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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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August 2009

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.

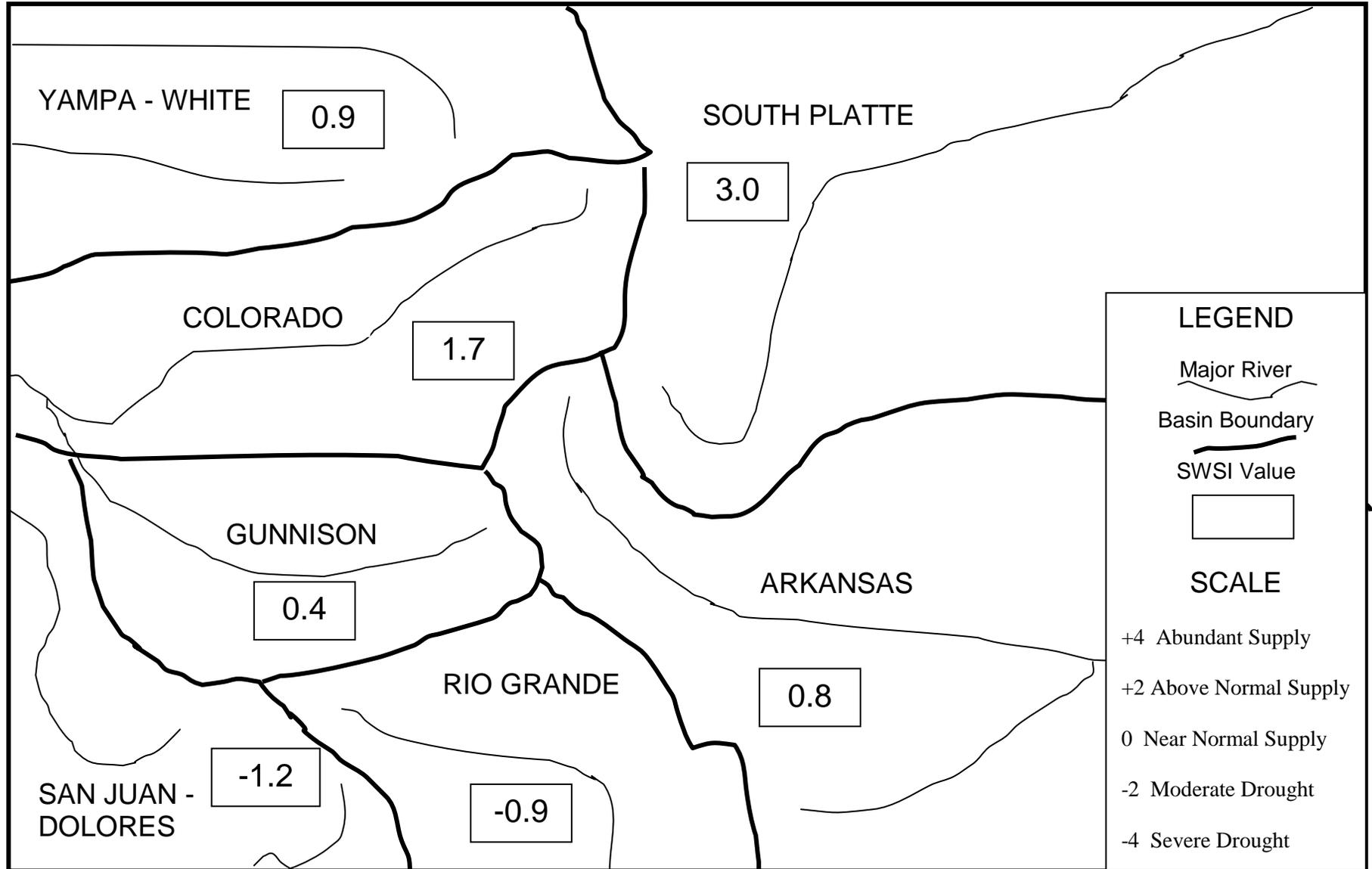
The statewide SWSI values for the month range from a high value of +3.0 in the South Platte Basin to a low value of -1.2 in the San Juan/Dolores Basin. Two of the basins (Colorado and Yampa/White) experienced a gain from the previous month's values, two of the basins (Rio Grande and San Juan/Dolores) experienced no change from the previous month's values, and the remaining three basins (South Platte, Arkansas, and Gunnison) experienced a loss from the previous month's values.

The following SWSI values were computed for each of the seven major basins for August 1, 2009, and reflect the conditions during the month of July 2009.

<u>Basin</u>	<u>August 1, 2009 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	3.0	- 0.4	+2.2
Arkansas	0.8	- 0.8	- 0.6
Rio Grande	- 0.9	0.0	- 1.9
Gunnison	0.4	- 0.7	- 2.4
Colorado	1.7	+0.2	- 0.8
Yampa/White	0.9	+0.8	- 0.9
San Juan/Dolores	- 1.2	0.0	- 2.8

