COLORADO
WATER SUPPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
ROOM 818, 1313 SHERMAN ST., DENER, CO, 80203
303-866-3581; WWW.DNR.STATE.CO.US

June 1999

The SWSI values indicate that overall the water supply conditions in the state are acceptable. There were no major changes in SWSI values from last month, in spite of the shift in major component from snowpack (winter component) to stream flow (summer component) which often causes large changes in the SWSI values between May and June.

While the runoff began in May with the melting snowpack, some areas were a bit slow in gaining streamflow. The runoff will peak in June. Reservoir storage entering June is well above average at a statewide value of approximately 137% of average. John Martin Reservoir on the Arkansas River is pushing this average up as it is still contains late April and early May flood waters which have to be released at a rate that does not exceed down stream channel capacity.

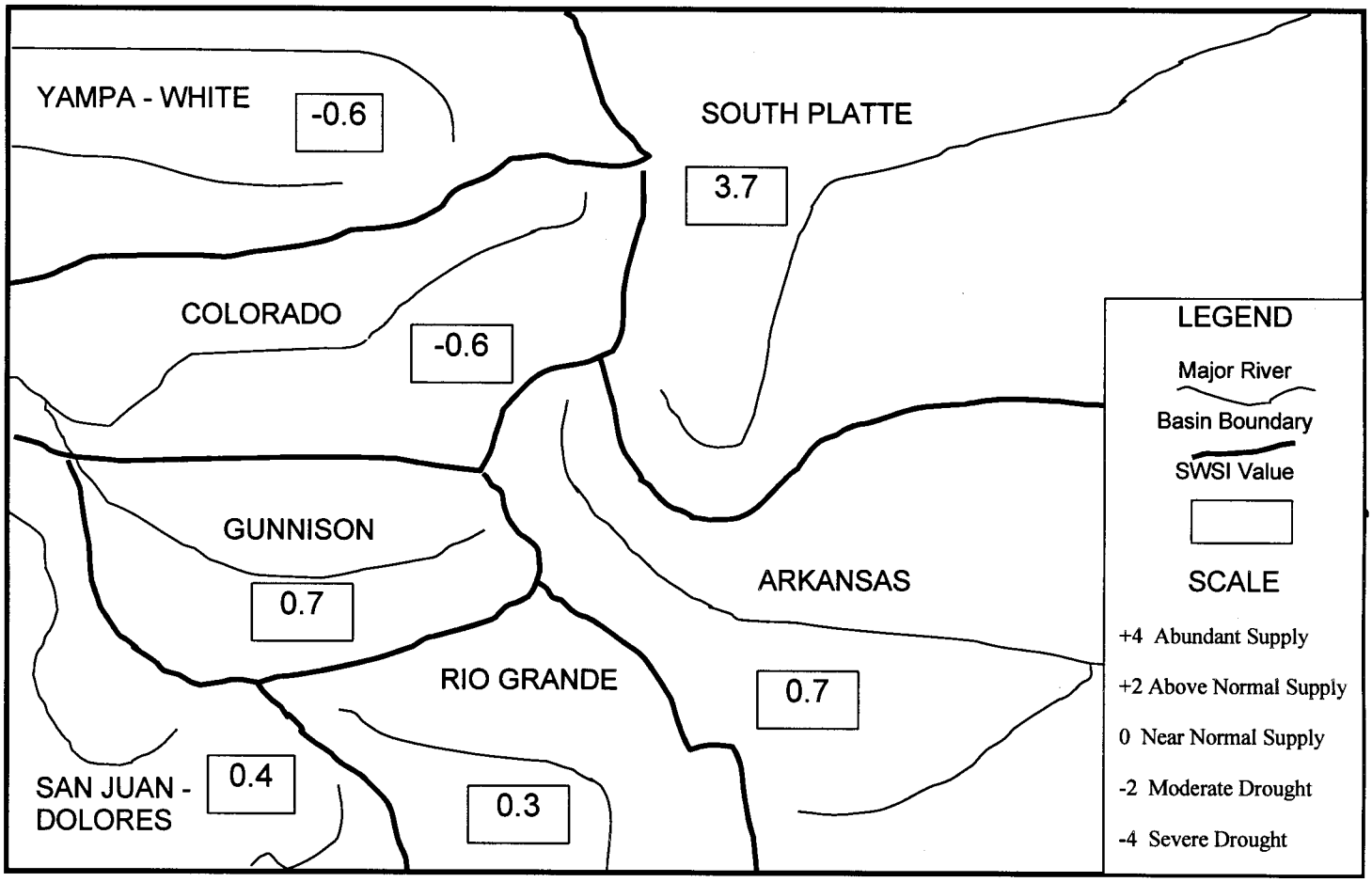
The Surface Water Supply Index (SWSI) developed by this office and the U.S.D.A. Natural Resources Conservation Service is used as an indicator of mountain based water supply conditions in the major river basins of the state. It is based on stream flow, reservoir storage, and precipitation for the summer period (May through October). During the summer period, stream flow is the primary component in all basins exempt 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 June 1, 1999, and reflect the conditions during the month of May.

