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# COLORADO

## WATER SUPPLY CONDITIONS UPDATE

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FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES  
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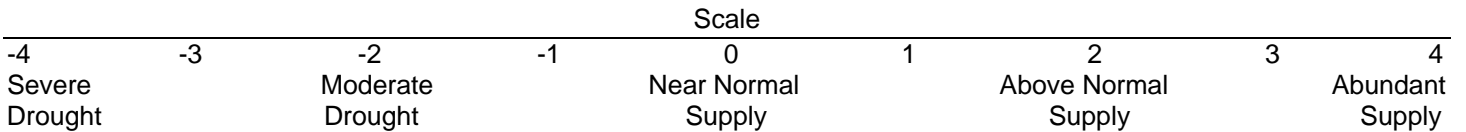
June 2007

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.

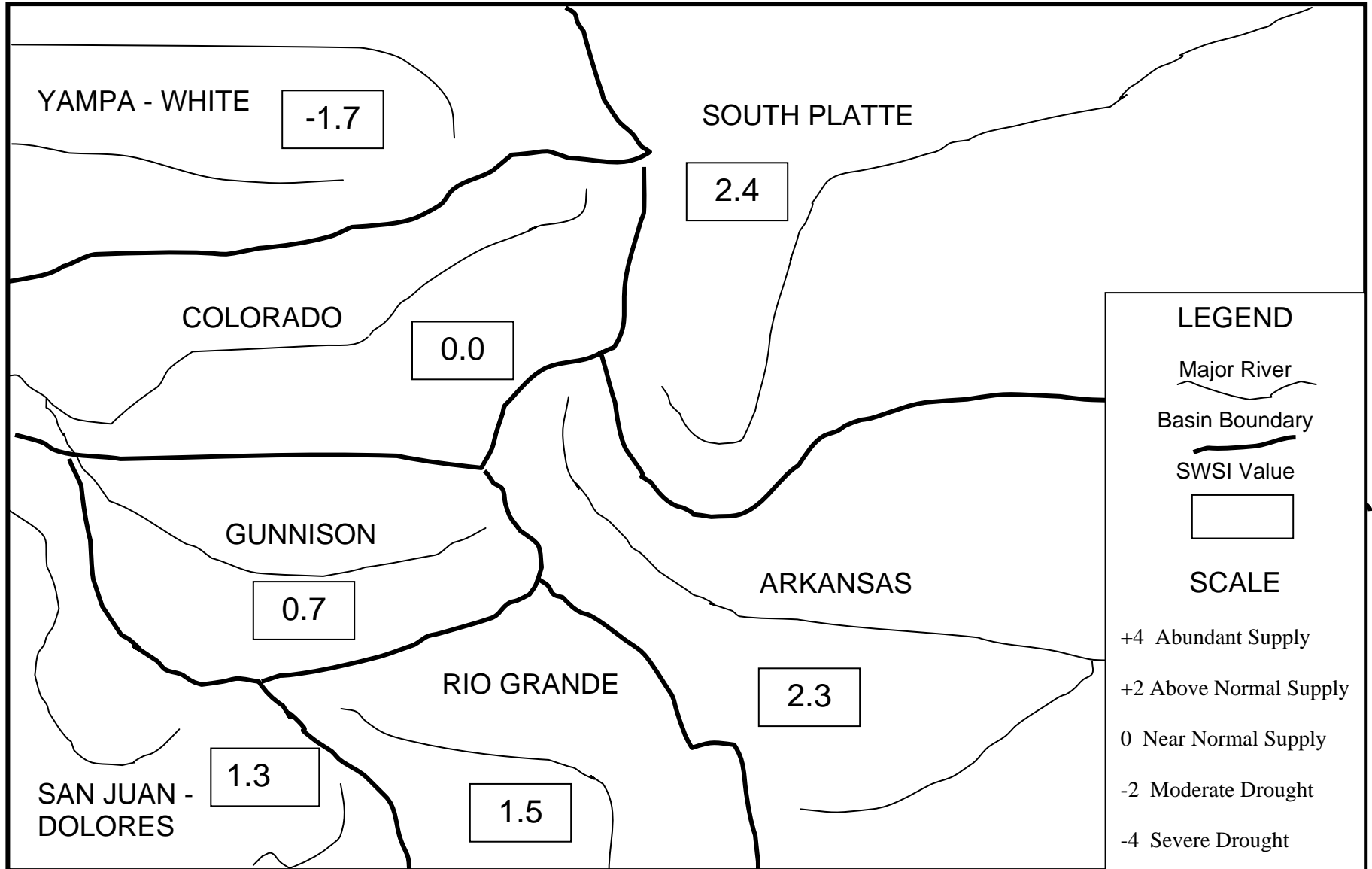
The statewide SWSI values for June range from a high value of 2.4 in the South Platte Basin to a low value of -1.7 in the Yampa/White Basin. All seven basins experienced a gain from the previous month's values.

The following SWSI values were computed for each of the seven major basins for June 1, 2007, and reflect the conditions during the month of May 2007.

<u>Basin</u>	<u>June 1, 2007 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	+2.4	+1.3	+1.6
Arkansas	+2.3	+3.1	+2.2
Rio Grande	+1.5	+0.5	+1.9
Gunnison	+0.7	+1.8	- 1.1
Colorado	+0.0	+0.1	- 1.7
Yampa/White	- 1.7	+1.3	- 4.8
San Juan/Dolores	+1.3	+2.3	+1.4



# SURFACE WATER SUPPLY INDEX FOR COLORADO



June 1, 2007

Basinwide Conditions Assessment

The SWSI value for the month of May was 2.4. Reservoir storage in Dillion, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin in computing the SWSI value, was 109% of normal as of the end of May. Cumulative storage in the major plains reservoirs: Julesberg, North Sterling, and Prewitt, is at 100% of capacity. Cumulative storage in the major upper-basin reservoirs: Cheesman, Eleven Mile, Spinney, and Antero is at 100% of capacity. Flow at the gaging station South Platte River near Kersey was 3391 cfs, as compared to the long-term average of 1745 cfs. Flow at the Colorado/Nebraska state line averaged 653 cfs.