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, 2009

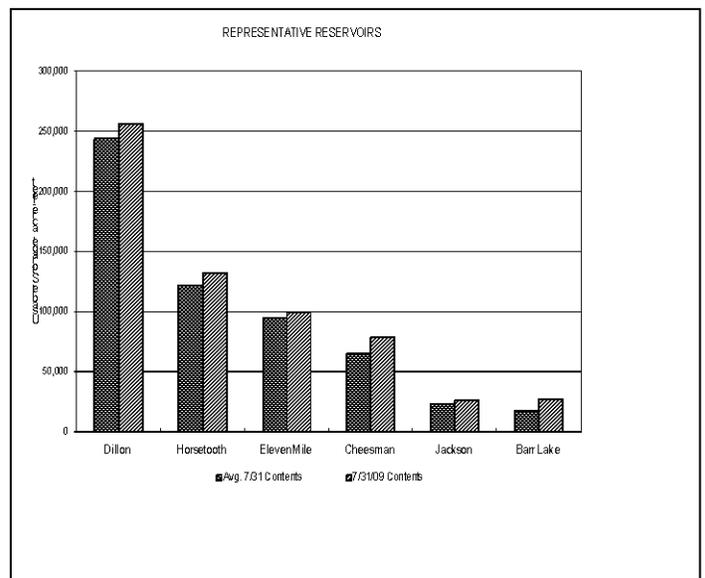
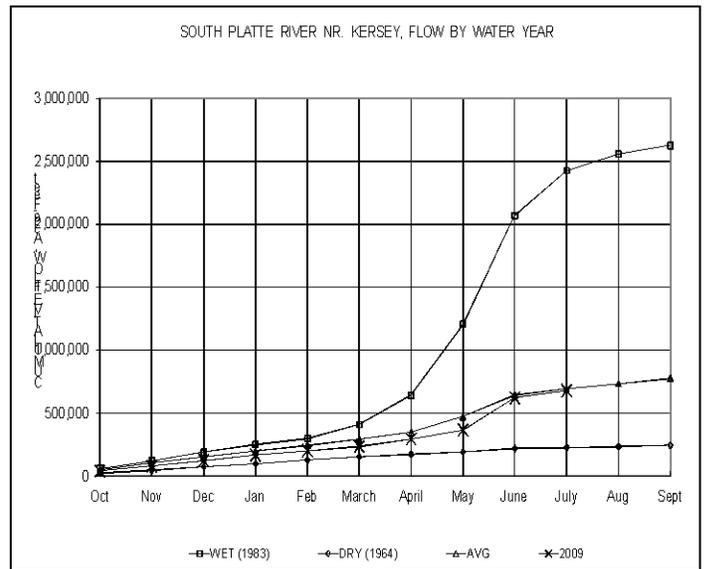
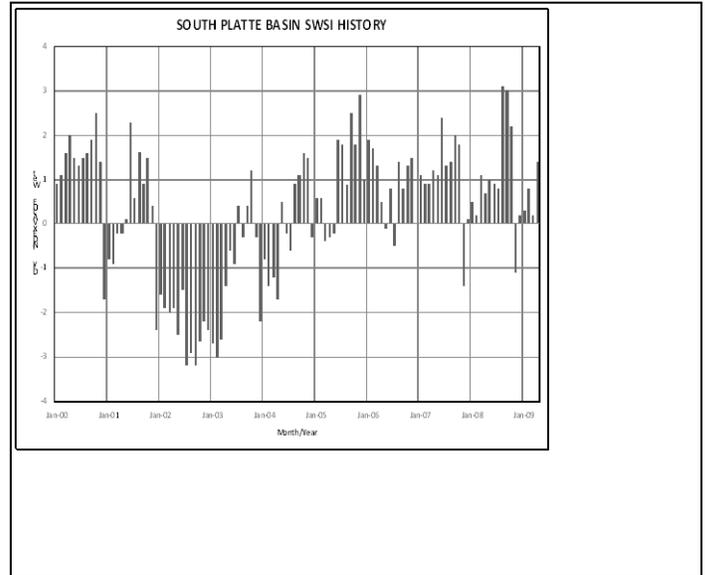
Basinwide Conditions Assessment

The SWSI value for the month was 3.0. Reservoir storage in Dillon, 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 July. Cumulative storage in the major plains reservoirs (Julesberg, North Sterling, and Prewitt) is at 81% 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 928 cfs, as compared to the long-term average of 661 cfs. Flow at the Colorado/Nebraska state line averaged 778 cfs.

Outlook

The unusually cool and wet conditions continued during the month of July. This was very surprising as July is usually hot and dry in even good water years. Because of the wet cool conditions, there was no call on the mainstem of the South Platte until the tenth day of July and the calls on the mainstem and tributaries the remainder of the month was extremely junior for July. Even in good years, a senior irrigation call generally exists every day on the mainstem of the South Platte during July. Flows conditions this high have not occurred since 1995, a year of sustained flooding flows on the South Platte, when there were no calls on the mainstem at all in July.

Almost all major reservoirs on both the tributaries and mainstem remained near full in July because of the wet, cool conditions. There should be a plentiful supply of water the remainder of this year and storage conditions bode well for next year's supply.



Basinwide Conditions Assessment

The SWSI value for the month was 0.8. Flow at the gaging station Arkansas River near Portland was 1,432 cfs, as compared to the long-term average of 1,545 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 113% of normal as of the end of July.