Basin	June 1, 1999 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	3.7	+1.3	+0.5
Arkansas	0.7	-0.4	+1.4
Rio Grande	0.3	-0.9	-0.2
Gunnison	0.7	-0.4	+0.1
Colorado	-0.6	-1.6	-1.7
Yampa/White	-0.6	+0.3	-2.8
San Juan/Dolores	0.4	0.0	-0.5

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



JUNE 1, 1999

Basinwide Conditions Assessment

The SWSI value of 3.7 indicates that for May the basin water supplies were above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 109% of normal as of the end of May. The Natural Resources Conservation Service reports that June 1 snowpack is 165% of normal. Flow at the gaging station South Platte River at Kersey was 5,806 cfs, as compared to the long-term average of 2,264 cfs.

Outlook

Basin administrators anticipate that streams flow will continue to be above average during June because of the significant amount of snow melt that is still expected, and because all on-stream and off-stream reservoirs along both the mainstem and tributaries are full, or will fill in June. It is expected that the above average flow conditions will continue throughout the summer because of the reservoir storage conditions and the significant amounts of stream bank storage. While dry conditions this summer would probably not impact water rights significantly, it would reduce supplies available for the following year if reservoirs are heavily drafted upon.

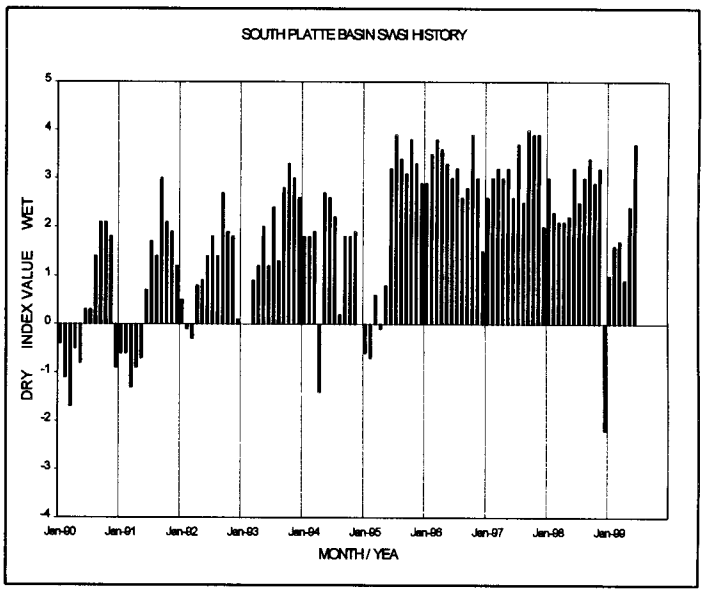
Administrators expect that Spinney Mountain Reservoir will fill in the early part of June. Spinney Mountain Reservoir is the last mainstem reservoir to fill, and it only fills when there are significant water supplies in South Park.

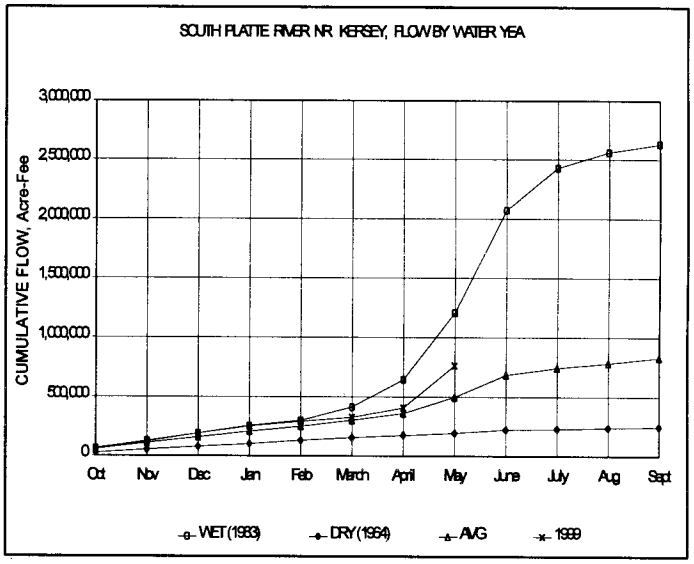
Administrative/Management Concerns

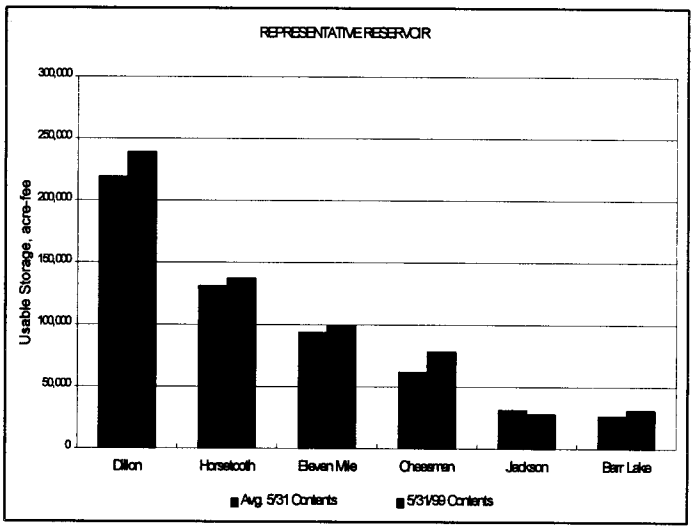
Stream flow conditions continue to be above average due to the extremely wet conditions during the last week of April and beginning of May. Because of these conditions, there were no calls downstream of Denver during the entire month of May. Many years, there is a call in May as demand for irrigation increases prior to runoff.