Outlook

Wet conditions continued in the South Platte basin through the month of May. This allowed for continued free river conditions for the river for the whole month. The free river period over the last month exceeds the number of days of free river that have existed since 2001. At least twice during May, it appeared that all demands on the river would exceed supply necessitating a very junior call on the South Platte. In each instance, timely widespread precipitation eliminated the need for a call. Any call that would have existed would have been for a junior right such as recharge, not the senior irrigation calls that have existed the last several years.

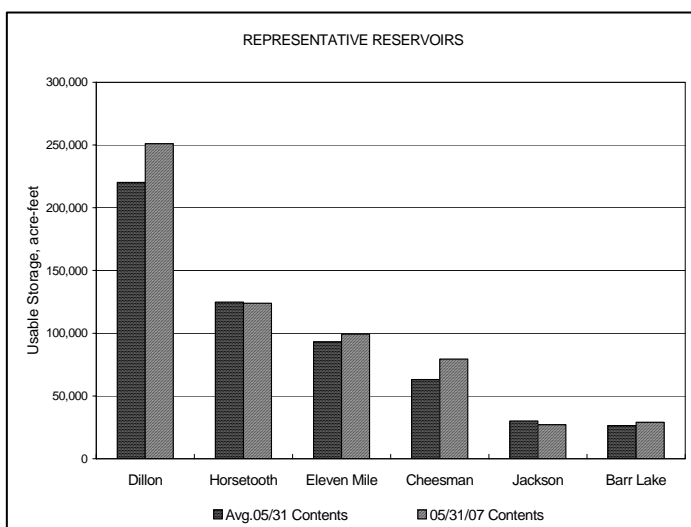
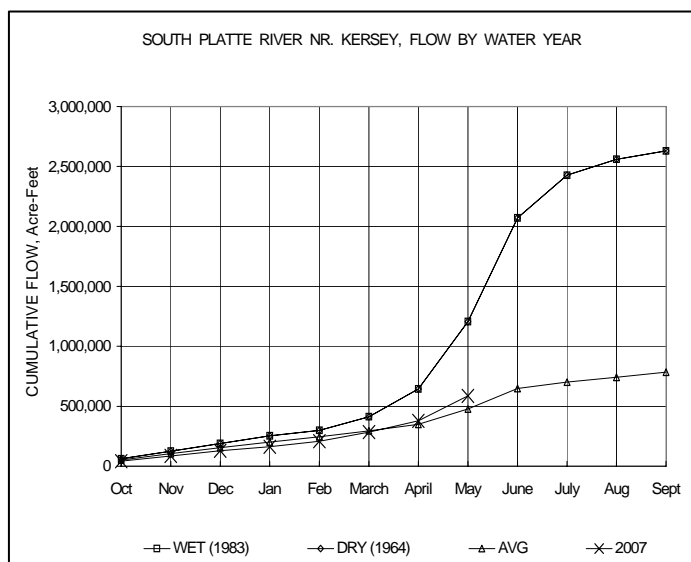
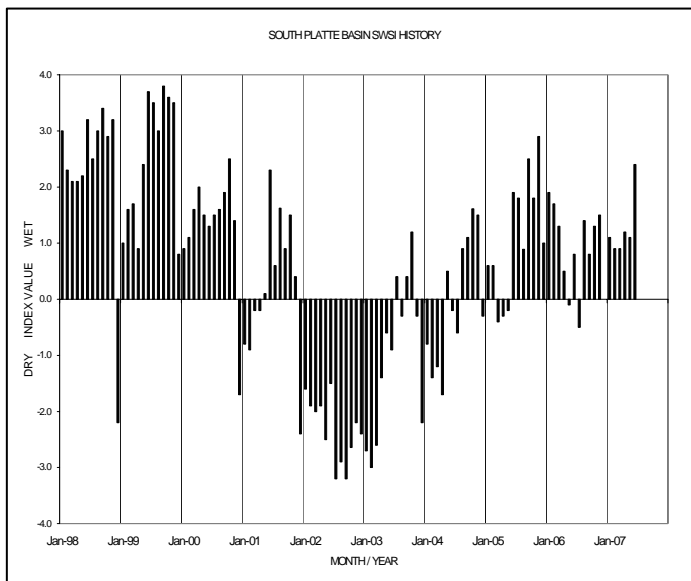
With the wet conditions, reservoir levels along the whole South Platte and on most tributaries are in very good shape. Storage conditions along the Poudre River basin continue to be worse than the other basins because of the amount of storage to be filled after the last several dry years and the drier conditions in this basin.

The filling of reservoirs on the South Platte above Denver has allowed flows from the mountains above Denver to flow into Denver. Because of the wet conditions, both Cherry Creek and Chatfield Reservoirs were into their flood pools for much of May. When this happens the Corps of Engineers takes over operation of the reservoirs for flood control purposes. Generally, these on-stream reservoirs are operated as part of the priority system.

