
COLORADO

WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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October 2011

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 of May through October (June 1 through November 1). 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.

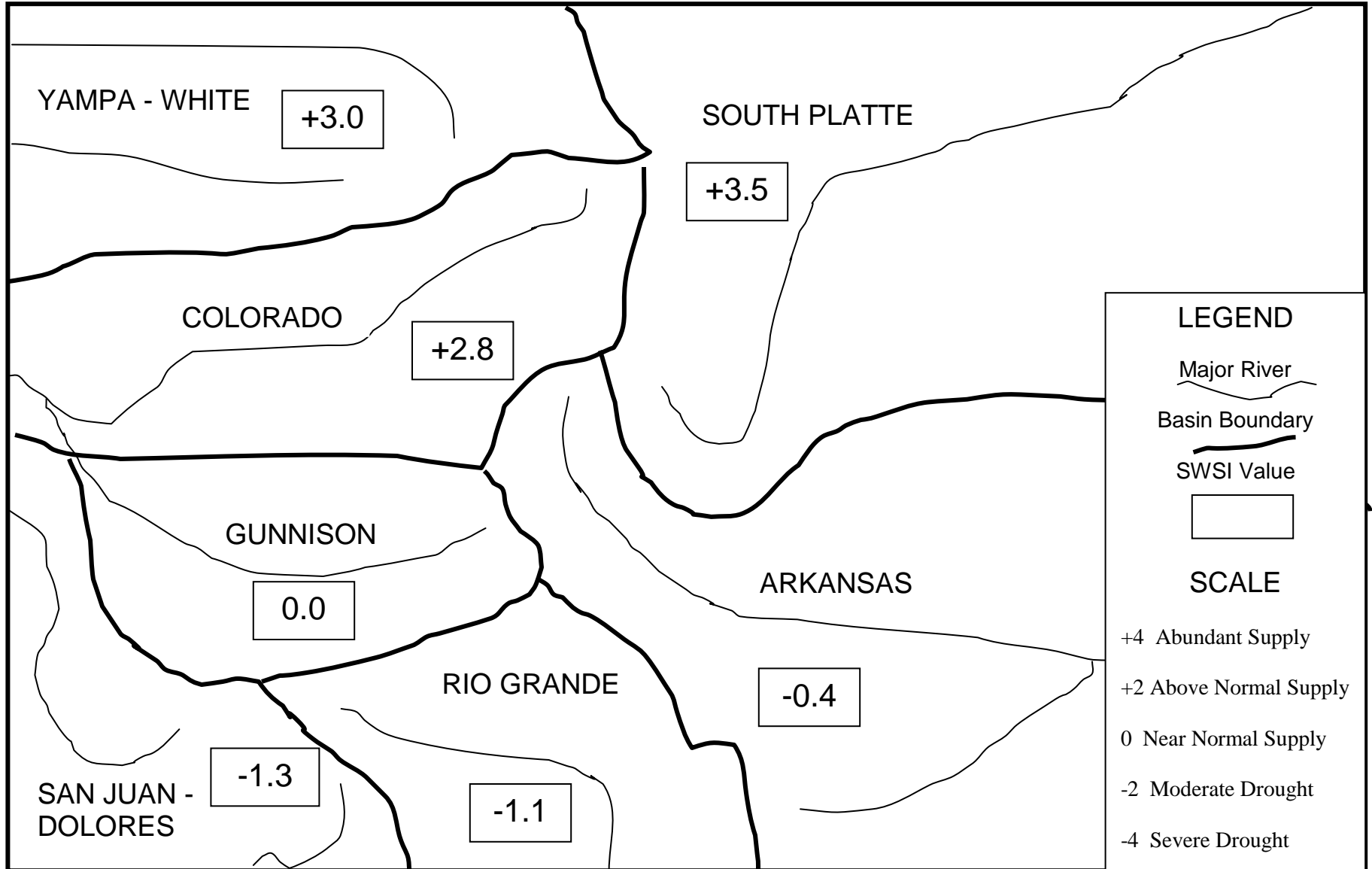
The statewide SWSI values for September (October 1) range from a high value of +3.5 in the South Platte Basin to a low value of -1.3 in the San Juan/Dolores Basin. Two of the basins (South Platte and Arkansas) experienced a gain from the previous month's value, and five of the basins (Rio Grande, Gunnison, Colorado, Yampa/White, and San Juan/Dolores) experienced a loss from the previous month's value.

