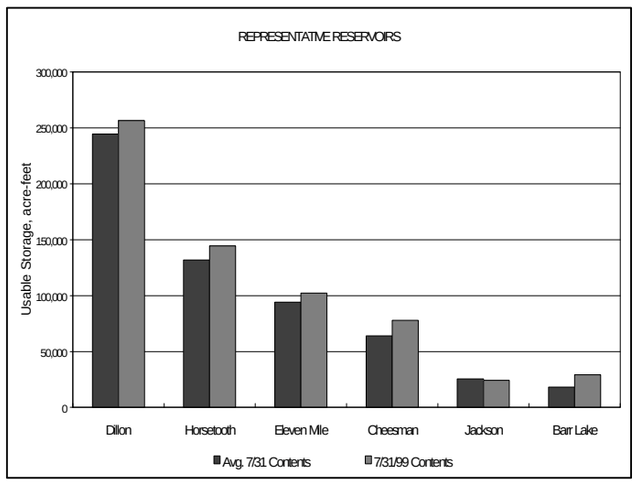
Flows in the South Platte and its tributaries were above average throughout the basin during July. There was no call at all on the South Platte the first eight days of July, which is fairly unusual. The most senior call during the month was a Burlington bypass to the Western Canal, with an 11-20-1885 date. This is a very junior call for this time of year and reflects the excellent river conditions. Widespread rain storms toward the end of the month removed the call completely.

Outlook

Based on the flow conditions, there will not be any shortages this summer and storage should be excellent going into next year. Continued wet conditions could cause problems for farmers in accessing their fields.







Basinwide Conditions Assessment

The SWSI value of 2.0 indicates that for July the basin water supplies were above normal. Flow at the gaging station Arkansas River near Portland was 1,477 cfs, as compared to the long-term average of 1,664 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 204% of normal as of the end of July.

Outlook

The water supply in the Arkansas River basin remains exceptional. Record rainfalls have keep either a very junior call or a free river in effect on the main stem, with fairly junior calls on the tributaries as well.

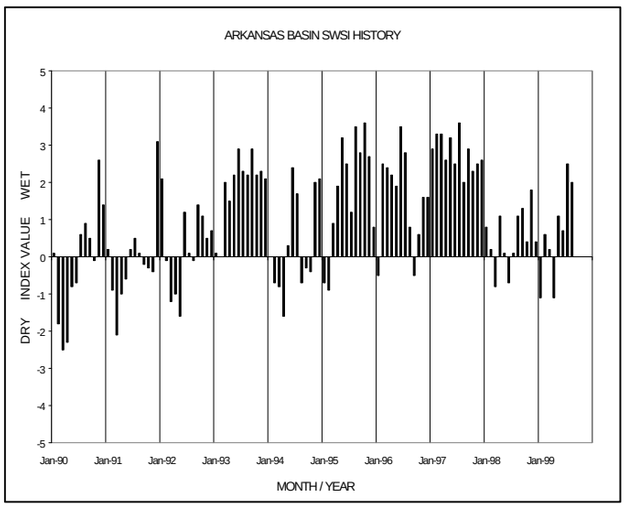
Virtually all storage facilities continue to be full with no large release demands predicted for the near future. This condition will probably continue until next spring.