Administrative/Management Concerns

As another indicator of the better conditions this spring, the flow at the Julesburg gage exceeded average flow for a significant part of May for the first time in the last several years. The amount passed at the state line exceeded compact requirements of 120 cfs during free river conditions by over 500 cfs most of the month and over 1000 cfs towards the end of the month

It is unlikely there will be a call along the mainstem of the South Platte until at least the middle of June because of the high river flows, good soil moisture conditions, the fact that most reservoirs are already filled, and the significant amount of recharge that has occurred this spring,. This almost guarantees an adequate supply for most surface users for the 2007 water year.



Basinwide Conditions Assessment

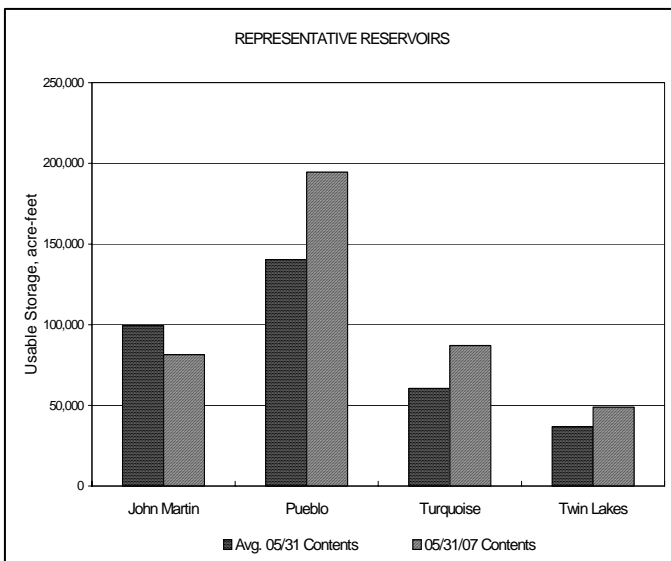
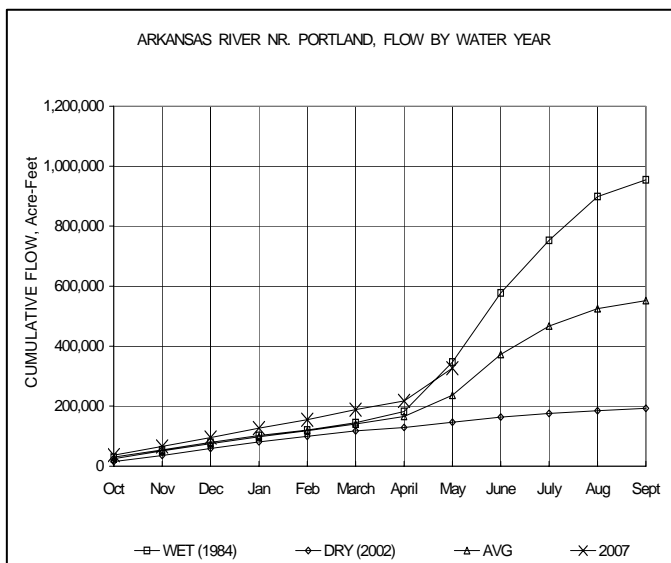
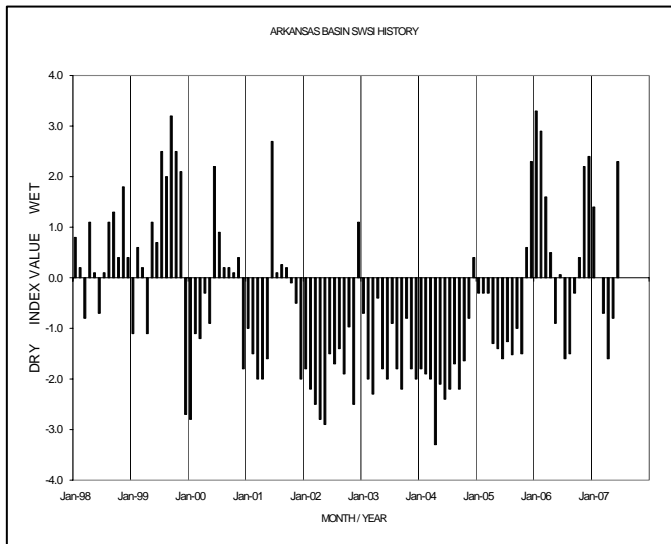
The SWSI value for the month of May was 2.3. Flow at the gaging station Arkansas River near Portland was 1772 cfs, as compared to the long-term average of 1149 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 122% of normal as of the end of May.

Outlook

River conditions continued to be good in May compared to the past six or seven years and rivers calls remained fairly junior with the month beginning at Holbrook's 1889 call and ending at a split Colorado Canal (1890) and Great Plains Reservoir (1896) call. There were several Great Plains storage events during May in John Martin Reservoir and a brief Conservation storage event in John Martin Reservoir at the end of the month resulting in additional cumulative storage of over 14,000 acre-feet.

Administrative/Management Concerns

The Colorado State Engineer and Kansas Chief Engineer and their respective staff personnel met through a teleconference on numerous days in May to attempt to reach resolution on remaining disputed issues regarding the final decree provisions in the Kansas v. Colorado case and had some success in reaching agreement on a number of issues.



Basinwide Conditions Assessment

The SWSI value for the month of May was 1.5. Flow at the gaging station Rio Grande near Del Norte averaged 3200 cfs (127% of normal). The Conejos River near Mogote had a mean flow of 859 cfs (82% of normal). Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 112% of normal as of the end of May.

Precipitation in Alamosa during May was 0.53 inches, 0.17 inches below normal, however, the precipitation in the mountains surrounding the San Luis Valley was 140% of average for the month. Temperatures ranged from 21 degrees to 78 degrees in Alamosa where the average monthly temperature was 51.7 degrees, 1.3 degrees above normal.