Public Use Impacts

None.







Basinwide Conditions Assessment

The SWSI value of 0.7 indicates that for May the basin water supplies were near normal. The Natural Resources Conservation Service reports that June 1 snowpack is 127% of normal. Flow at the gaging station Arkansas River near Portland was 1,260 cfs, as compared to the long-term average of 1,144 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 228% of normal as of the end of May.

Outlook

The general water supply outlook for the Arkansas River Basin has been very good on the main stem and larger tributaries for the last month, and it appears this situation will continue.

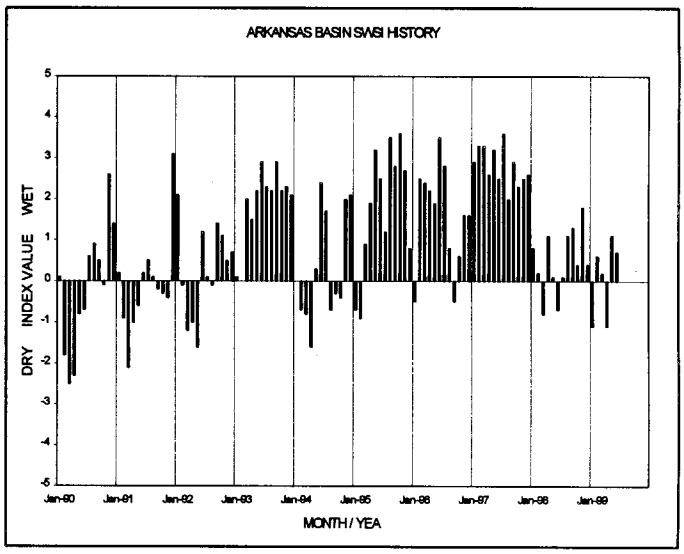
Administrative/Management Concerns

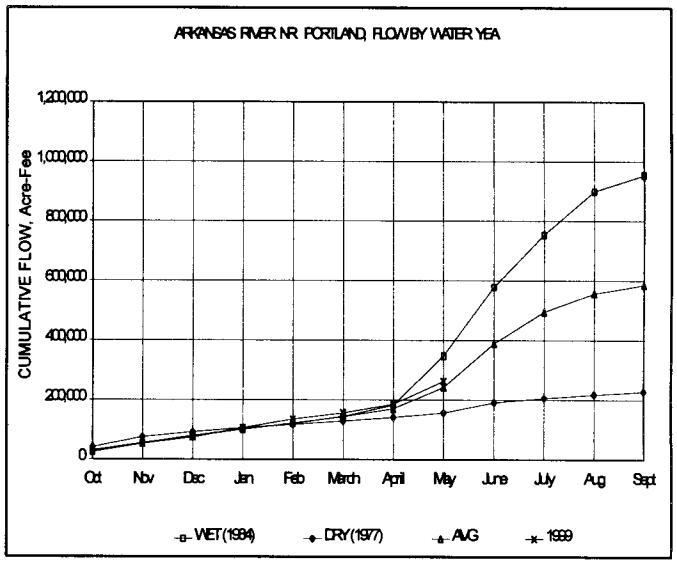
The river call on the main stem has remained at a free river condition for essentially the last month, since the large rain storm of late April. This situation has provided more than adequate water supplies to most users and should continue until at least mid June.

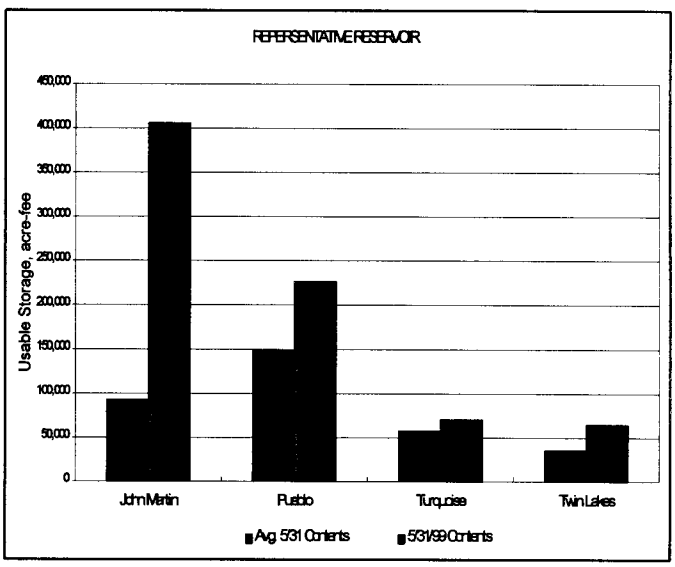
Much administration attention is continuing on the larger reservoirs in the basin. John Martin Reservoir continues to have water in the flood pool. Maximum allowed releases are continuing and this flood storage water is projected to be evacuated by June 15. A storage record was set in John Martin of 456,000 acre-feet on May 9th. Pueblo Reservoir remains full to the top of conservation storage with no water remaining in flood storage. Trinidad Reservoir continues to fill and as of June 8 was within 3,500 feet of having the permanent and conservation pools filled.