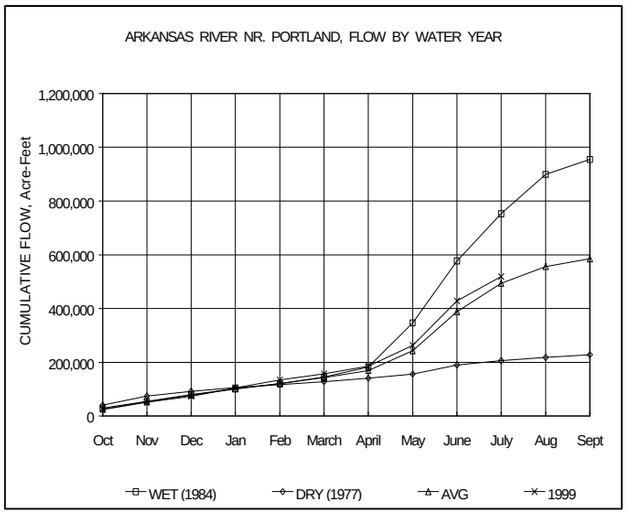
Administrative/Management Concerns

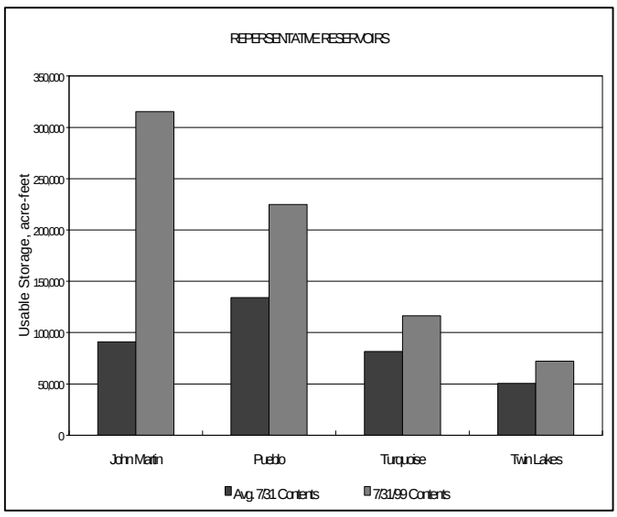
The ability of the Arkansas River to pass high flows through the La Junta area continues to be a concern after dikes were over topped last May by flows of 25,000 cfs. Under current repairs to a dike protecting the north La Junta area, the channel is estimated to be capable of passing only 6,500 to 7,000 cfs. With the help of restricting releases from Pueblo Reservoir, a peak of 6,100 cfs, due to runoff from Fountain Creek, was safely routed through this area the first week of August.

Public Use Impacts

The frequent rains of this summer have begun to negatively impact the agricultural community. Farmers and ranchers have had difficulty bringing in their cuttings of hay, and some watermelon crops have already been lost.





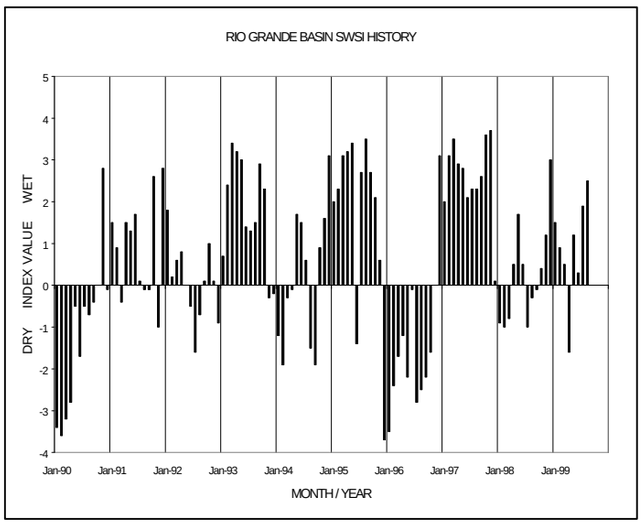


Basinwide Conditions Assessment

The SWSI value of 2.5 indicates that for July the basin water supplies were above normal. Flow at the gaging station Rio Grande near Del Norte was 2,397 cfs, as compared to the long-term average of 1,408 cfs. The Conejos River near Mogote had a mean flow of 535 cfs (113% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 133% of normal as of the end of July.

