

COLORADO WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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OCTOBER 1999

Water supply conditions are in good shape around the state as evidenced by the positive SWSI values, and above normal stream flow rates and reservoir storage volumes. Statewide, reservoir storage is approximately 144% of average. Most water in reservoir storage at this time of year is carried through the winter for use next year. The high storage levels provide a positive note for next year's water supply situation.

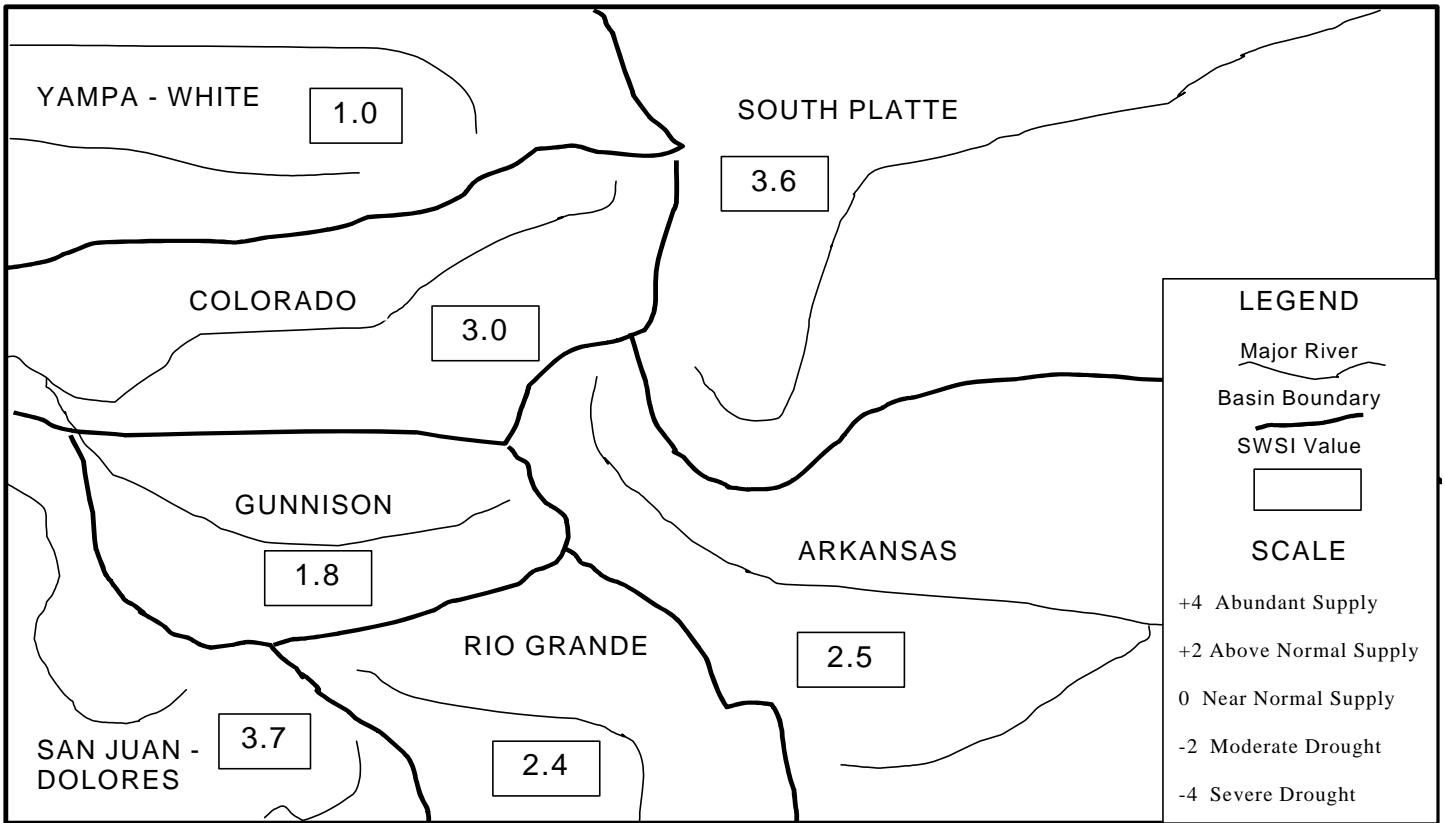
The end of September brings an end to the water year, which runs from each October 1 to September 30. Most direct diversion of stream flow to irrigation use has ended, although some fall and winter irrigators do apply water to build up field soil moisture levels. The major winter diversions are to reservoir storage and, in the South Platte River and Rio Grande basins, to ground water recharge.

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 October 1, 1999, and reflect the conditions during the month of September.