Stream flow in the basin was generally near average. Most streams in the division are at or nearing their peak flows for the year. Even though flows are relatively high now, flooding should not be a concern this season unless a major rainstorm occurs. The entire basin experienced a good month due to the frequent rainstorms that swept through the valley.

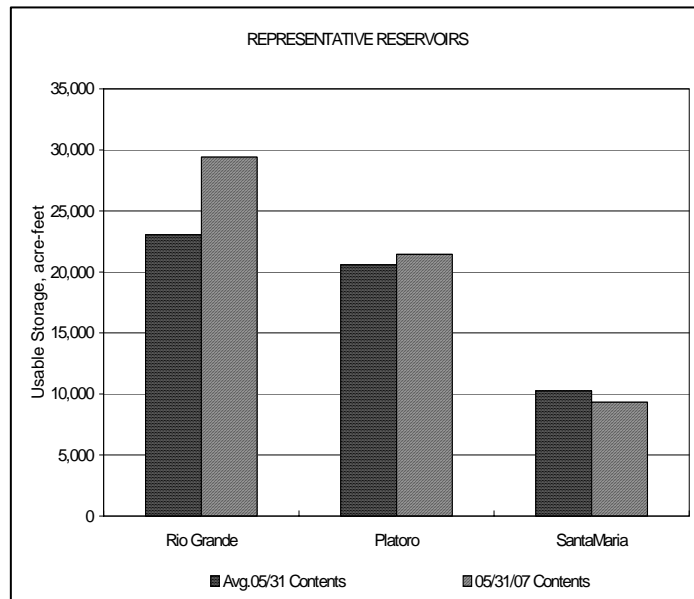
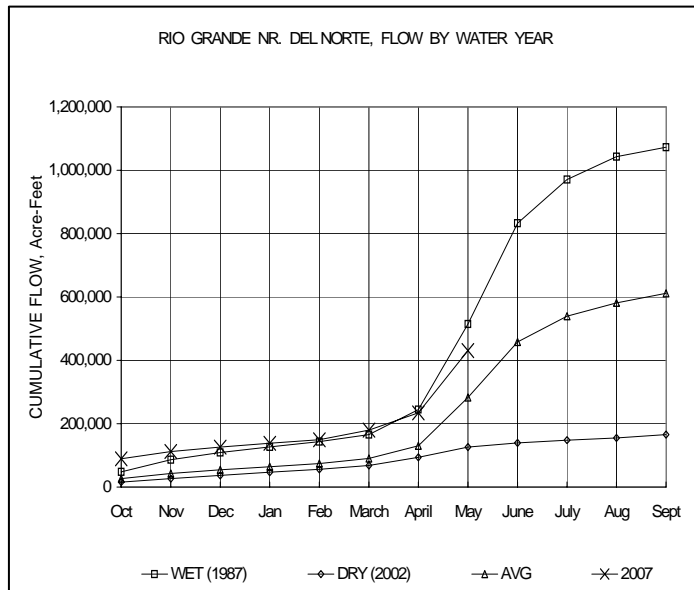
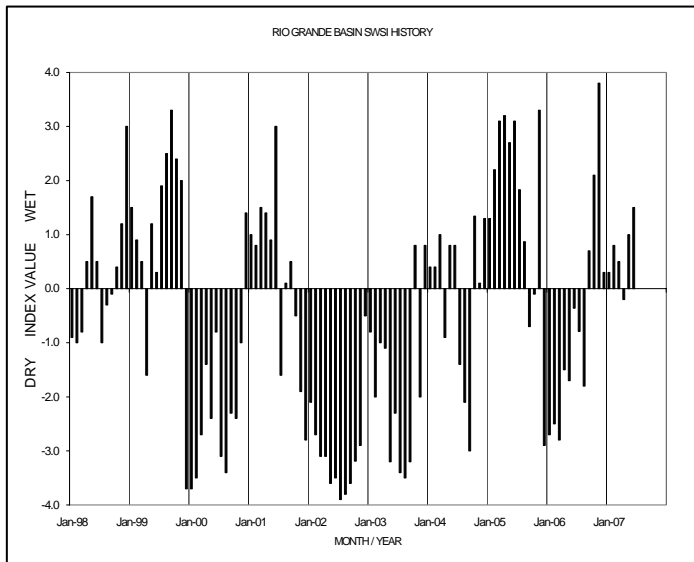
Outlook

June 1 NRCS stream flow forecasts have generally jumped by 10-15% over the forecasts of May 1, mostly due to the frequent rain events in May. The NRCS is predicting runoff in west side rivers and streams to be at the 70 to 90% of normal level, while the streams flowing from the Sangre de Cristo Mountains on the east side of the division should see flows in the 95 to 115% of normal range.

Administrative/Management Concerns

The unusually wet weather pattern in the high country during May caused most area streams and rivers to experience a sustained, relatively high flow hydrograph. This has led most of the senior and mid-priority water rights to have a very good run of diversions so far this year. Many of these ditches have been turning down a portion of their available water because their fields are too wet and they cannot use more water.

Reservoir storage throughout the entire Rio Grande basin is in fair condition at 99% of average. Several ditches on both the Rio Grande and Conejos River systems are currently storing their direct flow water storage rights in these high mountain reservoirs.



Basinwide Conditions Assessment

The SWSI value for the month of May was 0.7. Flow at the gaging station Uncompahgre River near Ridgway was 423 cfs, as compared to the long-term average of 333 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 127% of normal as of the end of May.