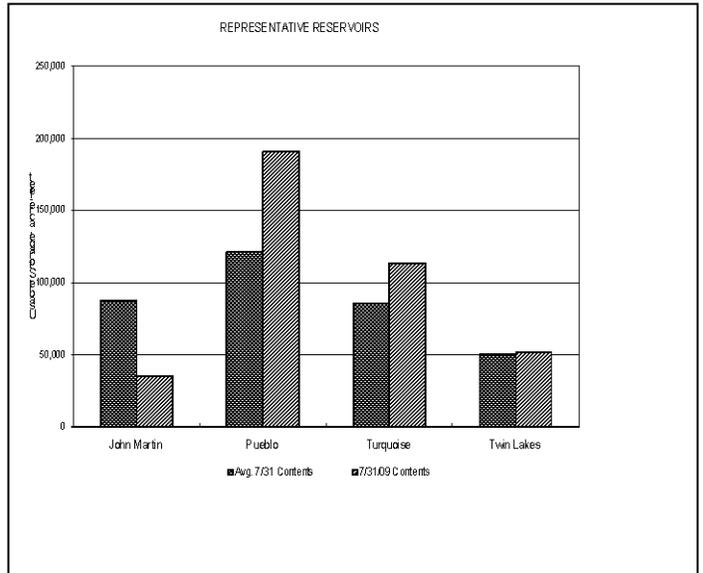
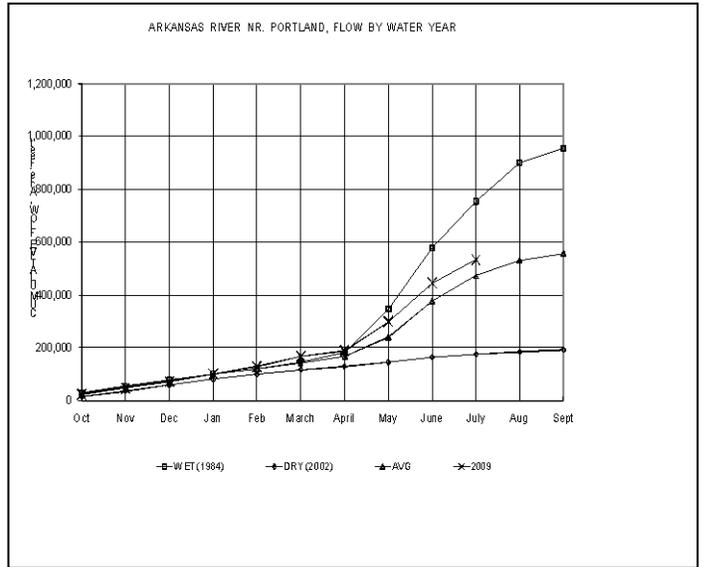
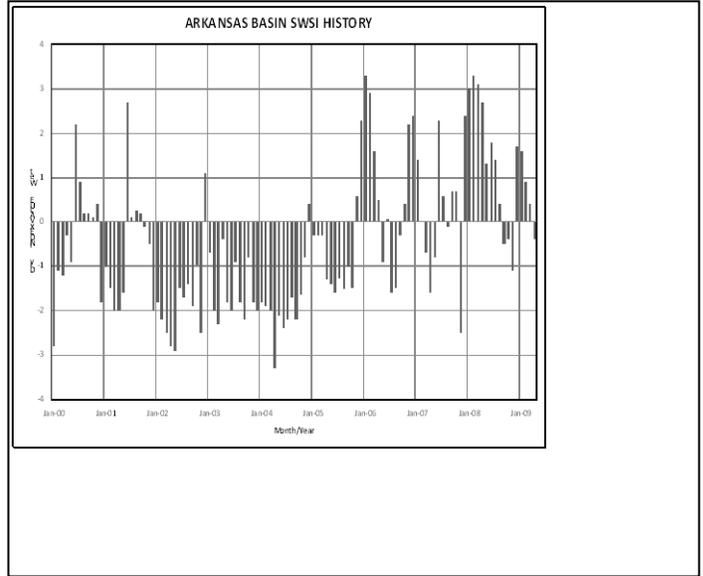
Outlook

The Arkansas River call began the month set at the Colorado Canal 6/9/1890 call and ended the month set at the Amity Great Plains call (8/1/1896). There were about 10 days of Amity #1 call (2/21/1887), nine days of Fort Lyon #2 call (3/1/1887) and a short period of higher flows with a split call and more junior calls below John Martin Reservoir. The basin benefitted quite a bit from some timely and well positioned rain events that kept river flows fairly strong.

Kansas called for a release of their stored water in John Martin Reservoir on June 29, 2009 and continued that delivery to ditches in western Kansas through July 23, 2009. The delivery included a release of 21,092 acre-feet of Section II water along with 1,654 acre-feet of transit loss water. The transit loss release was not limited with both States agreeing to release rates, but the delivery still experienced some additional transit loss that will be made up from future inflows to Section III storage in John Martin Reservoir. The release also included 8,686 acre-feet of Offset Account water that resulted in a net stateline delivery credit of approximately 5,511 acre-feet of consumable water for the benefit of Colorado well owners in the Lower Arkansas Water Management Association (LAWMA) plan.

Administrative/Management Concerns

The Southeastern Colorado Water Conservancy District's Allocation Committee met in July and allocated additional Frying-Pan Arkansas Project water as a result of better than expected transmountain imports under the Fry-Ark Project during the first half of 2009.



Basinwide Conditions Assessment

The SWSI value for the month was -0.9. Flow at the gaging station Rio Grande near Del Norte averaged 792 cfs (59% of normal). The Conejos River near Mogote had a mean flow of 365 cfs (77% of normal). Precipitation in Alamosa was 0.45 inches, 0.49 inches below normal. The average temperature during July was slightly above normal where the 'Land of Cool Sunshine' was proven once again with 85 degree days and 45 degree summer nights.

Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 148% of normal as of the end of July.

Outlook

Stream flow levels in the basin's streams fell off drastically during the latter part of June and throughout July. The high runoff in May and early June ran out the majority of the snowpack. Water users and recreators should anticipate below average stream flows and reservoir levels through the end of the summer unless substantial precipitation occurs.

National Weather Service forecasts still call for above normal precipitation during August and September. Meanwhile, ranchers appreciate the chance to cut, bale and put up their hay without interference from rain.

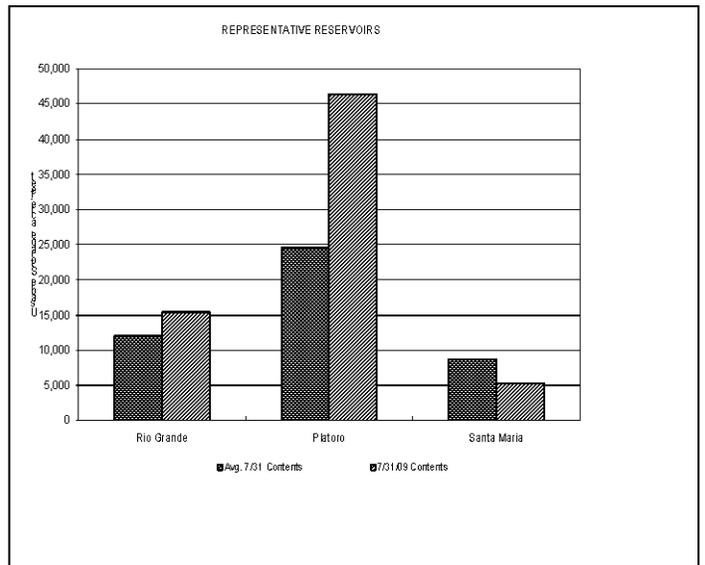
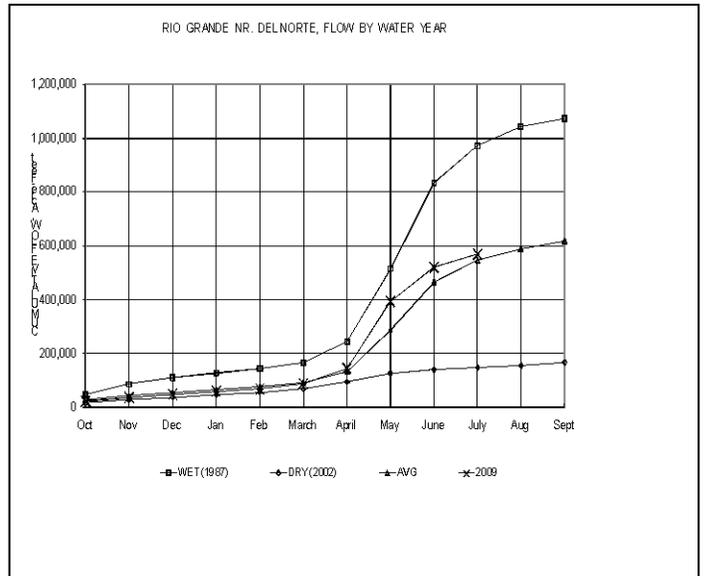
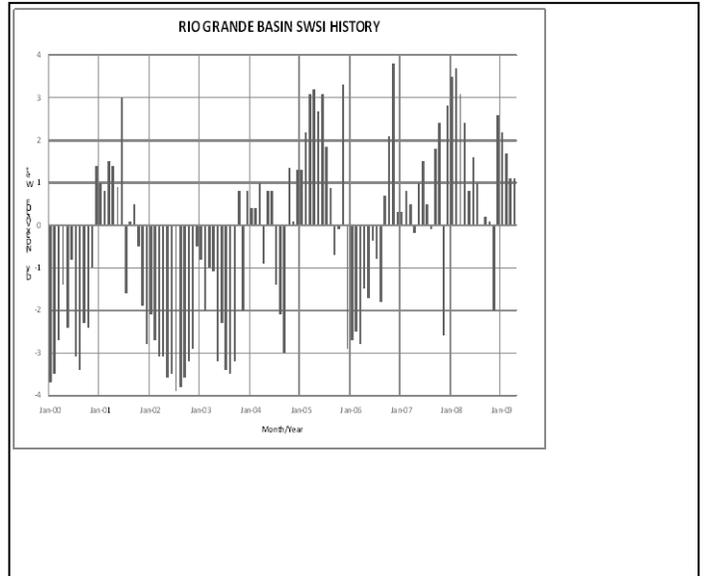
Administrative/Management Concerns

Without consistent rainfall during August and September, junior water right owners in Division 3 should expect senior calls to keep them out of priority for the rest of the irrigation season.

The large decrease in streamflow at the upper index gaging stations on the Rio Grande and Conejos systems enabled water administrators to reduce the amount of water curtailed from diversion to meet Compact delivery requirements.

Public Use Impacts

Rainfall patterns around the San Luis Valley have been very erratic. The nice green spring-time hue to the foothills and non-irrigated areas is beginning to fade. Irrigators are now relying heavily on well water and reservoir releases.



Basinwide Conditions Assessment

The SWSI value for the month was 0.4. Flow at the gaging station Uncompahgre River near Ridgway was 253 cfs, as compared to the long-term average of 320 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 106% of normal as of the end of July.