<u>Basin</u>	<u>October 1, 1999 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	3.6	-0.2	+0.7
Arkansas	2.5	-0.7	+2.1
Rio Grande	2.4	-0.9	+2.0
Gunnison	1.8	-0.1	+0.9
Colorado	3.0	+0.1	+1.3
Yampa/White	1.0	-0.6	-0.8
San Juan/Dolores	3.7	+0.2	+4.1

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



OCTOBER 1, 1999

Basinwide Conditions Assessment

The SWSI value of 3.7 indicates that for September the basin water supplies were above normal. Reservoir storage, the major component in this basin in computing the SWSI value, was 119% of normal as of the end of September. Flow at the gaging station South Platte River at Kersey was 1,363 cfs, as compared to the long-term average of 807 cfs.

Because of the continued excellent flow conditions, significant amounts of recharge occurred in September along the main stem. In many years, recharge does not start until the end of September because continued irrigation demand exceeds river supply. This year recharge occurred most of the summer, which will provide excellent augmentation supplies next summer. It is expected that significant additional recharge will continue in October and into the winter.

Reservoir storage levels also continue to be above average on both the main stem and tributaries. There should be no difficulty filling reservoirs this fall and winter.

Outlook

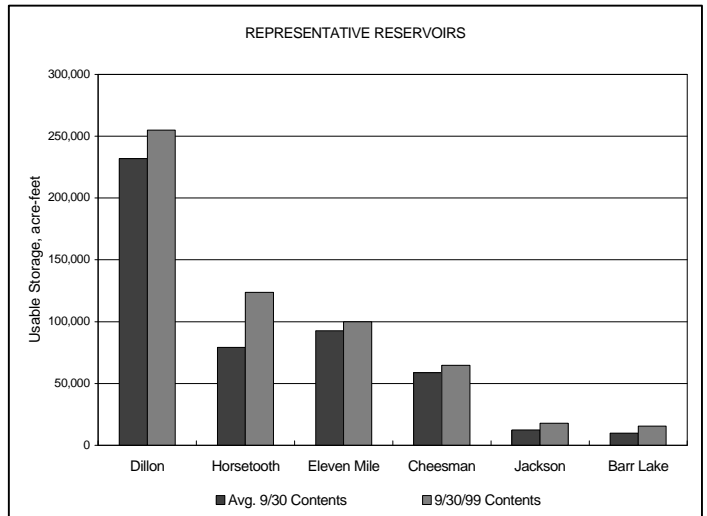
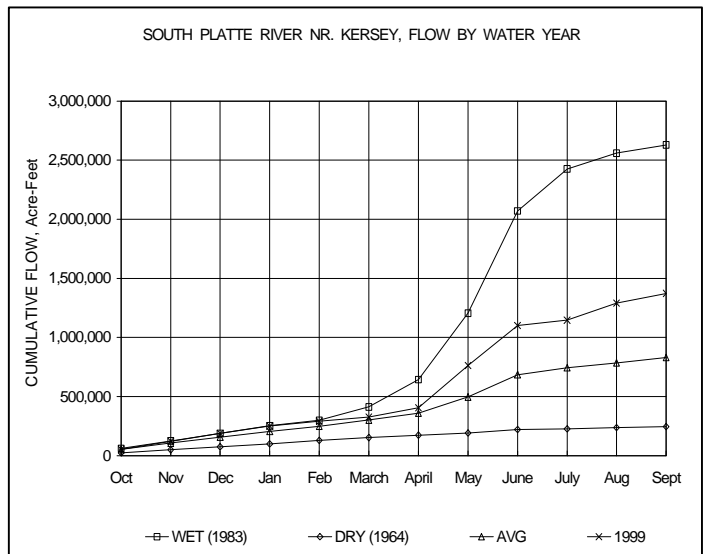
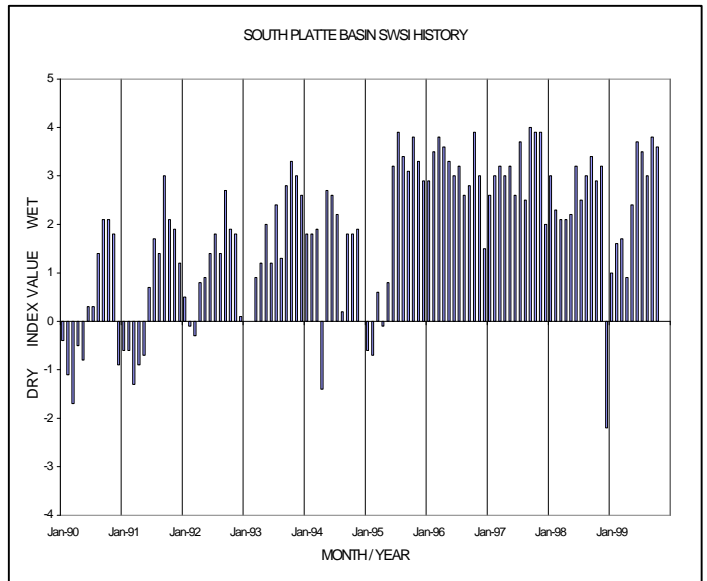
Due to this year's recharge and the reservoir storage levels, the initial outlook for next year's supply is very positive.