When compared to the normal levels for May, streamflows within the Gunnison basin varied widely during May. But, in general, those drainages south of U.S. Highway 50 were above average during the month (Tomichi Creek, Cochetopa Creek, Lake Fork of the Gunnison, Uncompahgre, and Cimarron). Most of these streams will peak in early June. The snowstorms during May benefited these drainages.

However, rivers and creeks north of Highway 50 experienced below normal runoff for the month (Muddy Creek, North Fork of the Gunnison, East and Slate Rivers, and all streams coming off the Grand Mesa). Most of these streams peaked on or near May 15<sup>th</sup>.

Reservoir releases will be the saving grace for those ditches fortunate enough to own storage. Although the reservoir storage levels in the basin are generally above normal at this time, heavy releases for irrigation needs should severely deplete these reserves during 2007. Current storage is at about 83% of the total useable capacity.

Blue Mesa Reservoir gained approximately eight feet of storage during May due to a low and consistent release from the Aspinall Storage Unit. Streamflow through the Black Canyon continued to be in the 400 to 500 cfs range during May.

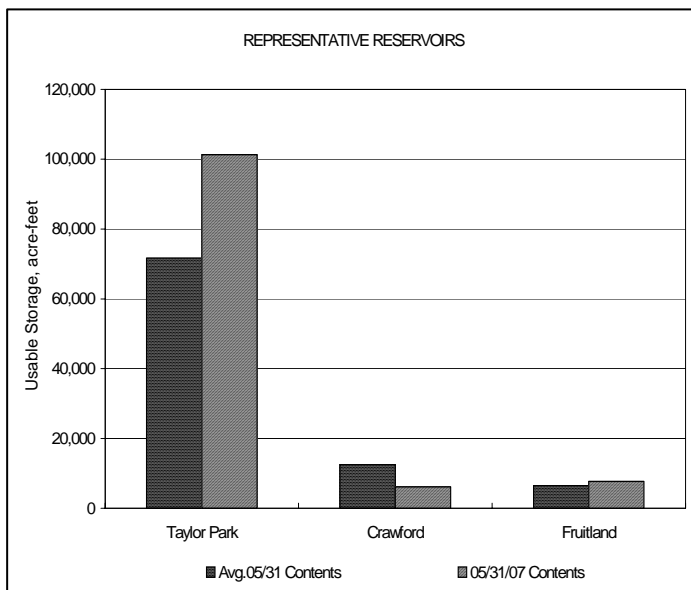
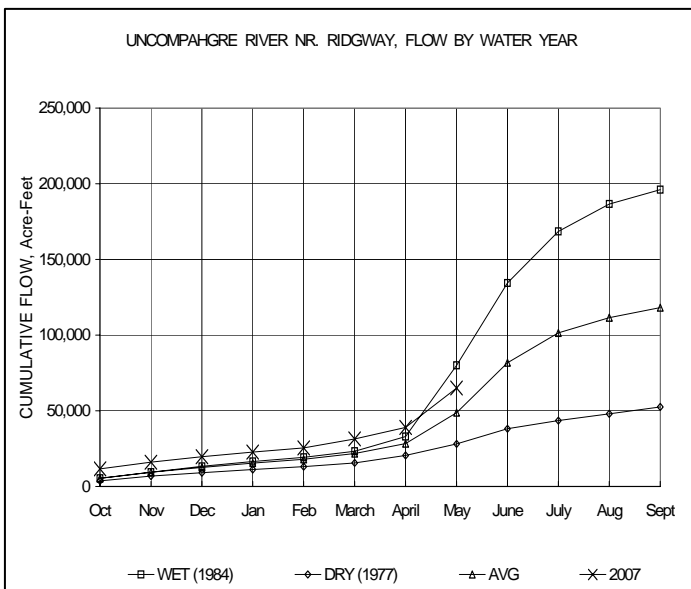
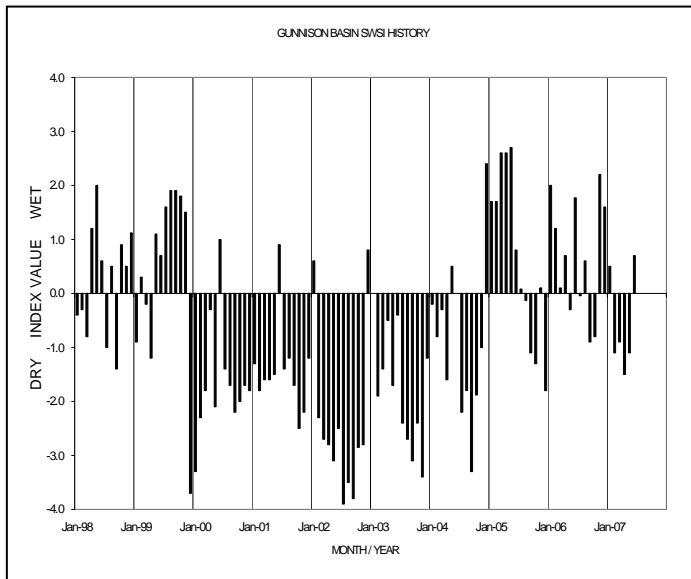
Outlook

The June 1, 2007 streamflow forecasts issued by the Natural Resources Conservation Service (NRCS) for runoff in the Gunnison River basin are still meager. There was a small improvement in some drainages during May due to a couple of snowstorms. The NRCS issues forecasts for the April through July runoff and also a June and July forecast now that the April and May numbers are in. For most drainages in the Gunnison basin, the June and July forecasted runoff is in the range of 25 to 50 percent of normal. The lone bright spots are the Lake Fork at 91% of normal, the upper Uncompahgre at 70% and the Cochetopa at 63%.