Public Use Impacts

The recent flooding has severely impacted the ability of Fountain Creek irrigators to irrigate this year. Most diversion works were destroyed or simply washed away. Efforts are continuing in finding alternate methods for the irrigators to get water to their fields and to adequately continue their obligations under various augmentation plans.





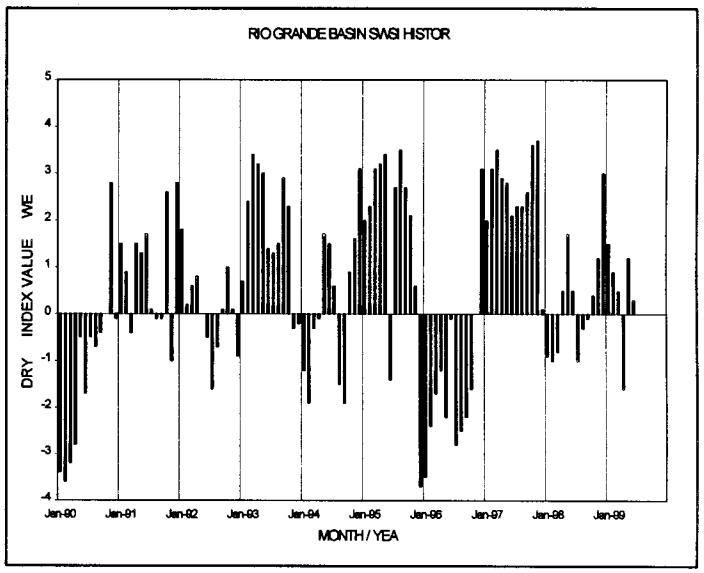


Basinwide Conditions Assessment

The SWSI value of 0.3 indicates that for May the basin water supplies were near normal. The Natural Resources Conservation Service reports that June 1 snowpack is 90% of normal. Flow at the gaging station Rio Grande near Del Norte was 2,765 cfs, as compared to the long-term average of 2,441 cfs. The Conejos River near Mogote had a mean flow of 689 cfs (62% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 127% of normal as of the end of May.

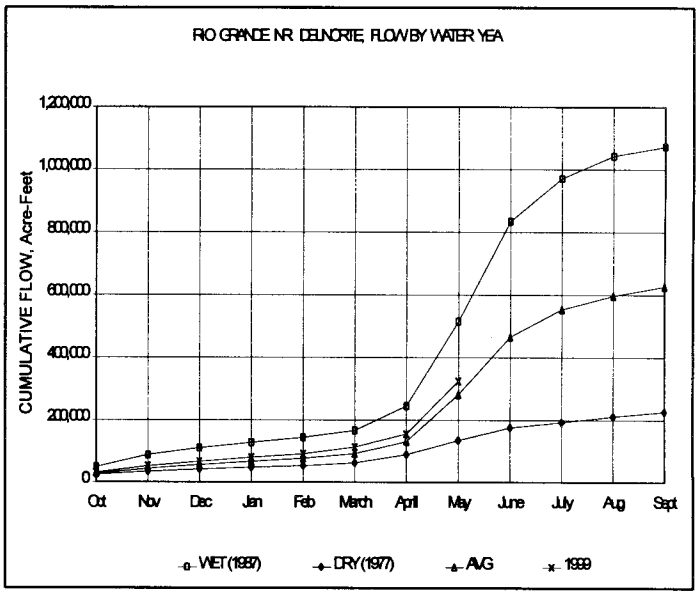
Precipitation in Alamosa was a generous 1.07 inches, 0.43 inches above normal. Alamosa temperatures ranged form 21° to 78°, with an average of 49.3°, 1.1° below normal.

Stream flow in the basin was generally near average with the exception of the Conejos and its tributaries, and streams in the southern Sangre de Cristo Range. Flooding should not be a concern this season unless a major rain storm occurs.



Outlook

April 1st NRCS stream flow forecasts were predicting a well below average runoff. Since that forecast was issued, significant precipitation throughout the basin has dramatically improved the expected runoff. The June 1st forecast has upgraded those estimated to range from a low of 82% of normal runoff for the Los Pinos River to a high of 110% for the South Fork of the Rio Grande.