Administrative/Management Concerns

With much higher than average flow on the main stem and tributaries, there were no calls downstream of the Denver intake during September. The only call on the main stem of the South Platte was for the Denver intake for about two weeks of the month. In most years, during September a call would also exist in the reach of the South Platte above the confluence with Saint Vrain Creek.

Public Use Impacts

Irrigation users began to curtail their use in the month of September as crops began reaching maturity. Except for some minor uses, such as hay, irrigation was generally finished by the end of the month.



Basinwide Conditions Assessment

The SWSI value of 2.5 indicates that for September the basin water supplies were above normal. Flow at the gaging station Arkansas River near Portland was 692 cfs, as compared to the long-term average of 481 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 229% of normal as of the end of September.

Pueblo and John Martin Reservoirs are at 93% of their active capacity.

Outlook

Current storage levels combined with anticipated good winter flows should provide for excellent storage levels and the potential for free river conditions during the winter months.

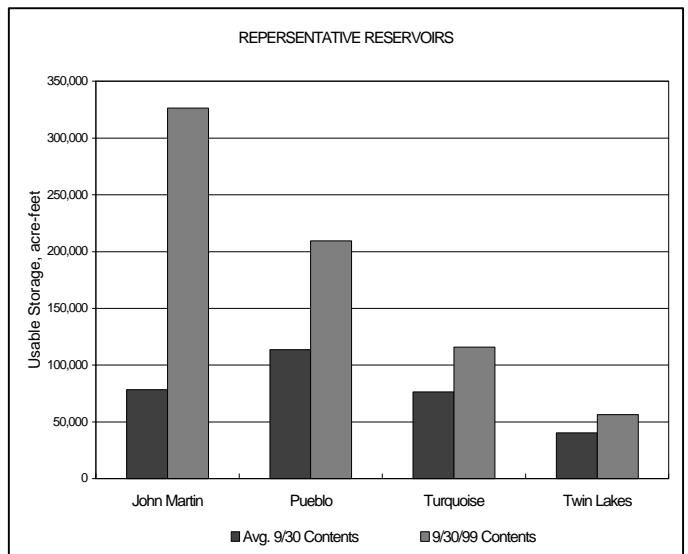
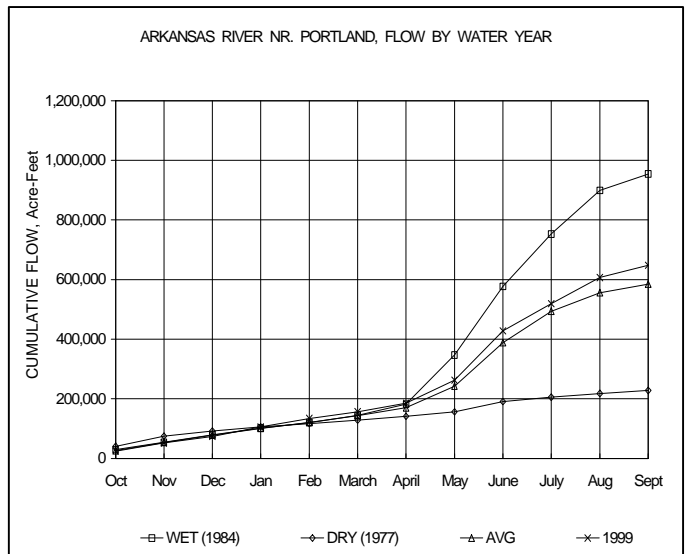
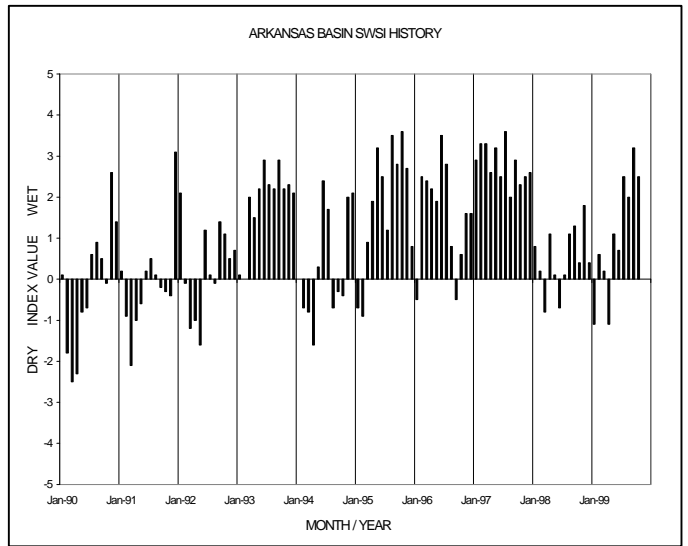
Administrative/Management Concerns

The Division's Pueblo office participated in a meeting with Rye area residents concerning non-jurisdictional livestock and erosion control dams. The meeting was held to educate area residents on administrative issues with these types of structures.