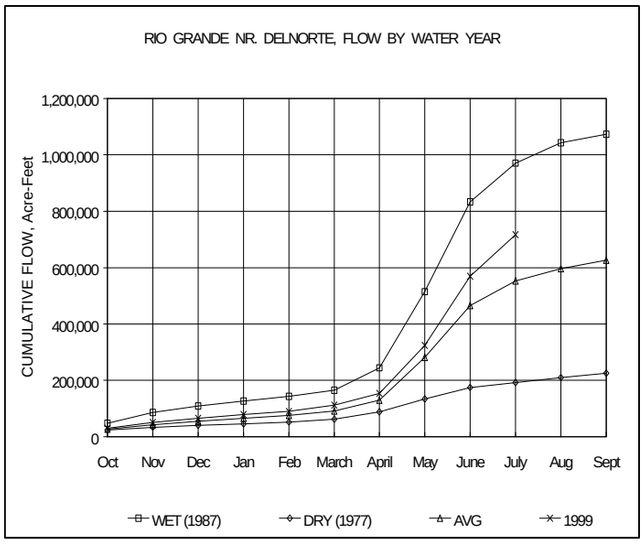
Precipitation in Alamosa was 0.31 inches, 0.88 inches below normal. Alamosa temperatures ranged from 41° to 91°, with an average of 64.7°, 0.21° below normal.

Frequent rain storms in the higher elevations increased stream flow throughout the basin. Soil moisture conditions are very good. Fortunately, this basin did not receive the type of rainfall events that produced mudslides in other areas of the state. The only significant flooding occurred on Saguache Creek on July 25 when US-285 was closed to travel for several hours.



Outlook

Stream flow throughout the upper Rio Grande Basin will be above normal for the next several weeks.



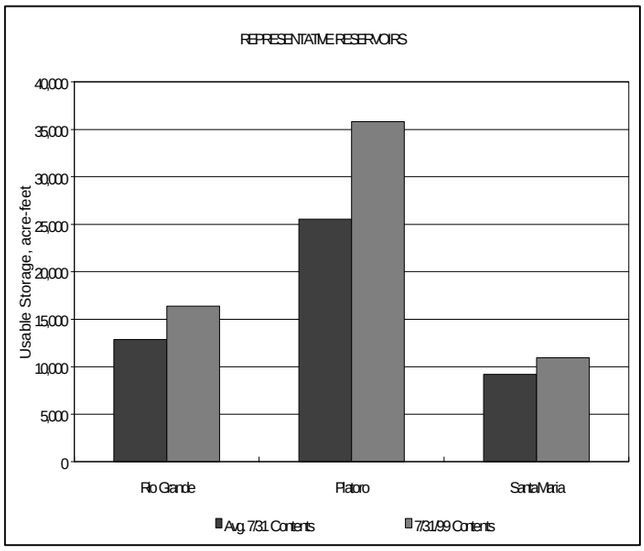
Administrative/Management Concerns

The extended runoff and unexpected rainfall have increased the measured volume at the index gaging stations beyond the forecasted levels. The burden of passing water to the state line to meet Rio Grande Compact delivery requirements dramatically increases as basin inflow rises. The delivery target for the Conejos and its tributaries has remained fairly steady for the summer. However, unusually high stream flow in the Rio Grande drainage the last two months has forced administrators to increase the amount of native flow that is passed by Colorado diversions to New Mexico.

Public Use Impacts

Untimely rainfall has already been a great hindrance to the harvest of grain and grass crops in the San Luis Valley. Moderate to severe economic losses are expected. Late blight, the same fungus that led to the great potato famine in Ireland, has once again been spotted in the valley. This potentially devastating killer made its first appearance in this region last year. It was successfully defended against in 1998 by application of a large amount of chemicals at a great cost to farmers.

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



Basinwide Conditions Assessment

The SWSI value of 1.9 indicates that for July the basin water supplies were above normal. Flow at the gaging station Uncompahgre River near Ridgway was 418 cfs, as compared to the long-term average of 338 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 99% of normal as of the end of July.

Outlook

With all streams flowing above normal at the end of July, it appears there is more water than can be given away.

Administrative/Management Concerns

No administration of water has been necessary recently.

Due to the highs rains lately, the Dallas Creek gaging station was washed out.