The following SWSI values were computed for each of the seven major basins for October 1, 2011, and reflect the conditions during the month of September.

<u>Basin</u>	<u>October 1, 2011 SWSI Value</u>	<u>Change From Previous Month</u>	<u>Change From Previous Year</u>
South Platte	+3.5	+0.6	+1.2
Arkansas	- 0.4	+0.1	+0.9
Rio Grande	- 1.1	- 0.8	- 1.6
Gunnison	0.0	- 1.3	+2.3
Colorado	+2.8	- 0.6	+3.0
Yampa/White	+3.0	- 0.2	+4.7
San Juan/Dolores	- 1.3	- 0.1	0.0

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, 2011

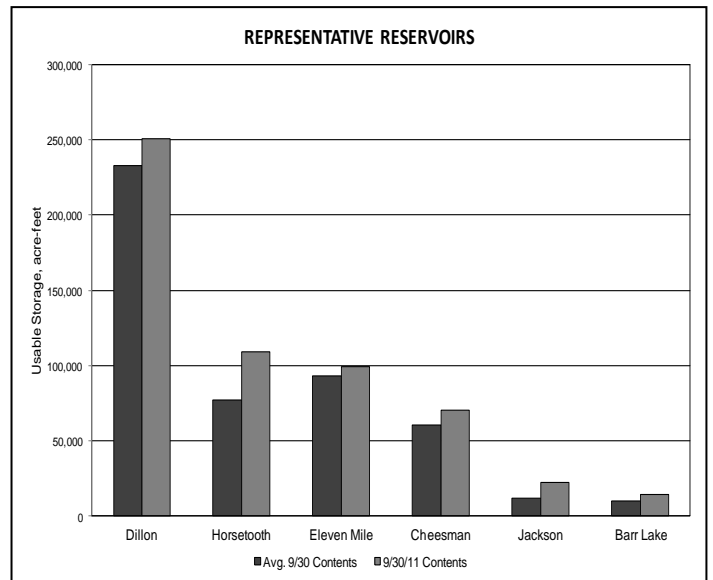
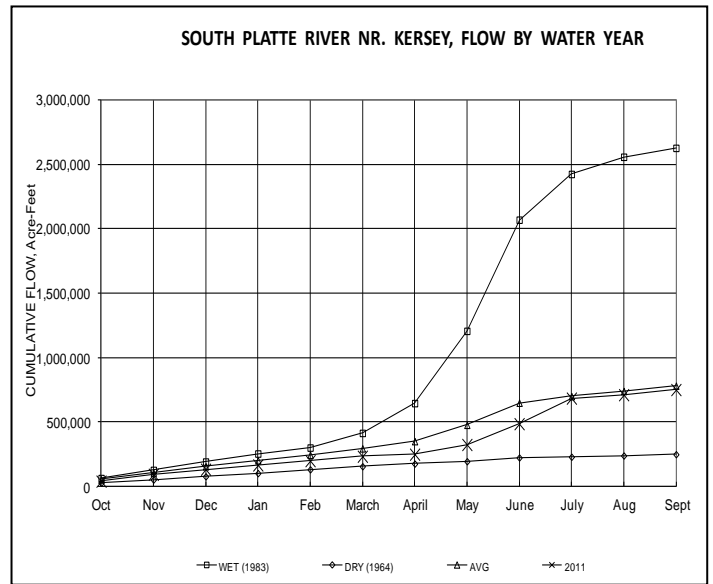
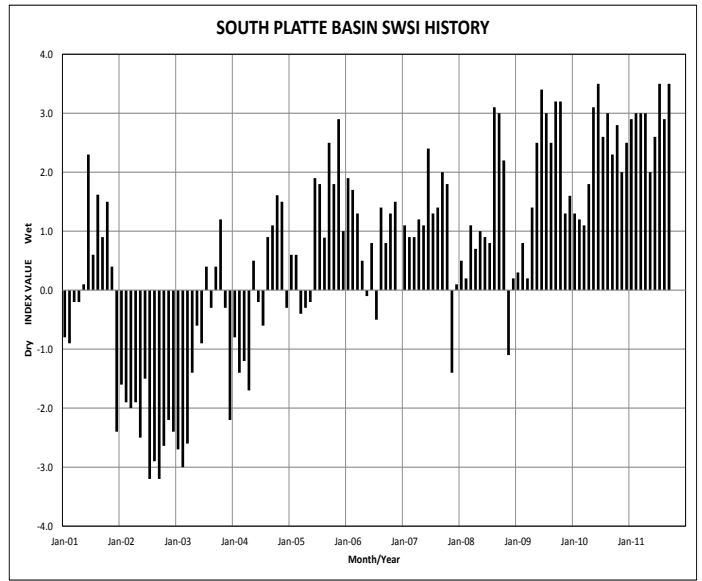
Basinwide Conditions Assessment