In an effort to improve the reliability of high flow reading on the Arkansas River in the North La Junta area, the Division, in cooperation with Otero County and the Colorado Department of Transportation, is installing a debris shielding plate for the stream gage on the North La Junta bridge.

Public Use Impacts

Flows in the upper reaches of the Arkansas River were reduced to improve fishing conditions during September through a cooperative effort between the Division's Pueblo office, the Bureaus of Reclamation, and the Pueblo Board of Water Works.



Basinwide Conditions Assessment

The SWSI value of 2.4 indicates that for September the basin water supplies were above normal. Flow at the gaging station Rio Grande near Del Norte was 1,427 cfs, as compared to the long-term average of 493 cfs. The Conejos River near Mogote had a mean flow of 231 cfs (180% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 134% of normal as of the end of September.

Precipitation in Alamosa was 1.09 inches, 0.20 inches above normal. Alamosa temperatures ranged from 15° to 81°, with an average of 53.4°, 1.4° below normal.

Generally, stream flow in the upper Rio Grande basin was well above normal during September. Precipitation in the basin finally eased up in the last two weeks of the month. Thus, stream flows dropped off toward normal levels as the month came to a close.

Outlook

In general, streams north of the Rio Grande will experience above normal flows this fall. The opposite is true for creeks and rivers south of the Rio Grande.

Administrative/Management Concerns

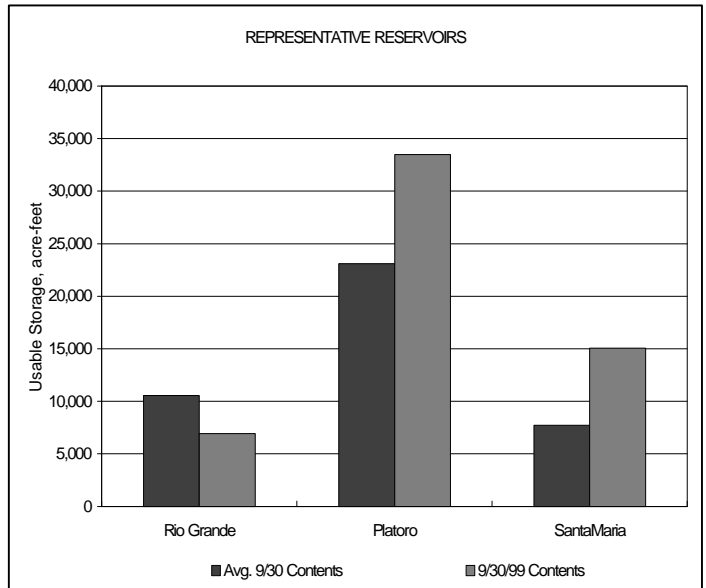
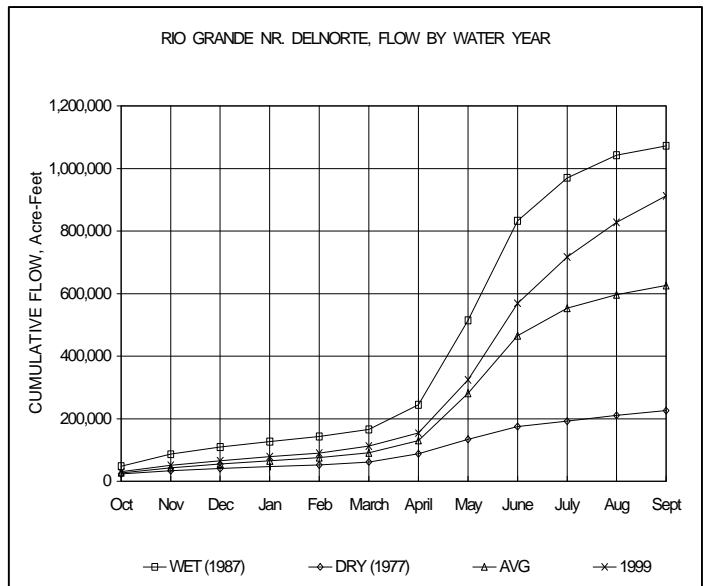
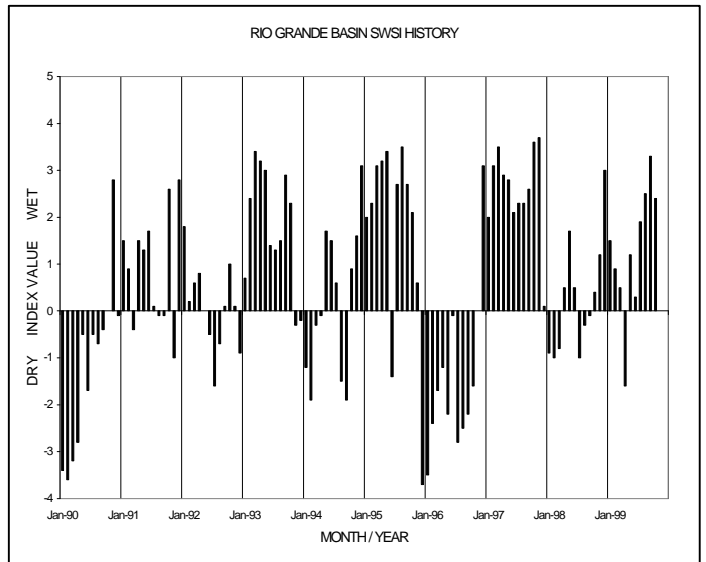
Well above normal stream flow has increased the water delivery obligation to New Mexico and Texas. However, it appears at this time that Colorado will meet its delivery obligation under the Rio Grande Compact.