Drastic declines in natural streamflow are expected during June and even further into the summer. Monsoonal activity could help this situation immensely, just like the summer of 2006.

Administrative/Management Concerns

Farmers and ranchers have had to deal with many tribulations this spring including paltry snowfall in March and April, high winds, and now, a late freeze. Perhaps some relief will come in the form of summer weather Colorado is famous for: warm, sunny days with afternoon showers.



Basinwide Conditions Assessment

The SWSI value for the month of May was 0.0. Flow at the gaging station Colorado River near Dotsero was 3918 cfs, as compared to the long-term average of 4383 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 146% of normal as of the end of May.

Outlook

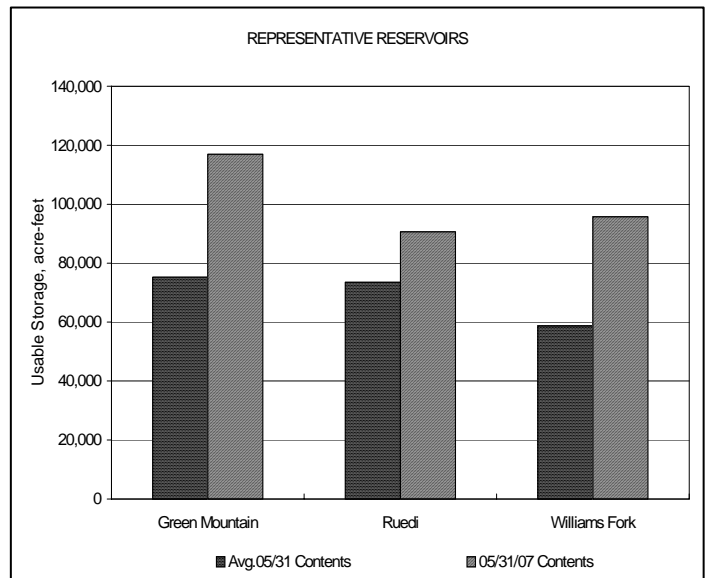
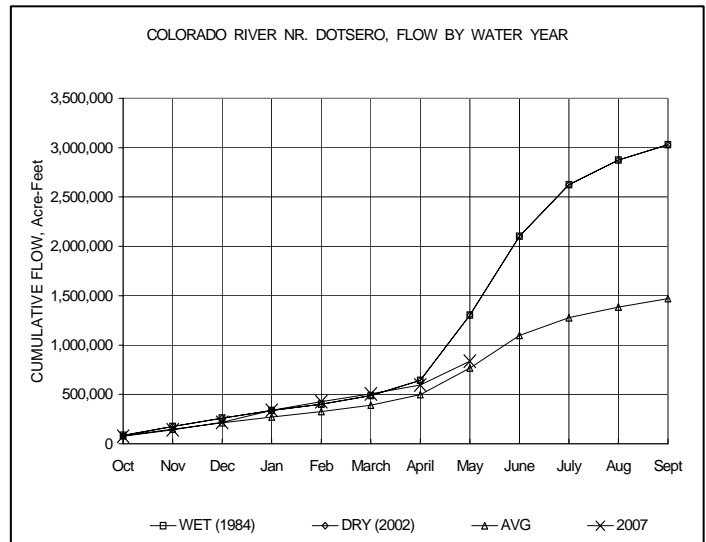
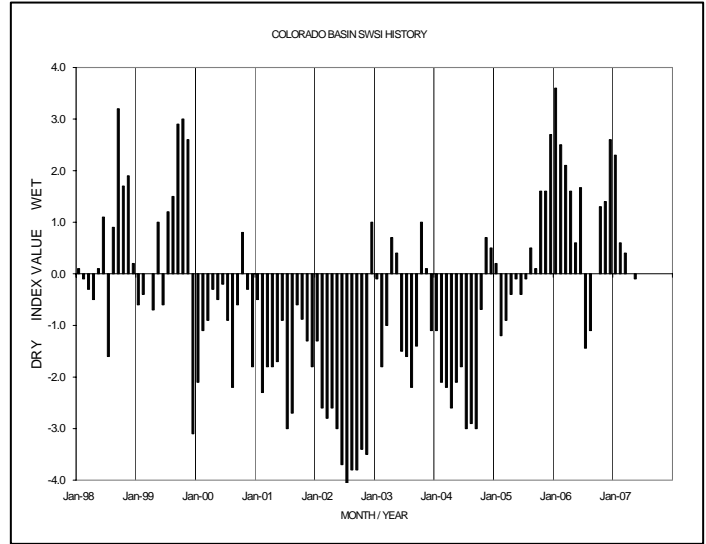
The Colorado River peaked in late May this year. The Dotsero gage recorded maximum flows on May 22 – 6,170 cfs for instantaneous and 5,950 cfs for the daily average. The Cameo gage recorded a maximum instantaneous flow of 10,900 cfs on May 20 and a maximum daily average of 10,600 cfs on May 21. Recent snow and cooler temperatures will prolong the issuance of a main stem call.

Administrative/Management Concerns

Meetings continue in the headwaters region to help develop ideas and processes which would increase possible low flows on the Colorado during the late summer. Local irrigators, business interests and governments, as well the USBR and DWR, are trying to assist the growing needs with existing resources.

Public Use Impacts

Coordinated Reservoir Operations (CROS) were not implemented this year. Weekly telephone conference calls were started in mid April through late May to help determine the feasibility of the reservoir releases. Reservoir operators were dealing with augmenting a projected peak between 9,000 and 10,000 cfs in the Grand Valley. The NOAA offices in Grand Junction and Salt Lake City were involved on daily basis to offer assistance in predicting the peak. When the lower threshold of 12,900 cfs was determined to be not feasible, CROS was cancelled.