The SWSI value for the month was +3.5. Reservoir storage in Dillon, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin in computing the SWSI value, was 117% of normal as of the end of September. Cumulative storage in the major plains reservoirs (Julesburg, North Sterling, and Prewitt) is at 51% of capacity. Cumulative storage in the major upper-basin reservoirs (Cheesman, Eleven Mile, Spinney, and Antero) is at 93% of capacity. Flow at the gaging station South Platte River near Kersey was 671 cfs, as compared to the long-term average of 515 cfs (109 years of record). Flow at the Colorado/Nebraska state line averaged 361 cfs, as compared to the long-term average of 238 cfs (108 years of record).

Outlook

September moved back into the abundant water supply situation for much of the basin that characterized most of the 2011 irrigation season. This was despite the generally dry and warm weather pattern that settled over the Front Range in September. The mainstem of the South Platte went to free river below metro Denver on September 16 and remained there the rest of the month. Further reflective of the good water supply situation were the stream flows at Kersey (130% of average for the month) and Julesburg (151% of average for the month). The end of September reservoir storage numbers were also above the end of September average.

The October and November – December outlooks for the South Platte basin appear to be mixed. The October outlook is for above average temperatures and equal chances of above or below average precipitation. The November – December outlook is for below average precipitation and above average temperatures.