Administrators are hoping that a mild fall will allow water diversions to continue for irrigation and recharge purposes.

Public Use Impacts

Precipitation at the higher elevations in the Rio Grande basin at mid-month produced that first white dusting on the peaks, although it did not last long.

The potato harvest was in full swing as the month ended. Poor weather conditions had adversely impacted the earlier grain and hay harvests and yields.



Basinwide Conditions Assessment

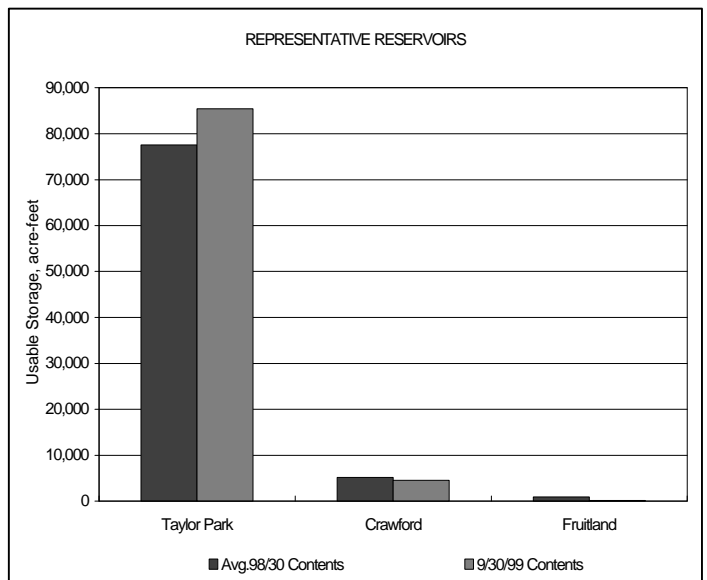
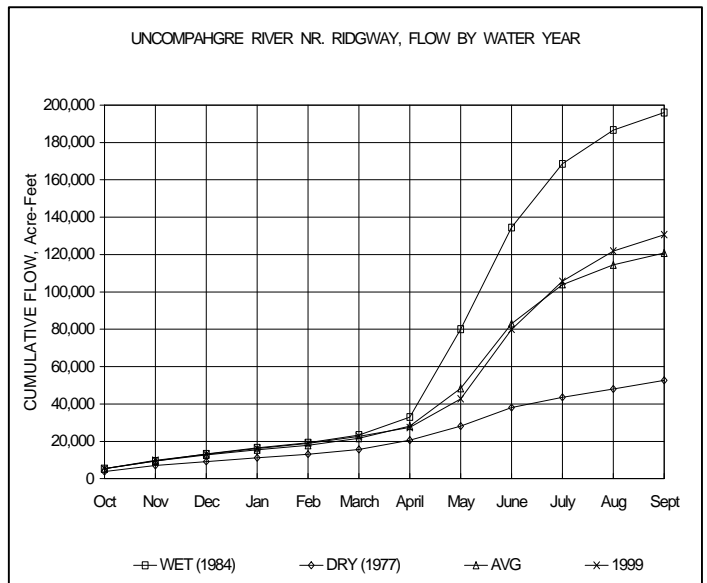
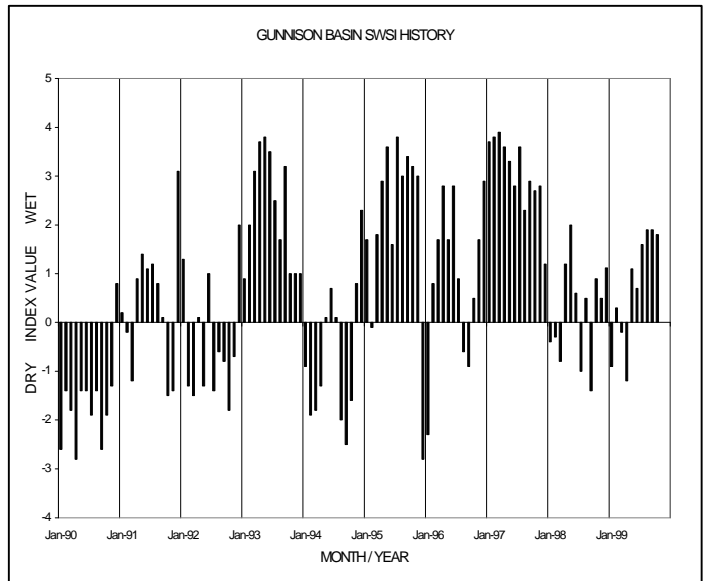
The SWSI value of 1.8 indicates that for September the basin water supplies were slightly above normal. Flow at the gaging station Uncompahgre River near Ridgway was 147 cfs, as compared to the long-term average of 106 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 108% of normal as of the end of September.