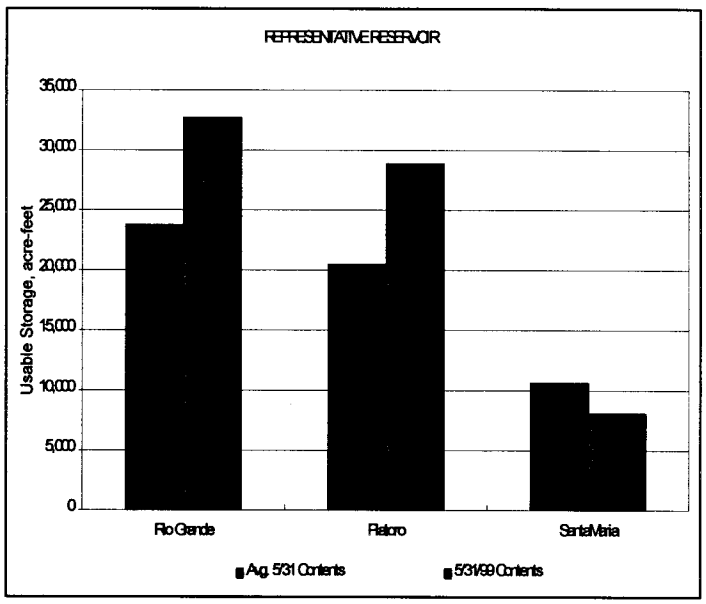


Administrative/Management Concerns

The increase in forecasted runoff flows necessitated a change in water administration in the basin. In order to meet water delivery requirements to the state line, administrators placed curtailments on the Rio Grande and Conejos River systems as of May 7, 1999. A 12% curtailment was set for the Rio Grande (this percentage of the daily index flow at the Rio Grande near Del Norte gaging station is deducted from the divertable flow and is passed through the system to the state line). The curtailment was set at 20% for the Conejos and its tributaries.

Public Use Impacts

Normal farming and ranching operations were in full swing during May. Wind and cool temperatures were a frequent hindrance to agricultural and recreational activities.



Basinwide Conditions Assessment

The SWSI value of 0.7 indicates that for May the basin water supplies were near normal. The Natural Resources Conservation Service reports that June 1 snowpack is 113% of normal. Flow at the gaging station Uncompahgre River near Ridgway was 251 cfs, as compared to the long-term average of 323 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 103% of normal as of the end of May.

Outlook

Whitewater Creek, Kannah Creek, and the North Fork of the Gunnison are among several of the "free" rivers at the end of May. Reservoir storage is looking better than last month. It appears that there should be no problems with ample water this summer. Runoff is slow entering June due to cooler weather. The highest flows are yet to come.

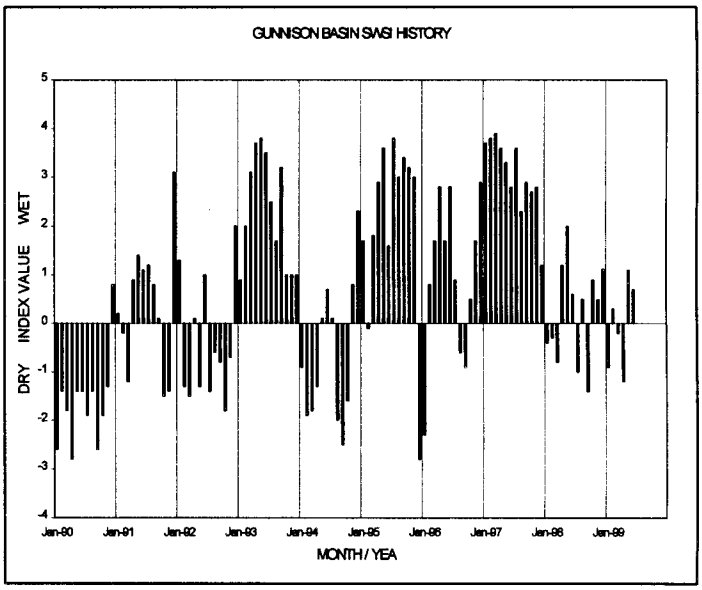
Administrative/Management Concerns

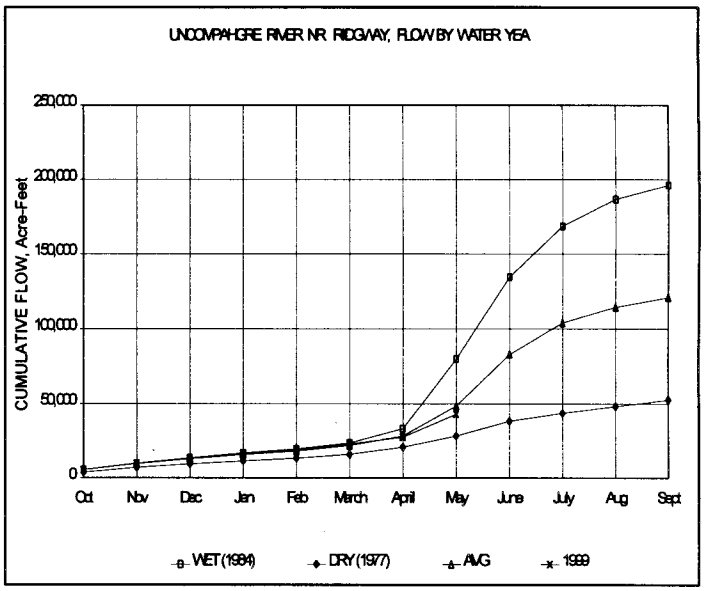
With the current situation of free rivers and adequate reservoir storage, administration should run smoothly this summer.