Basinwide Conditions Assessment

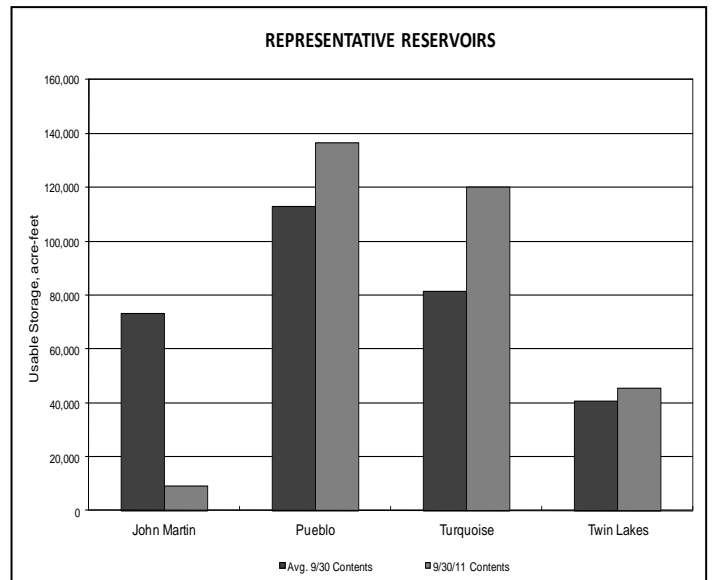
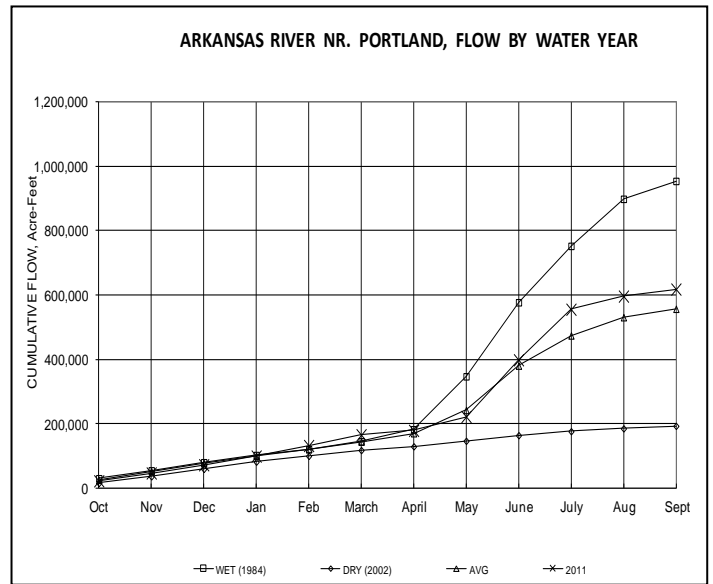
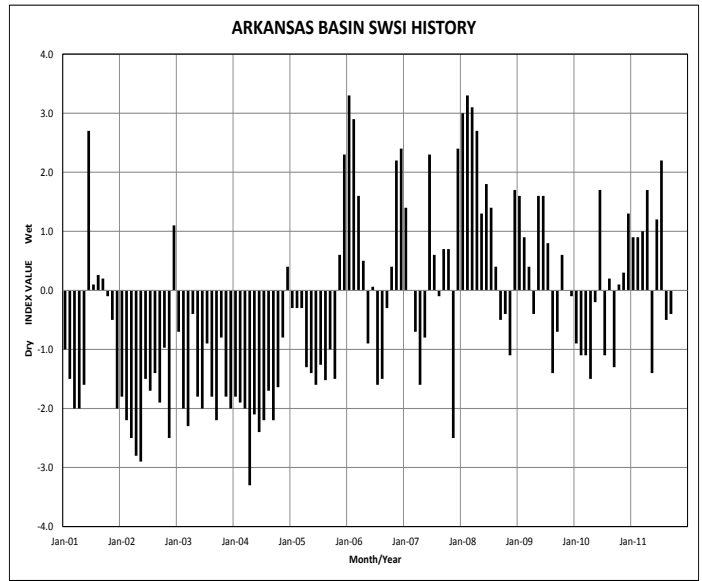
The SWSI value for the month was -0.4. Flow at the gaging station Arkansas River near Portland was 368 cfs, as compared to the long-term average of 441 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 101% of normal as of the end of September.

Outlook

The Arkansas River call began the month set at a split call (Catiin Canal 12/3/1884 above John Martin Reservoir and Fort Bent Ditch 4/1/1886 below John Martin Reservoir and ended at the same call). The rain event on Fountain Creek mid-month caused a short term shift of the call to more junior water rights as the flood peak passed down river.

Administrative/Management Concerns

A significant storm event occurred in the Colorado Springs area during September. For September 14th to 15th a severe storm in the Colorado Springs area dropped a historic 24-hour rainfall amount leading to very large flows on Fountain Creek. Peak discharge at the Fountain Creek near Pinon gage exceeded 12,400 cfs and peak discharge at the Arkansas River near Avondale gage peaked near 8,500 cfs. Flood management authorities seemed to be well prepared for the event and damages were minimal even though the flow at the Avondale gage exceeded the 6,000 cfs established by the Corps of Engineers as the point at which flooding occurs.



Basinwide Conditions Assessment

The SWSI value for the month was -1.1. Flow at the gaging station Rio Grande near Del Norte averaged 288 cfs (56% of normal). The Conejos River near Mogote had a mean flow of 122 cfs (95% of normal). Streamflow in the upper Rio Grande basin was generally below average during September. The Conejos River had near-average flow due in part to storage releases from Platoro Reservoir for irrigation demand. With the exception of the Conejos system, runoff throughout the basin has been poor since July 1.