Outlook

With good amounts of water in the reservoirs for carryover to next year the outlook is very favorable.

Administrative/Management Concerns

Reservoir owners have experienced difficulty in performing necessary repairs on their reservoirs because no one is calling for or needing the water, so they ca not be emptied. An additional factor contributing to the difficulty in scheduling repairs is that the U.S. Forest Service has required a 30 day notification prior to making any repairs on reservoirs within the National Forests.

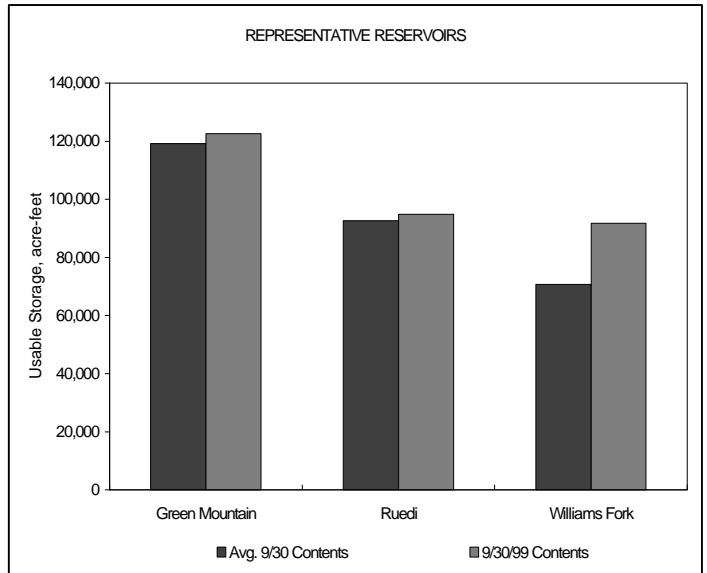
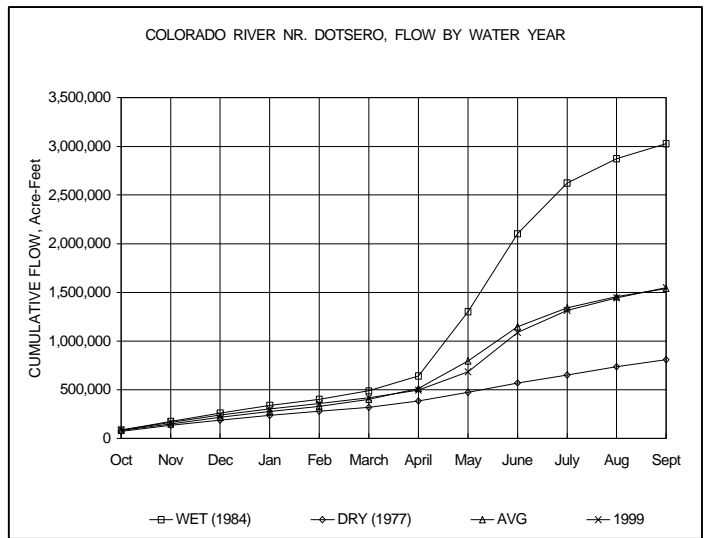
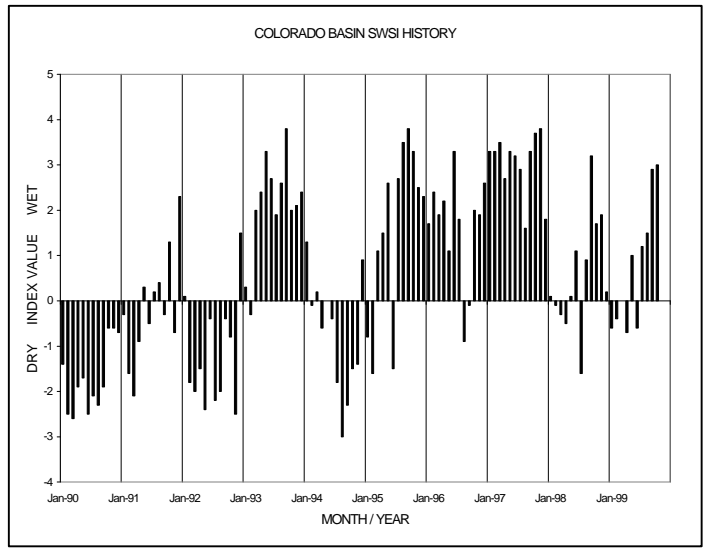