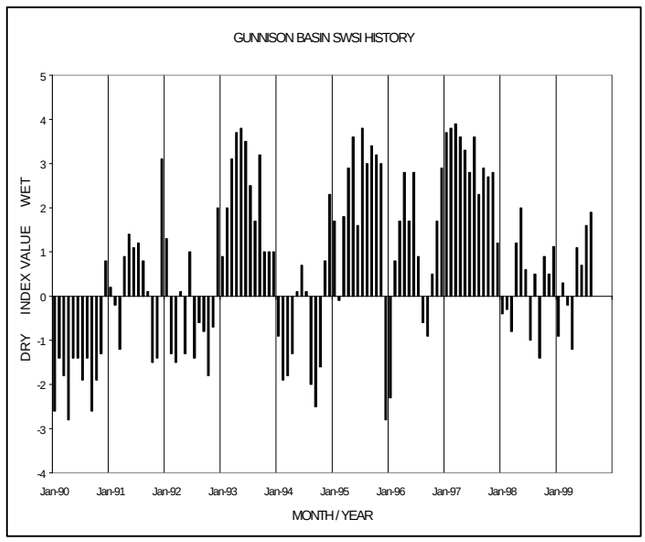
Ridgway Reservoir spilled on July 31, apparently unintentionally. The Bureau of Reclamation believed it had been releasing enough water to avoid a spill.

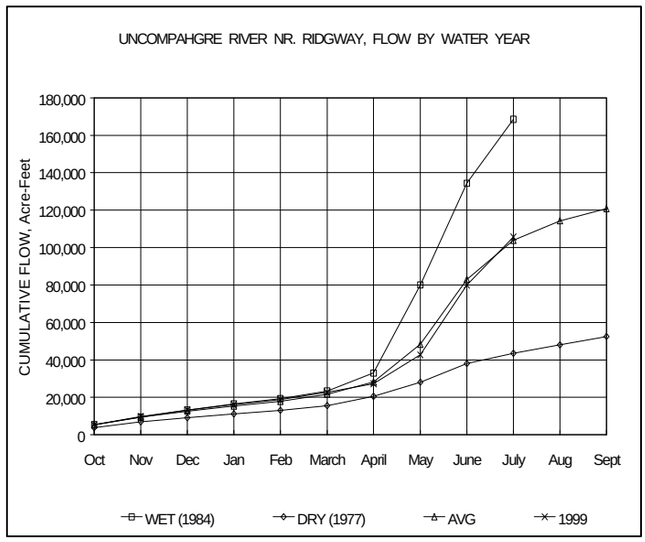
Public Use Impacts

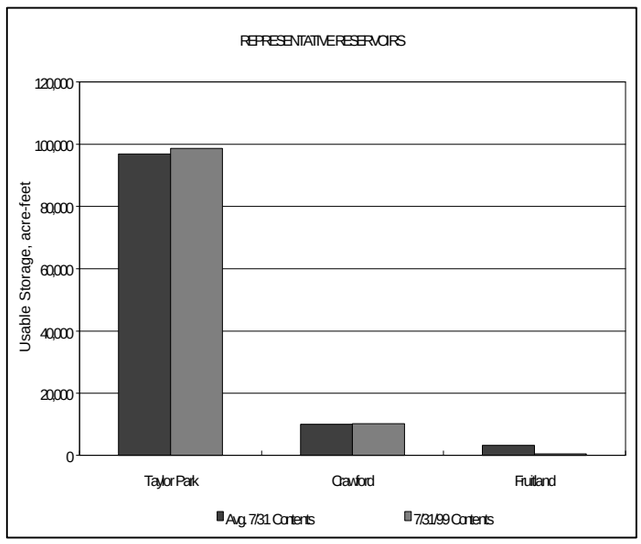
The amount of rainfall, although a blessing, lends a bit of frustration to the local farmers. They are finding the corn fields far too muddy to get into, and the hay has been too wet to pick up.

Range lands are in the best condition that they have been in as long as anyone can remember. The USFS has no complaints thus far about the condition of the range lands.