A second consecutive month of decent rainfall on the mountains and plains helped streamflow some, but the majority of the rain soaked into the dry landscape. The Valley floor is still over two inches below normal on annual accumulated precipitation and the effects of this are easy to see on any drive throughout the area.

Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 95% of normal as of the end of August. Reservoir storage in the basin has been severely depleted to help meet irrigation demand. Some of the reservoirs have gained a slight amount of storage in the past month.

Outlook

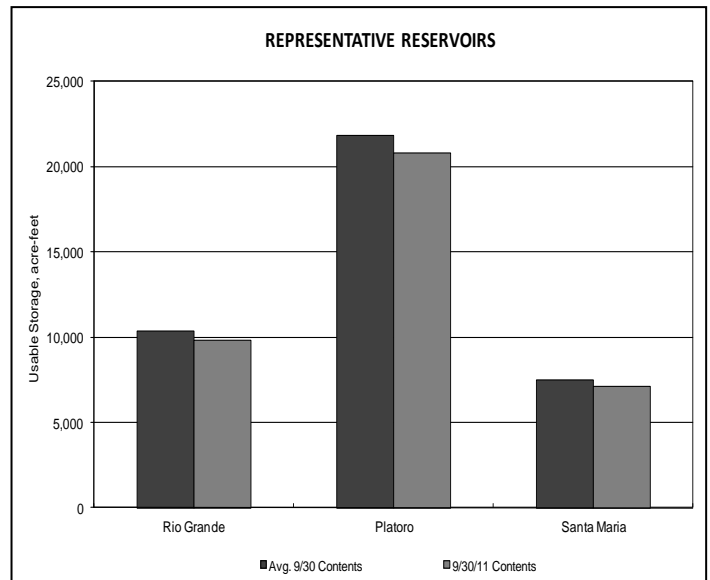
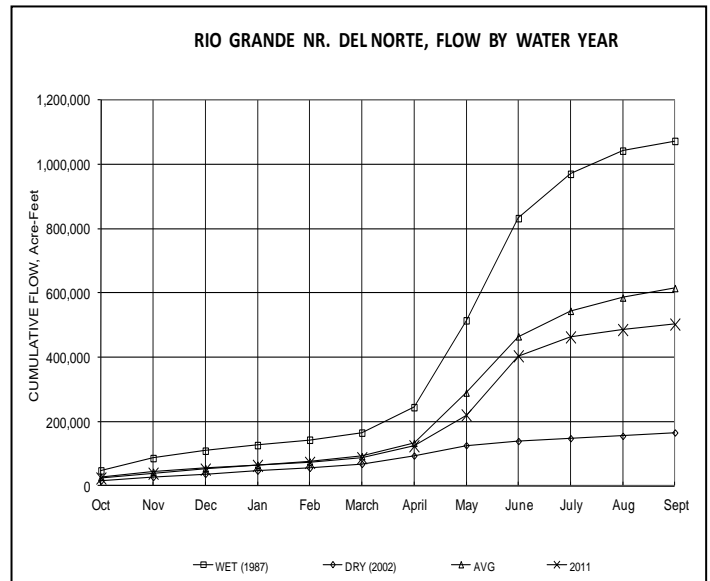
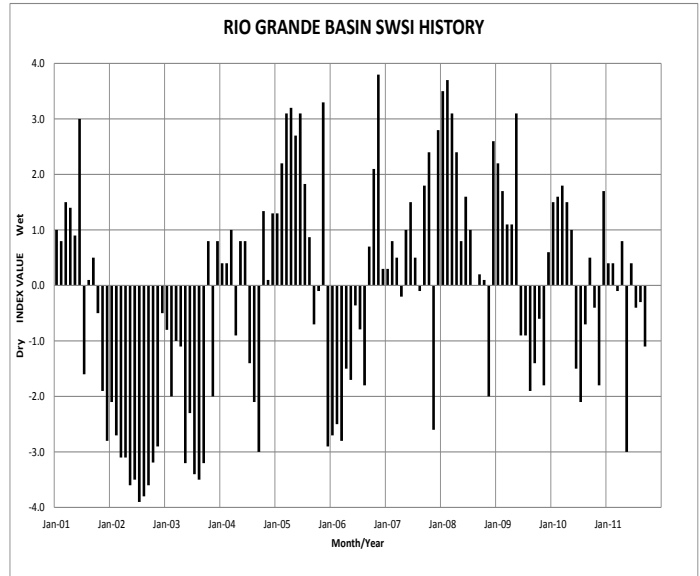
Recently-released National Weather Service 90-day precipitation and temperature outlooks call for dry and warm conditions through the end of the year for this region.