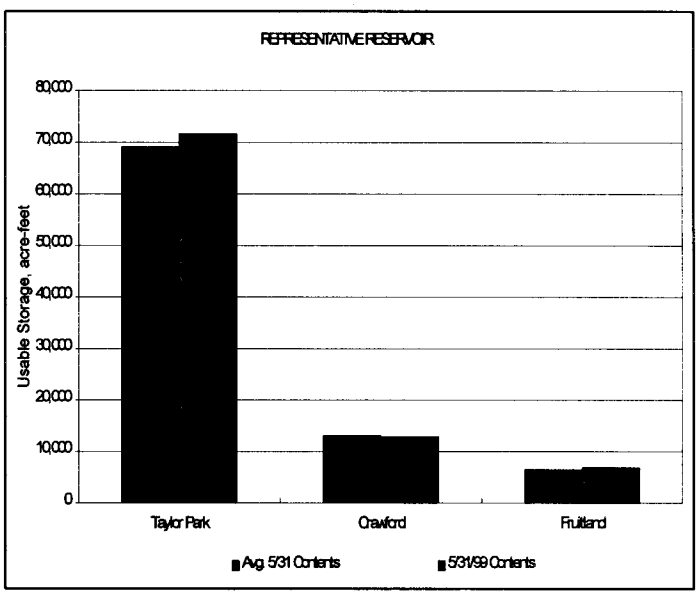
Public Use Impacts

Recreation areas have not yet entered their high season. Activities are fairly quiet at present, but the forecast looks positive for reservoir recreation.

Some areas are experiencing a high water table which affects crawl spaces and basements.

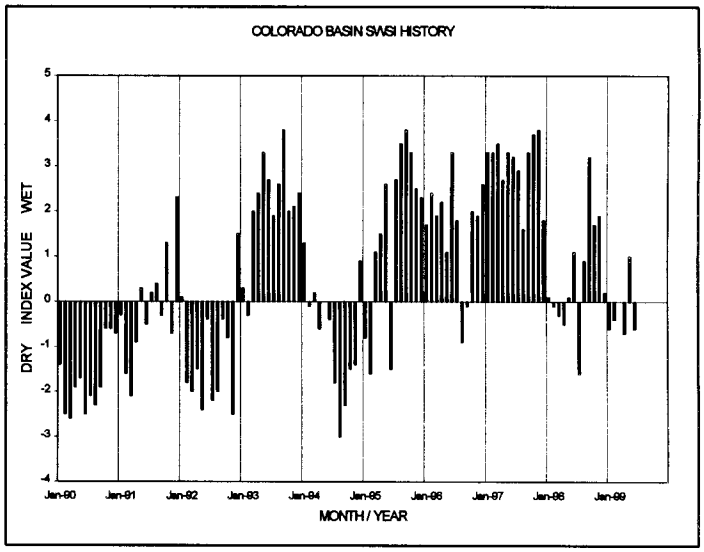






Basinwide Conditions Assessment

The SWSI value of –0.6 indicates that for May the basin water supplies were near normal. The Natural Resources Conservation Service reports that June 1 snowpack is 99% of normal. Flow at the gaging station Colorado River near Dotsero was 3,067 cfs, as compared to the long-term average of 4,509 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 122% of normal as of the end of May.

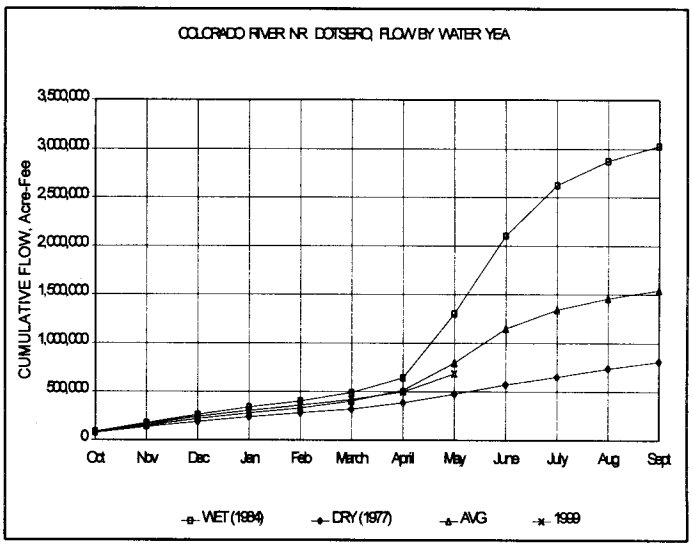


Outlook

Hot weather caused a minor peak to occur May 25 on the following: Muddy Creek, the Blue River, the Frying Pan River, The Roaring Fork, and the Colorado River at both Glenwood and the state line. Temperatures are on the rise in late May and early June melting the high mountain snows in Grand, Summit, and Pitkin counties.