Basinwide Conditions Assessment

The SWSI value of 3.0 indicates that for September the basin water supplies were above normal. Flow at the gaging station Colorado River near Dotsero was 1,806 cfs, as compared to the long-term average of 1,414 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 109% of normal as of the end of September.

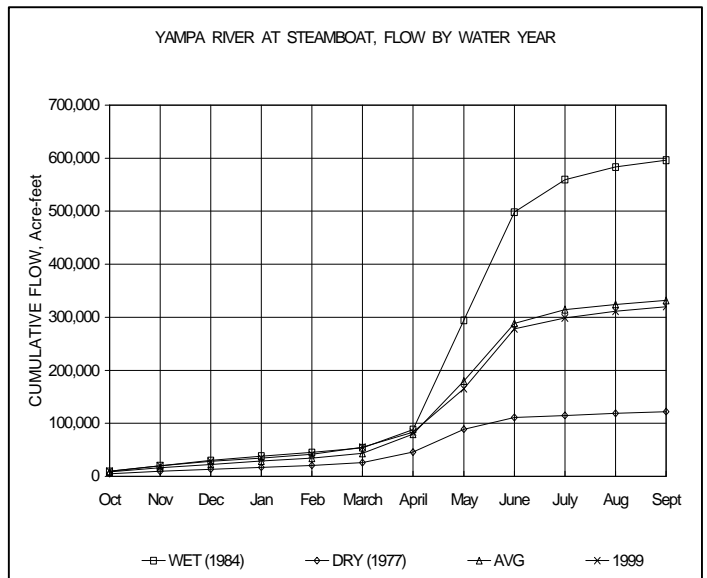
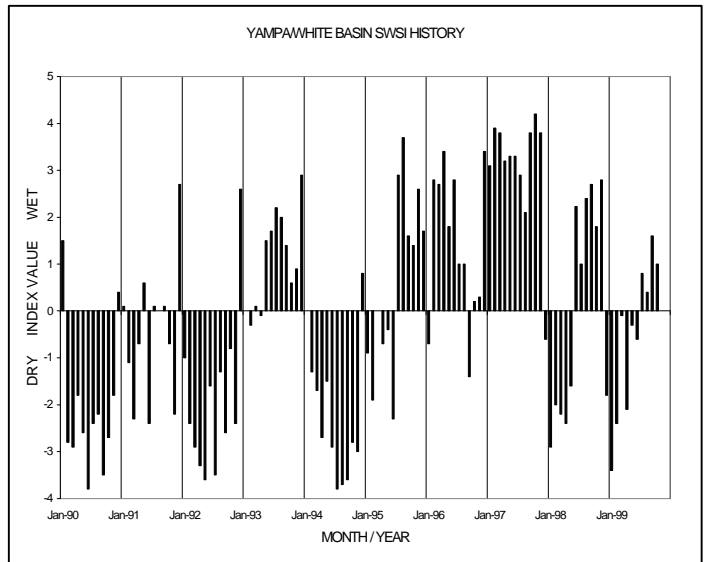
Administrative/Management Concerns

Granby Reservoir will decrease its releases from 435 cfs to 100 cfs early in October so that brook trout can spawn in the Colorado River reach below Granby Reservoir. Green Mountain Reservoir will increase its flows from 700 cfs to 1,000 cfs to compensate for the cutback in Granby releases. The overall goal is to keep 1,630 cfs in the critical reach of the Colorado River below the Grand Valley Irrigation Canal dam in the Grand Junction area.



Basinwide Conditions Assessment

The SWSI value of 1.0 indicates that for September the basin water supplies were near normal. Flow at the gaging station Yampa River at Steamboat was 144 cfs, as compared to the long-term average of 112 cfs.



Basinwide Conditions Assessment

The SWSI value of 3.7 indicates that for September the basin water supplies were above normal. Flow at the gaging station Animas River near Durango was 1,127 cfs, as compared to the long-term average of 461 cfs. Storage in McPhee, Vallecito, and Lemon reservoirs totaled 140% of normal as of the end of September.