Mud slides have posed a problem basin wide.







Basinwide Conditions Assessment

The SWSI value of 1.5 indicates that for July the basin water supplies were a bit above normal. Flow at the gaging station Colorado River near Dotsero was 3,654 cfs, as compared to the long-term average of 3,063 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 103% of normal as of the end of July.

Outlook

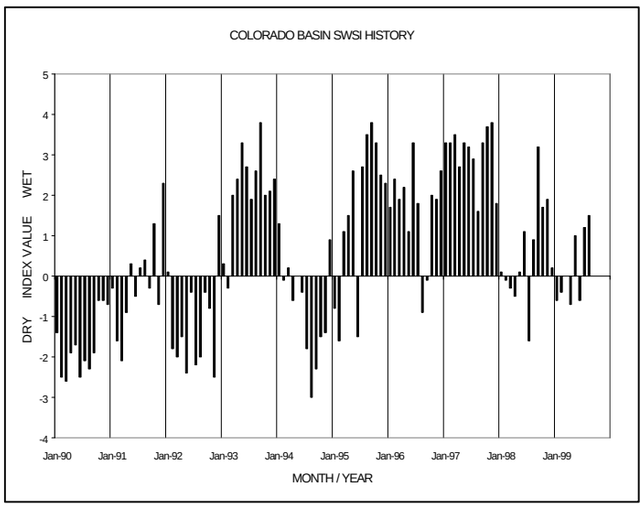
The monsoon season has hit the Colorado River basin since mid-July and will continue at least until mid-August.

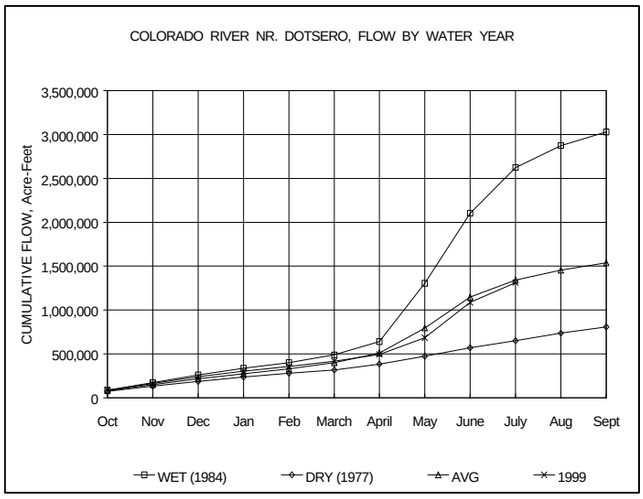
Administrative/Management Concerns

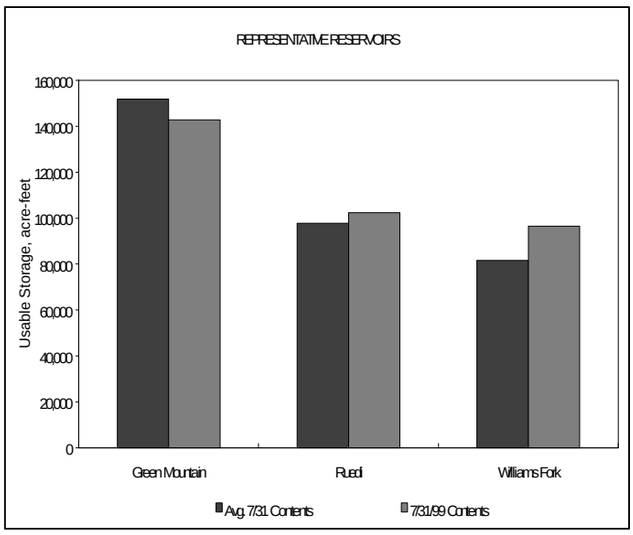
The heavy rains have kept the reservoirs full with some spilling. Diversions to irrigation have been minimized, thus keeping the calls off the mainstem and most of the side tributaries.