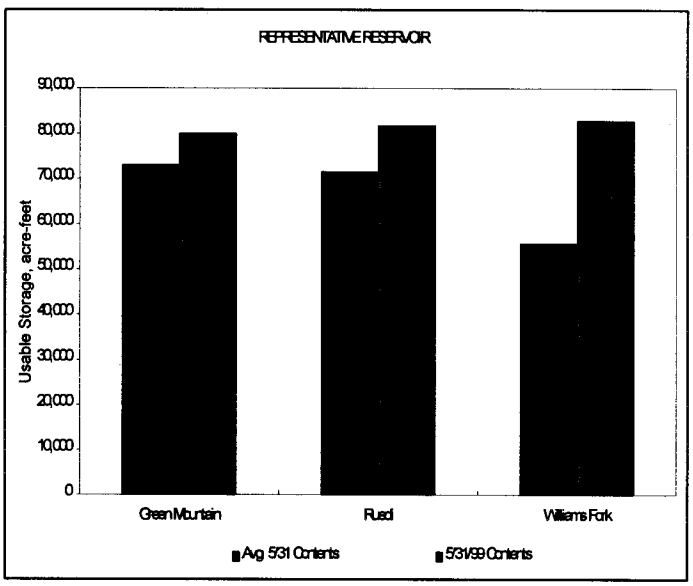
Administrative/Management Concerns

The Coordinated Reservoir Operations Committee has made the decision to increase the peak flows of the Colorado River below Cameo again this year in an attempt to improve the endangered fish habitat. Peak flows of 16,000 cfs will occur at Cameo in early June, and several reservoirs will have their outflows adjusted after the Memorial Day weekend to increase this peak. The reservoir releases will be ramped up beginning June 1st to reach the anticipated maximum outflows shows below. The ultimate releases could vary from those shown as they are dependent on weather conditions.



Reservoir	Proposed maximum outlfow
Granby	600 cfs
Willow Creek	440 cfs
Williams Fork	200 cfs
Wolford Mtn.	600 cfs
Dillon	700 cfs
Green Mtn.	1,400 cfs
Ruedi	900 cfs

It is expected that these combined releases will increase the flows at Cameo by approximately 300 cfs.



Public Use Impacts

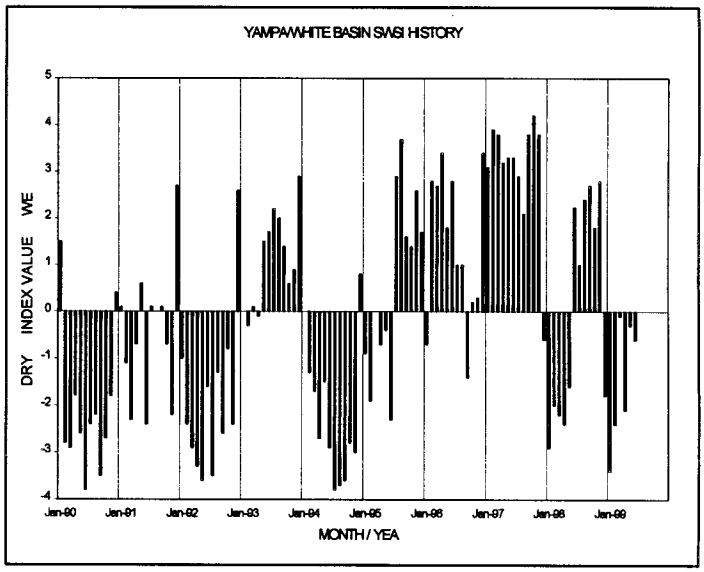
Rafters and kayakers are common sights on the Colorado River while irrigators are often seen on the side tributaries, each desiring to have the most water for their respective uses.

Basinwide Conditions Assessment

The SWSI value of –0.6 indicates that for May the basin water supplies were near normal. The Natural Resources Conservation Service reports that June 1 snowpack is 104% of normal. Flow at the gaging station Yampa River at Steamboat was 1,328 cfs, as compared to the long-term average of 1,600 cfs.

May was an above average month for precipitation for most of the Yampa River basin. Steamboat Springs received a total of 1.91 inches of precipitation for the month, which was 91% of normal. Hayden received 2.12 inches, or 151% of normal. Temperatures for May continued to be below normal for this time of year. Snowfall at the higher elevations held the snowpack at above normal levels for much of the month.

Reservoirs throughout the basin were at or near full storage at the end of May. By the end of the month, stream flows were rising at the spring runoff began. Some low areas experienced localized flooding of meadows and pastures.



Outlook

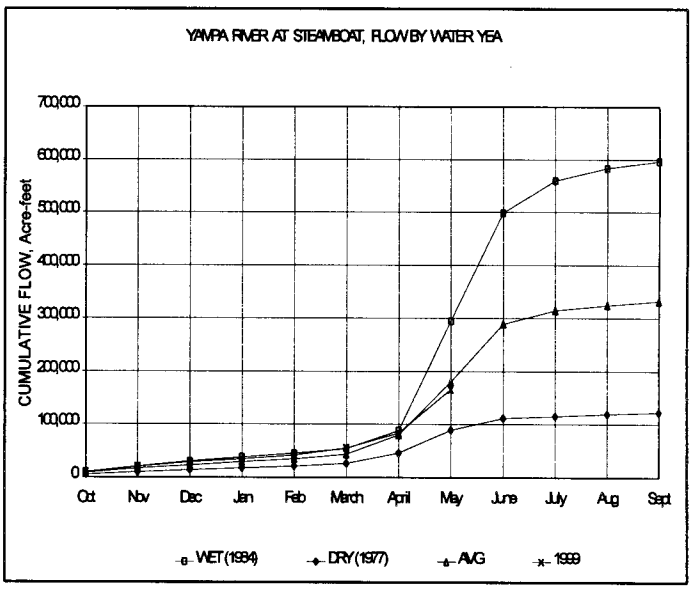
Stream flows are expected to be above average for the early part of June. Once the runoff peaks, river flows are expected to quickly drop to normal levels.