The steady onslaught of moisture was broken by dry spells during the month of September. Heavy rains caused most area rivers to peak on September 3rd, after which little moisture was received until the 15th. While September finished with only 68% of normal precipitation, the water year (October 1, 1998 – September 30, 1999) ended with 29.4 inches in Durango, or 159% of normal.

High river flows earlier in the month diminished until they were near average at the end of the month, but seemed to have run enough water to double their usual quantity for September.

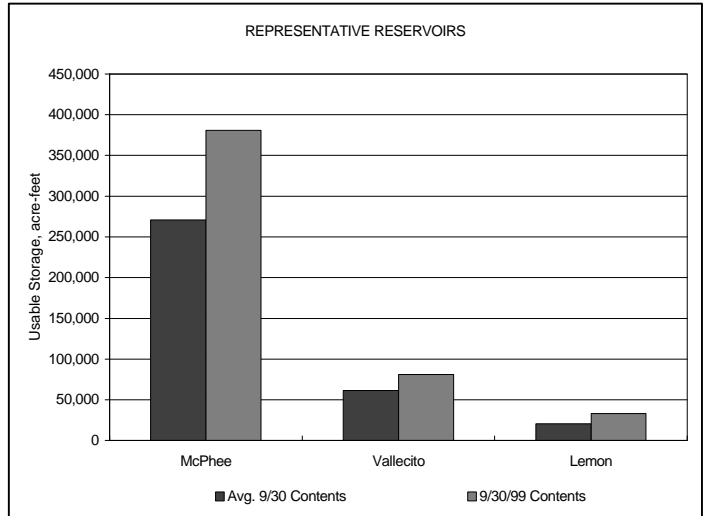
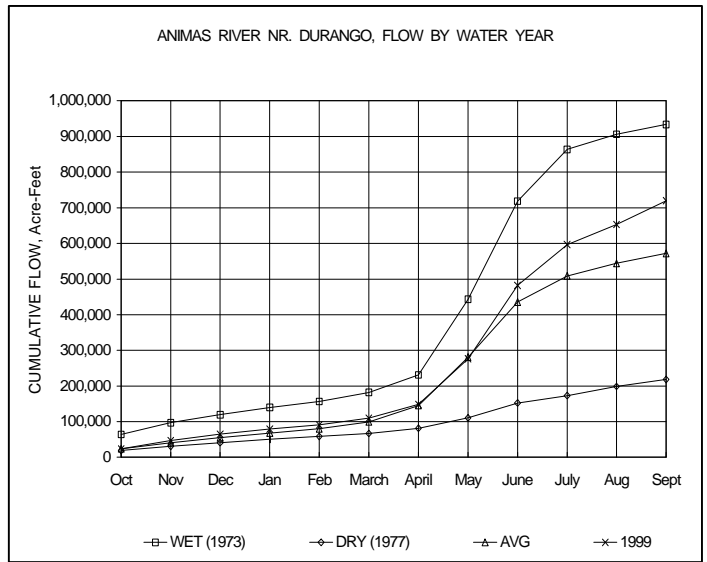
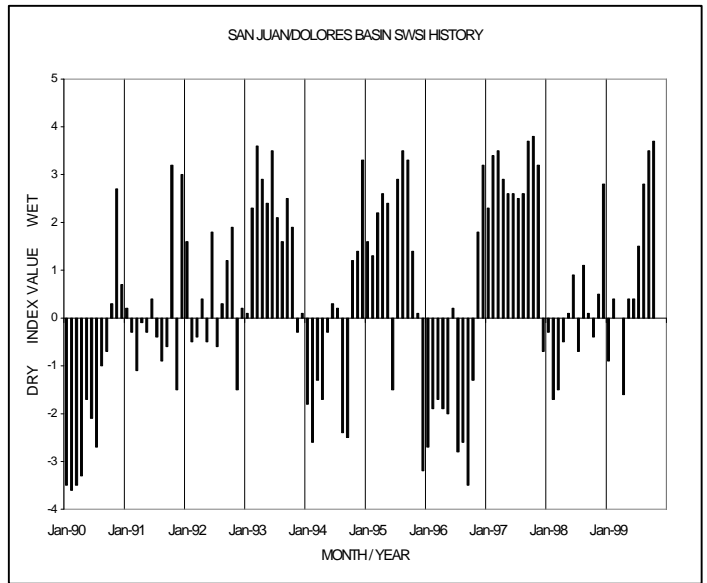
Temperatures were near normal with a fairly hard freeze, 27°, occurring in Durango on the 27th.

Reservoirs were above average in storage content, at over 130% in most cases, which is unusual. Red Mesa Reservoir remained full during the month. Lemon Reservoir held over 33,000 acre-feet, which was 159% of normal for the time of year.

Soil moisture remained adequate for the entire month and many ditches did not divert their typical amounts of water.

Public Use Impacts

Although much hay was cut and there was a good harvest, the quality of the crop was not the best in all cases.



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