Administrative/Management Concerns

The State Engineer's Policy No. 2010-01 dealing with the irrigation season within Water Division No. 3 is in effect. Water users in the Conejos River system will be required to discontinue all diversion of water from ditches, reservoirs and wells on October 20. The Rio Grande and its tributaries are expected to have a November 1st shut-off date to effect Compact delivery requirement compliance. Other drainages within the Division may be able to divert water for irrigation needs after November 1st based on local conditions.

Public Use Impacts

Ironically, the rain that finally showed up in the Valley during August and September was a detriment to crop harvest.



Basinwide Conditions Assessment

The SWSI value for the month was 0.0. Flow at the gaging station Uncompahgre River near Ridgeway was 115 cfs, as compared to the long-term average of 108 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 96% of normal as of the end of September.

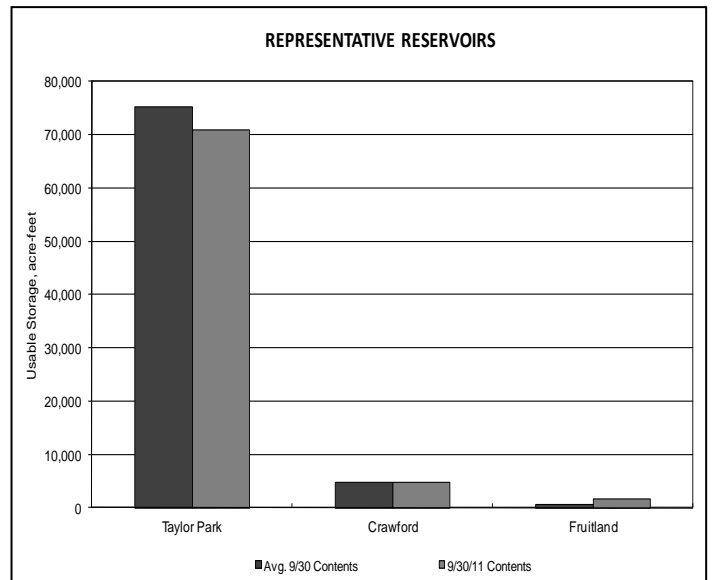
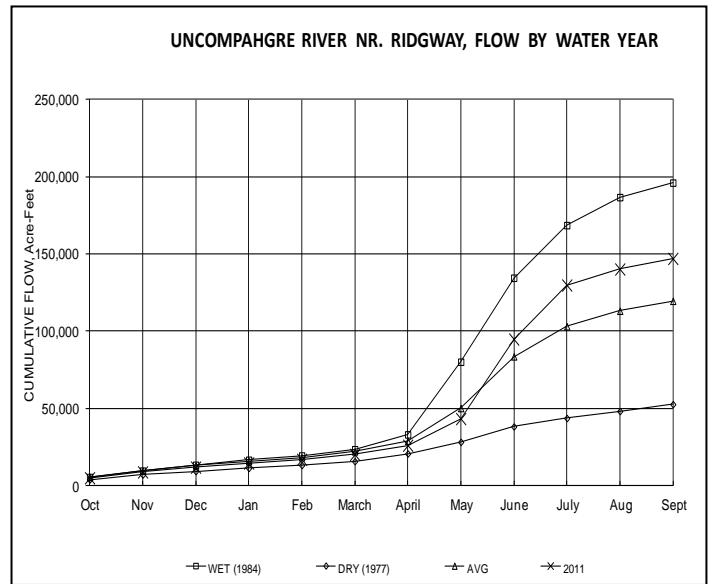
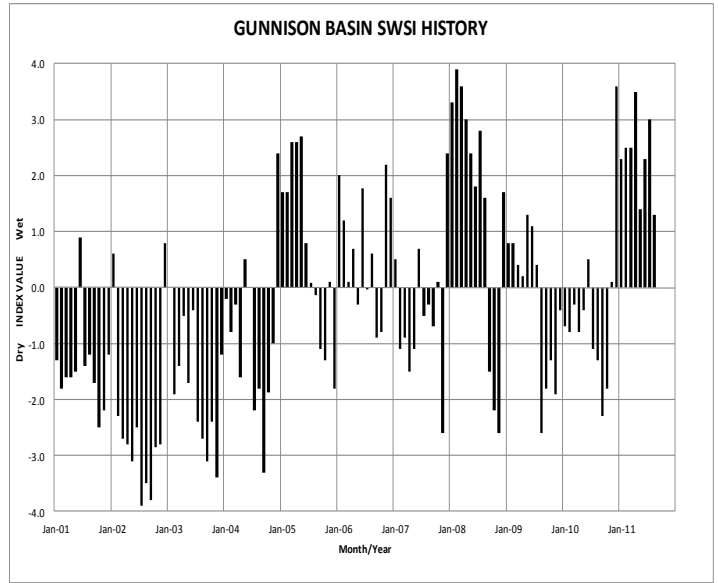
Dry conditions continued in the Gunnison basin during September with precipitation ranging from 50 to 70 percent of average. It appears that this may change a bit next month as the beginning of October brought significant snowfall to many areas in the Gunnison basin high country. This was especially true in the San Juan mountains. On average temperatures during September were around the seasonal normal. Seasonal precipitation and reservoir storage, however, still remain above average for the first of October. Streamflows remained near their averages throughout the month.