Basinwide Conditions Assessment

The SWSI value for the month of May was -1.7. Flow at the gaging station Yampa River at Steamboat was 1533 cfs, as compared to the long-term average of 1612 cfs.

May precipitation was below average for the basin. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, averaged approximately 56% of normal for the Yampa, White, and North Platte River basins combined. For the Yampa and White River basins, precipitation totaled 56% of average and, for the North Platte River basin, precipitation totaled 55% of average.

Snowpack in the combined Yampa, White, and North Platte River basins continued to decline during May. The snow water equivalent (SWE) as of May 31, 2007 for the Yampa and White River basins was 18% of average and for the Laramie and North Platte River basins was 37% of average. For the individual basins, the snowpacks at the end of the month were: 31% of average for the North Platte River basin, 10% of average for the Yampa River basin, and 33% of average for the White River basin. The latest runoff forecasts from the NRCS for the June through July period are 52% of average for the North Platte River near Northgate, 21% of average for the Yampa River near Maybell, 22% of average for the Little Snake River near Lily, and 31% of average for the White River near Meeker.

Outlook

The June forecast for the area, based on NOAA data, is for above normal temperatures and normal precipitation.

Fish Creek Reservoir storage level at the end of May was reported at capacity. Yamcolo Reservoir storage level remained at capacity and Elkhead Creek Reservoir remained at its' enlarged capacity (approximately 24,900 acre-feet) at the end of May. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, recreation, and in the future, fish recovery releases.

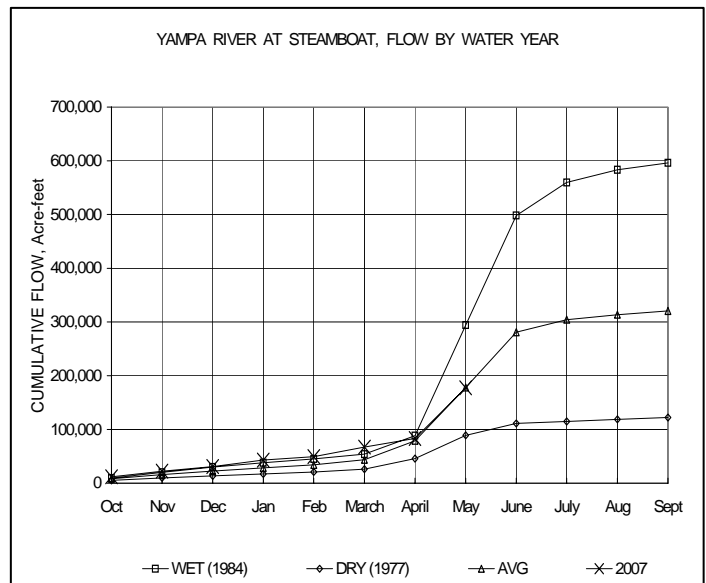
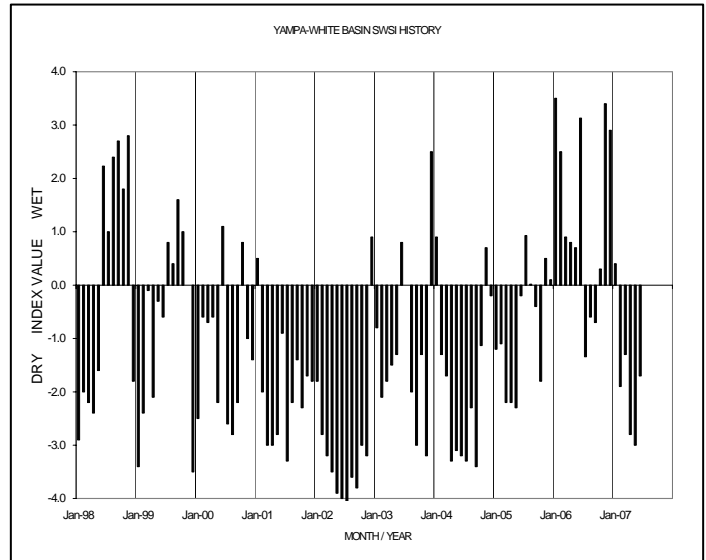
Administrative/Management Concerns

During May, calls were placed on the following: Middle Hunt Creek (May 11), Pot Creek (May 11 - 30), Bear River (May 16), Little Bear Creek (May 24), South Hunt Creek (May 25), Piceance Creek (May 27), and Morapos Creek (May 27). With the exception of Pot Creek, these creeks/ivers remain under administration.

The River District is intending to release water from Elkhead Creek Reservoir this summer, which Division 6 is responsible for protecting through the Yampa River critical habitat reach.

Public Use Impacts

Elkhead Creek Reservoir opened on May 5 for day-use fishing and recreational activities after being closed for almost two years.





Basinwide Conditions Assessment

The SWSI value for the month of May was 1.3. Flows at the Animas River at Durango averaged 2,304 cfs (100% of normal) with a maximum average daily peak flow of 3,470 cfs on May 16<sup>th</sup>. The Dolores River at Dolores averaged 1,503 cfs (87% of normal) with a maximum average daily peak flow of 2,420 cfs on May 15<sup>th</sup>. The La Plata River at Hesperus averaged 117 cfs (69% of normal) with a maximum average daily peak flow of 200 cfs on May 15<sup>th</sup>.

Precipitation in Durango was 2.28 inches for May which is above the 30-year average of 1.16 inches. Precipitation to date in Durango, for the water year, is 12.46 inches which is right at the average of 12.49 inches. Temperatures in May were in the normal range for the month. Durango was 0.3° below its 30-year average high and 2.0° above its 30-year average low.