Outlook

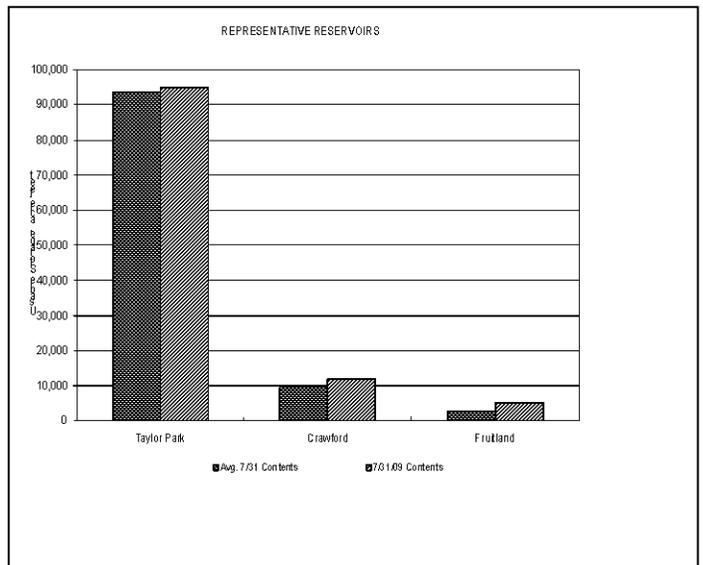
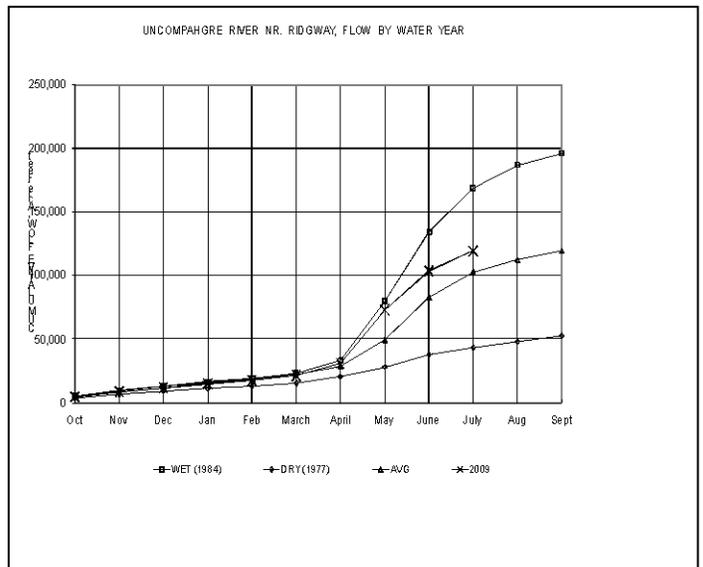
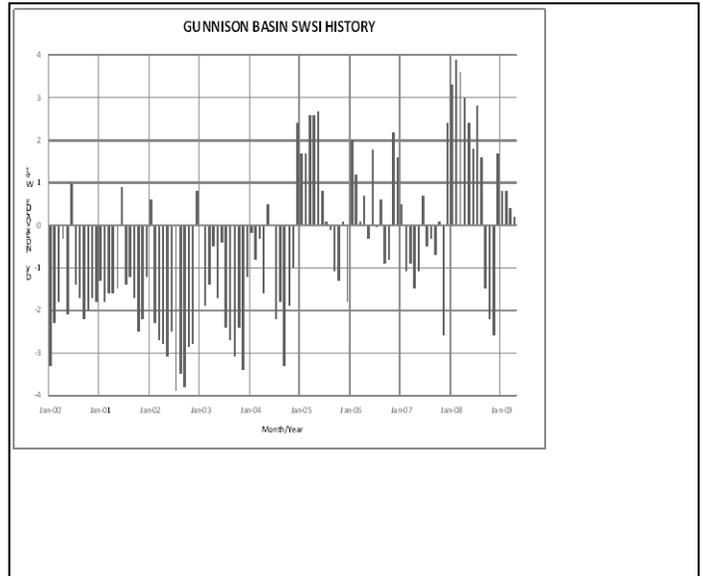
Wetter than normal conditions in the basin continued through July, especially in the high country. Water users in the basin are hoping the monsoon conditions will continue in August to lessen the dependence on reservoir storage and help reduce the occurrence of river calls.

Administrative/Management Concerns

June was cool and wet, with conditions finally heating up and somewhat drier in the month of July. As a result, Taylor Park Reservoir and Blue Mesa Reservoir finally started to see inflows decreasing to levels allowing the Bureau of Reclamation to reduce outflows to more normal levels for this time of year. Both reservoirs filled to within a foot of spilling this year. Flows in the Gunnison River through the Black Canyon will remain at around 1,000 cfs to help meet the January 1 target elevation at Blue Mesa. With the exception of Buckeye Reservoir in water District 61 (tributary to the Dolores River), there are full reservoirs throughout the Gunnison Basin.

Public Use Impacts

Blue Mesa and Taylor Park reservoirs have an extremely high recreational use in the summer, and the higher levels increase the value of that experience. The recreational users of lakes on the Grand Mesa have also enjoyed full lakes, which will still have significant carryover storage at the end of the irrigation season.