Public Use Impacts

Mud slides on I-70 near Dotsero in late July, and localized flooding near Keystone in Summit County, have caused inconvenience to travelers, tourists, and locals. No severe injuries have been reported.







Basinwide Conditions Assessment

The SWSI value of 0.4 indicates that for July the basin water supplies were near normal. Flow at the gaging station Yampa River at Steamboat was 342 cfs, as compared to the long-term average of 407 cfs.

July was a very pleasant month for the basin. Warm temperatures coupled with timely precipitation made for almost ideal growing conditions. Toward the end of the month, the monsoonal moisture flow resulted in increased precipitation that caused some delay in the start of the harvest season. While some reservoirs were drawn down for irrigation needs, most remained at or near capacity.

Outlook

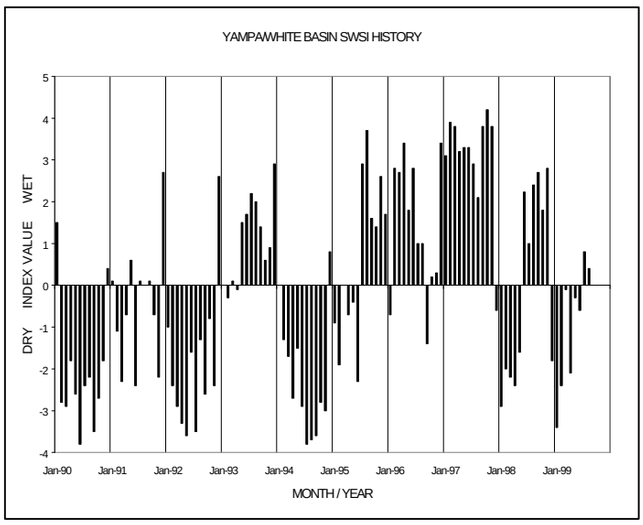
Stream flows are expected to be near normal levels in August.

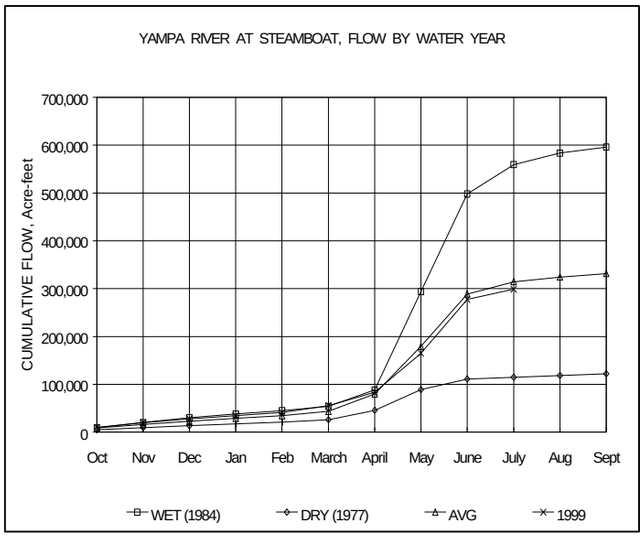
Administrative/Management Concerns

No administrative problems are anticipated for August.

Public Use Impacts

Streams and rivers in the basin are at normal levels.