Administrative/Management Concerns

With most reservoirs full and near normal runoff levels, no major administrative problems are anticipated.

Public Use Impacts

Streams and rivers in the basin are at high levels. Extreme caution is advised when engaging in any on water activities.



Basinwide Conditions Assessment

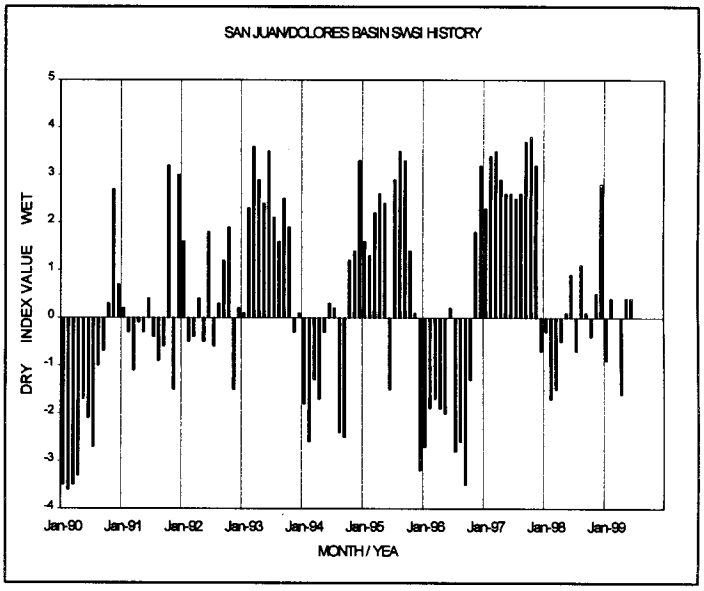
The SWSI value of 0.4 indicates that for May the basin water supplies were near normal. The Natural Resources Conservation Service reports that June 1 snowpack is 85% of normal. Flow at the gaging station Animas River near Durango was 2,081 cfs, as compared to the long-term average of 2,195 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 118% of normal as of the end of May.

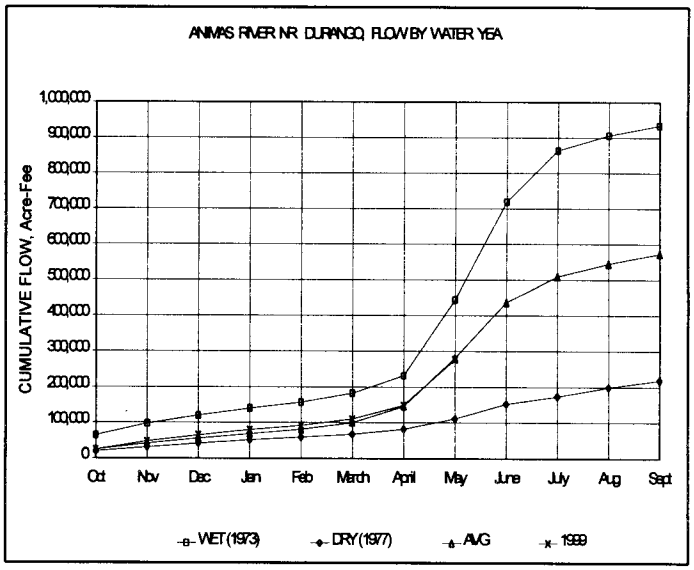
Temperatures in Durango and the surrounding areas moderated during the month. The highs were cooler by about 3° and the lows were slightly warmer. The last freeze was recorded in May 17. After the first week of May it was dry until the last week when gulf moisture was pushed in and thunderstorms developed each day. Gusty breezes were experienced.

With significant precipitation carried over from April, snow conditions in the mountains held, and even rose in some areas until they were at 105%-110% of normal.

As May's typical increases in temperatures occurred the snow melted rapidly and rivers rose to levels far exceeding earlier expectations. The Animas River reached a high of 4,160 cfs on the 24th, which exceeded last year's high of 4,010 cfs. The San Juan River and other tributaries ran well because of the rapid melt of low elevation snow. The Dolores River drainage did not have as much snow accumulation throughout the winter, but its runoff was high enough that McPhee Reservoir was predicted to fill after May 10 and flood releases were made to avoid a spill. Navajo Reservoir was also managed in the spill anticipation scenario following the Recovery Program release plan.

Soil moisture remained high and with the combination of more water and cooler temperatures, grasses throughout the area grew fast and greened up quickly.





Outlook

Because of the snow melt, reservoirs were anticipating filling, with the possible exception of Lemon Reservoir which had been drawn down considerably during the last irrigation season.

Administrative/Management Concerns

Basin administrators expect the high flow period to be shortened.

Public Use Impacts

River recreation began early.