Basinwide Conditions Assessment

The SWSI value for the month was 1.7. Flow at the gaging station Colorado River near Dotsero was 3,883 cfs, as compared to the long-term average of 2,930 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 107% of normal as of the end of July.

Outlook

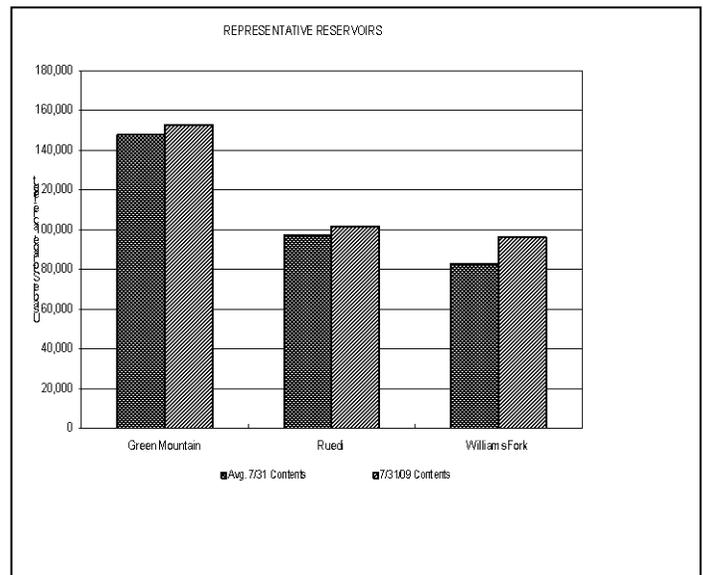
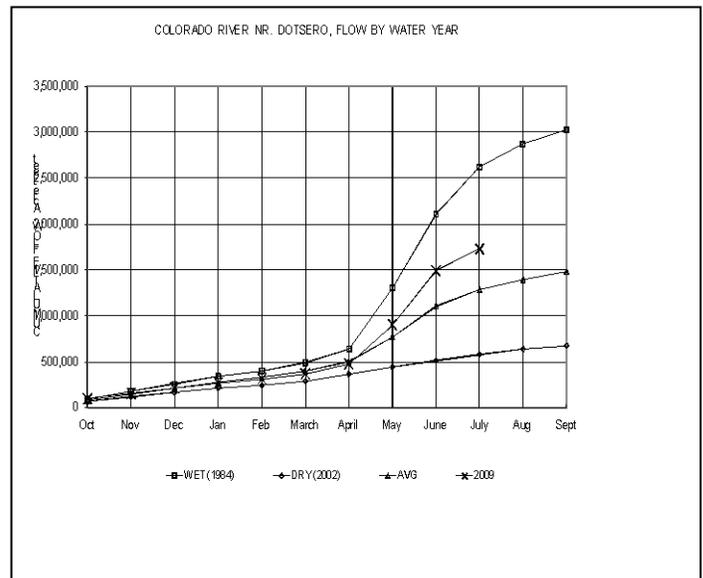
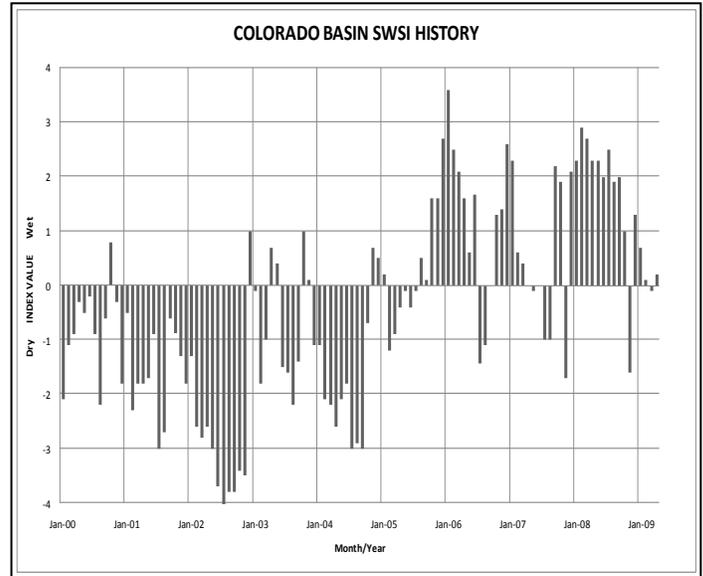
Colorado River flows fell from above average to average throughout July. Anticipated drier August conditions will likely lower Green Mountain releases; however significant forecast release increases from Ruedi Reservoir should maintain above average Roaring Fork flows keeping the Colorado River near average throughout August. Crystal River flows will likely remain below average as well.

Administrative/Management Concerns

Green Mountain Reservoir experienced decreasing flow due to declining runoff, and initiation of Denver Water diversions through Roberts Tunnel in mid-July. The resulting release decreases lowered Colorado River flows from above average in early July to near average the second half of the month. The outlook for near average Colorado River flows will likely keeping calls from occurring through August 31<sup>st</sup>. Shoshone is scheduling a draining of the pool at the Hanging Lake trailhead for a dam inspection. The resuming diversion to re-fill the pool will be coordinated with the Colorado River Administrator to mitigate downstream administrative impacts. There were no calls from Shoshone Hydro Power Plant or Grand Valley water users in July. Fryingpan-Arkansas transmountain diversions through Boustead Tunnel ended July 25<sup>th</sup>.