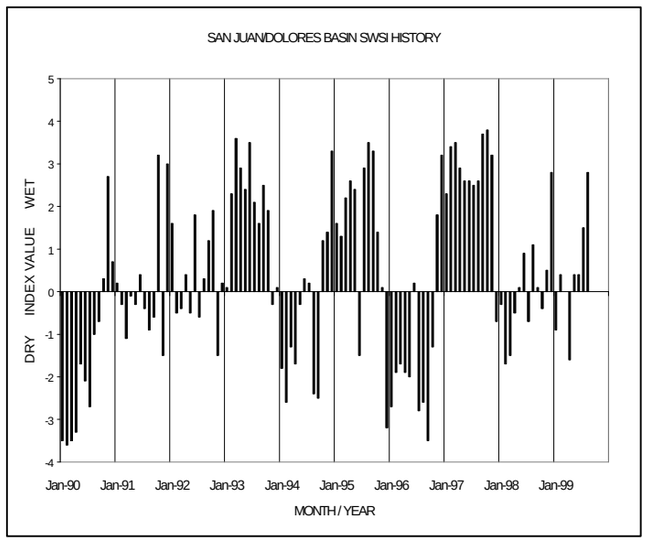
Basinwide Conditions Assessment

The SWSI value of 2.8 indicates that for July the basin water supplies were above normal. Flow at the gaging station Animas River near Durango was 1,864 cfs, as compared to the long-term average of 1,149 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 123% of normal as of the end of July.

Warm air masses brought intermittent moisture to southwestern Colorado during the whole month of July. Thunderstorms developed across the San Juan and Dolores drainages causing many flash floods. Precipitation in Durango was 3.62 inches, 182% of normal. Cumulative precipitation for the water year, since last October 1, has exceeded the average.

Although river levels remained high for the month, most rivers were not near flood stage. The flooding that did occur was on side streams.

Reservoirs were nearly spilling or very full across the basin. Red Mesa Ward Reservoir retained more water than usual on the La Plata River.



Outlook

The water outlook for the year has turned to excellent and it is anticipated that much water will be carried over into next year.

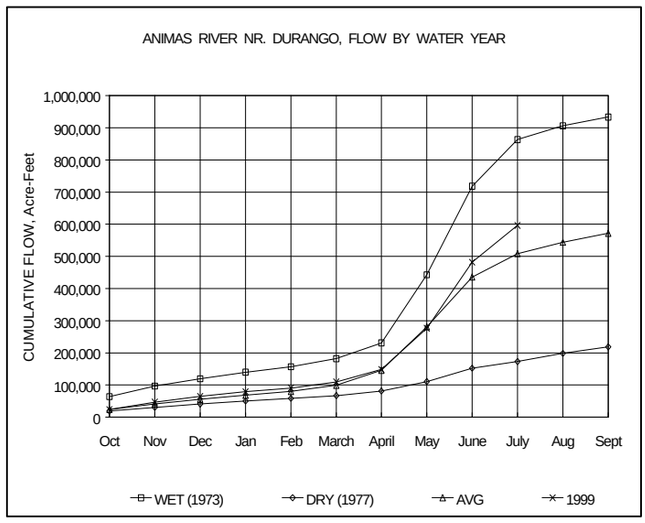
Administrative/Management Concerns

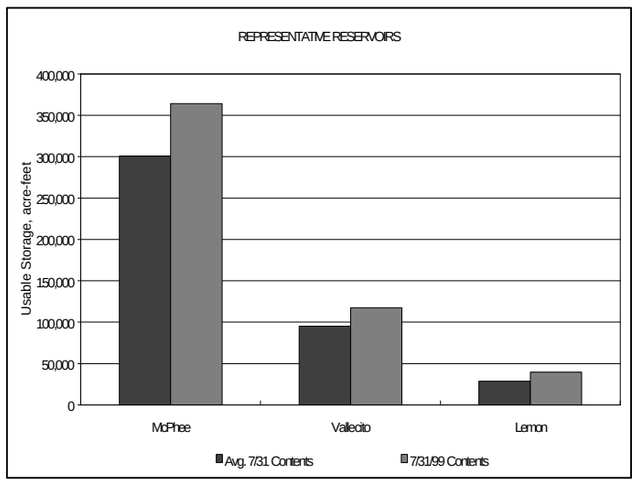
Many streams were nearly off call with excess water running to New Mexico. Over deliveries were common under the La Plata River Compact.

Public Use Impacts

The wet weather was good for growth of crops but spelled disaster on may hay cutting operations which were unable to find a dry spell to bale good hay.

Many mud slides were started and the turbidity of intake waters was the cause of concern for some of the drinking water suppliers. Durango was considering rationing in order to handle water treatment requirements, which were strained from the silt load in the Florida River.





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