At the end of the month Vallecito Reservoir contained 124,960 acre-feet compared to its normal contents of 86,809 acre-feet (144% of normal). The storage in Vallecito Reservoir is the highest amount stored for an end of May period based on 67 years of record. McPhee Reservoir was up to 382,506 acre-feet compared to its normal contents of 316,177 acre-feet (121% of normal). The storage in McPhee Reservoir is the highest amount stored for an end of May period based on 24 years of record. Lemon Reservoir remained at about the same content as compared to last month, 36,420 acre-feet as compared to its normal content of 29,697 acre-feet (123% of normal).

Outlook

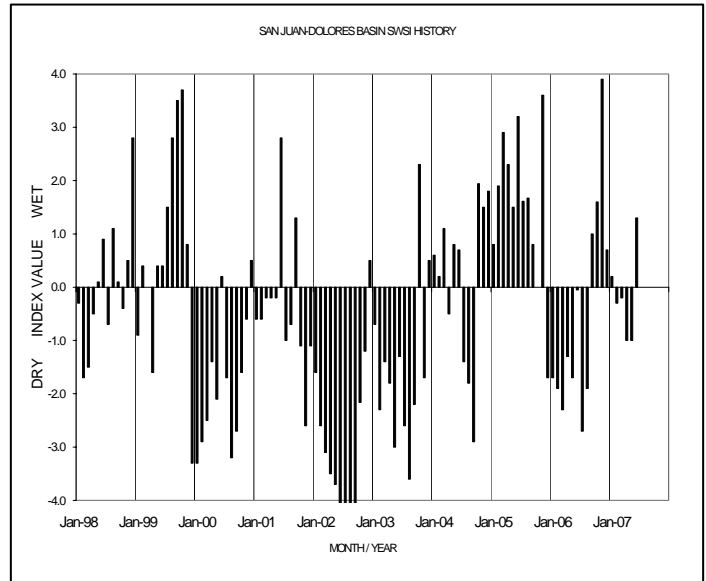
Normal temperatures and higher than average precipitation in May have maintained reservoir storage and kept river flows near their historic average. As we enter into our driest month of the year reservoir storage remains in great shape with above average storage. Late spring storms continued into May and brought snow to the high mountain peaks and rain to the lower levels. We hope May precipitation continues into June as most of the SNOWTEL sensors are reporting zero snow water equivalent.

Administrative/Management Concerns

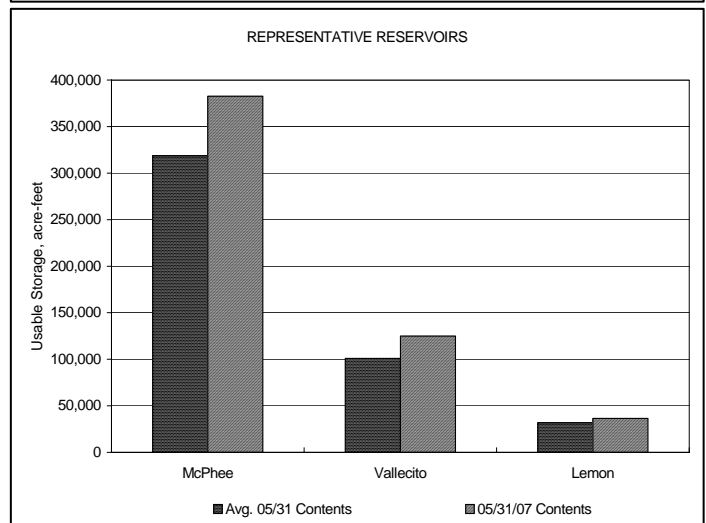
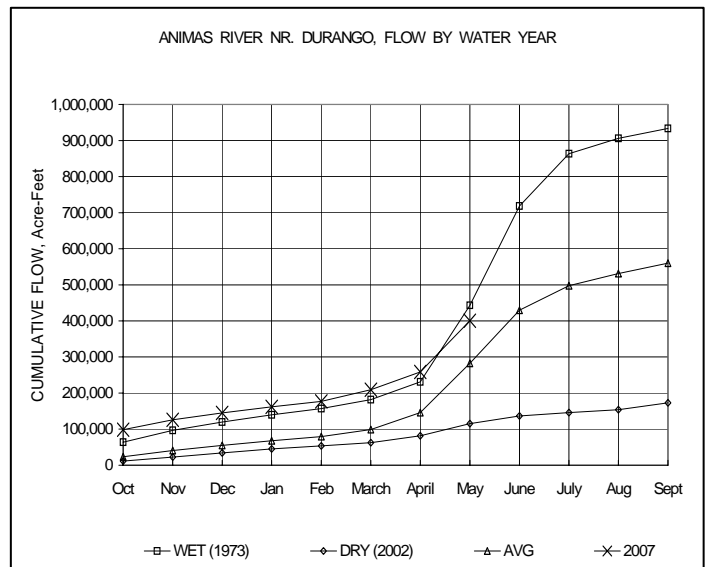
The La Plata compact continued to be on call the entire month of May. New Mexico placed a call for 80 cfs on April 30<sup>th</sup> that continued until May 17<sup>th</sup> when they reduced their required flow to 50 cfs after a couple of ditches breached in New Mexico. New Mexico increased their required flow to 60 cfs on May 18<sup>th</sup> that continued until their ditches were repaired and placed a call for 80 cfs on May 22<sup>nd</sup>.

Public Use Impacts

With spring in full bloom, kayaking has continued to be observed by DWR staff on the Animas River.



end of May period based on 67 years of record. McPhee



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