Public Use Impacts

Sustained above average Roaring Fork flows continue to draw rafting and kayaking enthusiasts. Lake Powell reached its maximum elevation of 3642.3 ft on July 16<sup>th</sup>, 7 ft short of the required elevation to open the Farley Canyon launch site which has not been in use since 2002.



Basinwide Conditions Assessment

The SWSI value for the month was 0.9. Flow at the gaging station Yampa River at Steamboat was 342 cfs, as compared to the long-term average of 375 cfs.

After an extremely wet June, July precipitation dropped to below average levels for the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by the NRCS, was reported at approximately 69% of average for the Yampa/White River basin and 94% of average for the North Platte River basin. Precipitation for the combined Yampa, White, and North Platte River basins was reported at approximately 82% of average for the month of July and 104% of average for the water year to-date.

Due to lower than average precipitation in July, most streamflows in Division 6 returned to the normal levels typically seen this time of year.

Outlook

Fish Creek Reservoir continued spilling through mid-July and the storage level remained at approximately 100% of capacity throughout the month. Elkhead Creek Reservoir remained slightly below capacity throughout July and was reported at approximately 98% of capacity at the end of the month. The storage level at Yamcolo Reservoir continued to decline and was reported at approximately 67% of capacity at the end of July. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, and Elkhead Creek Reservoir for municipal, industrial, and recreational purposes, as well as fish recovery releases.

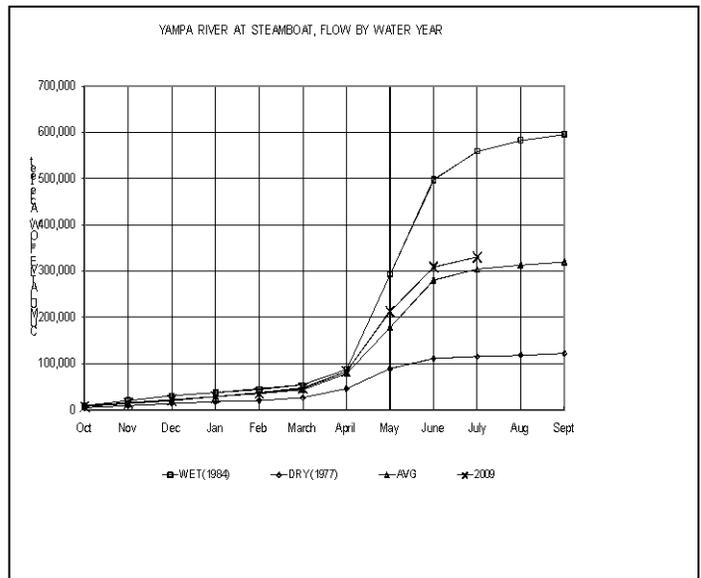
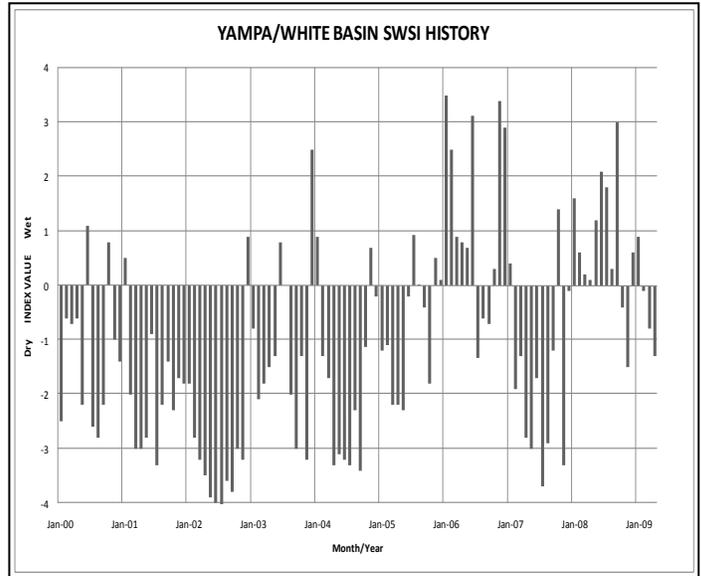
Administrative/Management Concerns

Calls were placed on the following Division 6 streams, which remained under administration at the end of the month: Bear River, Middle Hunt Creek, South Hunt Creek, Talamantes Creek, Vermillion Creek, Piceance Creek, Little Bear Creek, Newcomb Creek, and Spring Creek.

The second year of the fish recovery release from Elkhead Creek Reservoir was completed successfully in 2008. Data collected during the release are being reviewed by participating agencies and a transit loss study of Elkhead Creek is planned for this summer and fall. In order to maintain flow at the Yampa River near Maybell gage station at approximately 300 cfs, the U.S. Fish and Wildlife Service anticipates that the 2009 fish release from Elkhead Creek Reservoir could commence within the next couple weeks. Flow at the Maybell station was reported at approximately 450 cfs at the end of July.

Public Use Impacts

High mountain reservoirs and State Parks in the area are open for the season, with good fishing reported. Excellent kayaking was reported in June and early July and numerous tubers are currently recreating on the Yampa River through Steamboat Springs.



Basinwide Conditions Assessment

The SWSI value for the month was -1.2. Flows at the Animas River at Durango averaged 744 cfs (63% of average). The flow at the Dolores River at Dolores averaged 222 cfs (56% of average). The La Plata River at Hesperus averaged 16.5 cfs (45% of average). Precipitation in Durango was 0.22 inches for July, 11% of the 30-year average of 1.93 inches. Precipitation to date in Durango, for the water year, is 14.00 inches, below the average of 15.20 inches. The average high and low temperatures for the month of July in Durango were 91° and 48°. In comparison, the 30-year average high and low for the month is 86° and 53°.

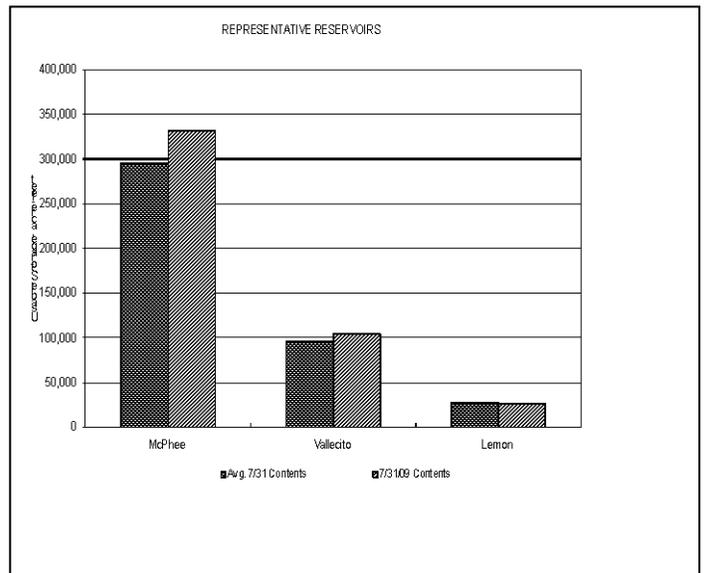
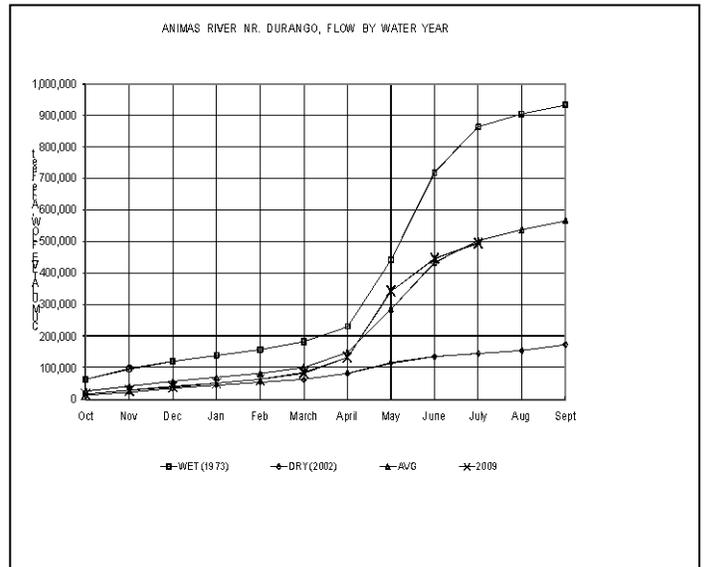
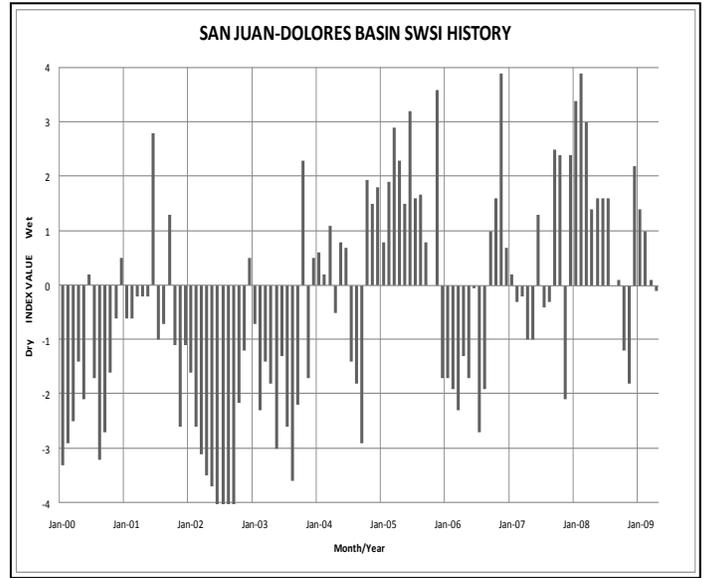
At the end of the month Vallecito Reservoir contained 104,090 acre-feet compared to its average content of 88,133 acre-feet (118% of average). McPhee Reservoir was up to 331,634 acre-feet compared to its average content of 300,241 (110% of average), while Lemon Reservoir was up to 26,800 acre-feet as compared to its average content of 27,587 acre-feet (97% of average).

Outlook

June is typically the driest month of the year, with monsoons arriving in July. However, this July the monsoons were nowhere to be found. The precipitation in June was 205% of average, and in July we fell to a paltry 11% of average. Most of the rivers within the basin have taken the hit as well. All are flowing below average with the La Plata River approaching zero flow at the state line.

Administrative/Management Concerns

Storage in Ridges Basin Reservoir is 26,330 ac-ft. Pumping from Animas River to fill Ridges Basin Reservoir has stopped for now to allow the new earth dam time to acclimate to the water stored behind it. The reservoir is expected to take up to two years to fill depending on available water supplies and pumping plant capacity.



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