Outlook

The National Climate Center still forecasts La Niña conditions in the Pacific again this winter, which leaves the forecast for the Gunnison basin uncertain as those conditions are not highly correlated with above or below average precipitation in central Colorado. Current predictions include a higher probability of below average precipitation during the 30 day period as the Gunnison basin is clearly within the below average area for the 30 day period, but appears to be on the fringe of the below average area during the 90 day outlook. The previous 30 day forecast was relatively accurate and if that trend continues we may be in for a warm and dry beginning to 2011 water year.

Administrative/Management Concerns

Very few administrative concerns exist yet since the irrigation season ended with adequate reservoir storage and snowpack forecasts are not yet available. If the snowpack season begins slowly as it appears water users in the basin will hope that this year mimics 2011 with heavy snowfall in the spring.



Basinwide Conditions Assessment

The SWSI value for the month was +2.8. Flow at the gaging station Colorado River near Dotsero was 1,938 cfs, as compared to the long-term average of 1,429 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 110% of normal as of the end of September.

Outlook

Basin wide river flows should continue to run slightly above average, although gradually declining to average with colder weather through the end of October.

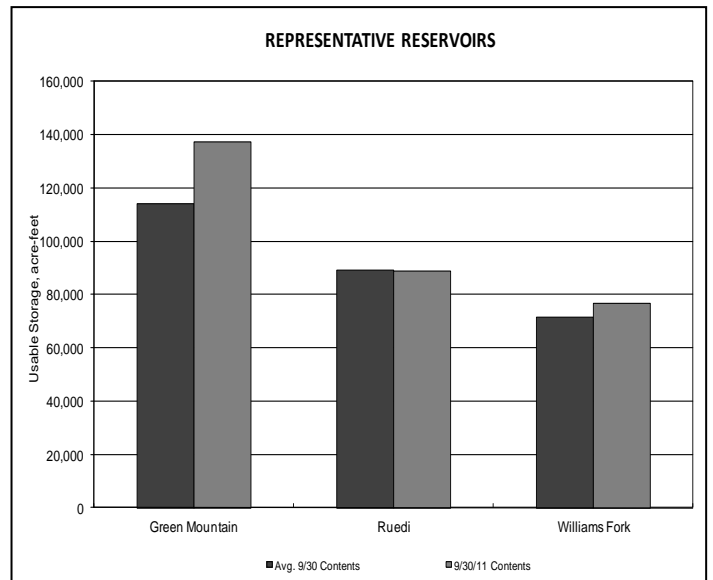
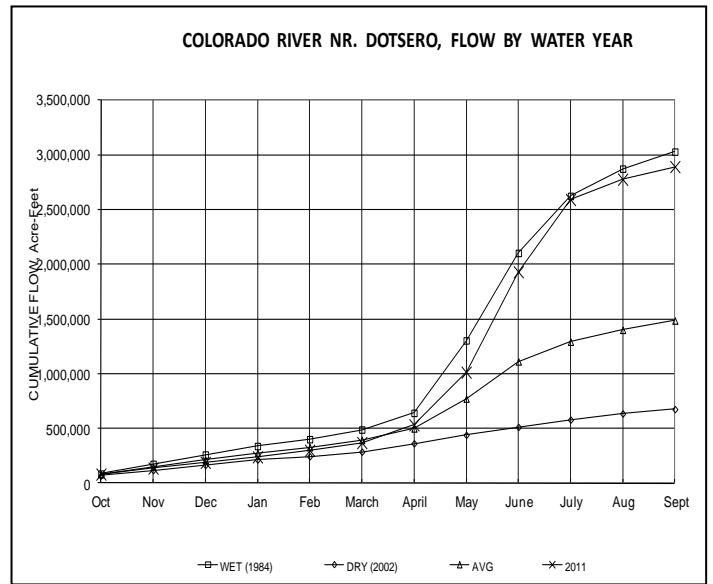
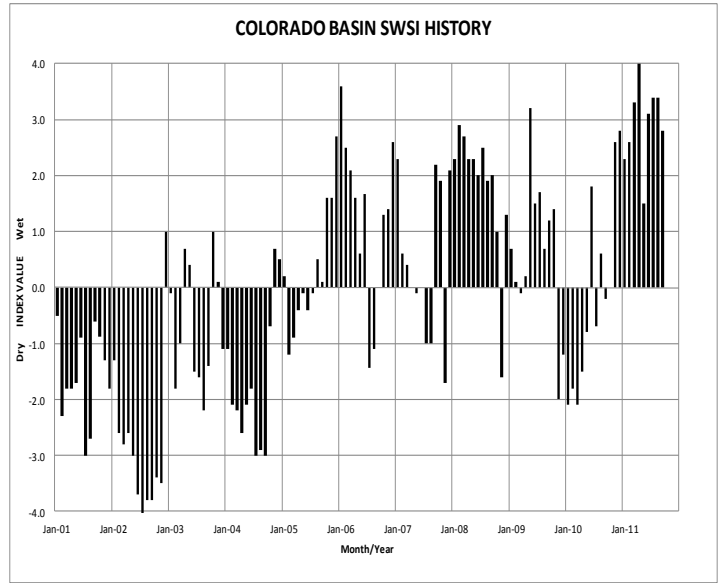
Administrative/Management Concerns

Reservoir operations have been primarily driven by endangered fish target flows in the 15-mile reach. Green Mountain Reservoir releases were increased incrementally with Williams Fork and Wolford Reservoir release reductions, and declining natural Colorado River flows in late September. As of October 12th, Green Mountain releases are gradually being reduced as 15-mile reach target flows have been exceeded, and Shoshone Power Plant has requested a flow reduction to accommodate ongoing maintenance work. Ruedi Reservoir releases will decrease significantly from 300 to 90 cfs in mid-October. There is no call from grand valley irrigators.

Water year 2011 ended with a 16.77 maf inflow to Lake Powell representing 139 percent of average for the 30 year period of record ending 2000. Releases from Lake Powell (12.5 maf) were the largest since water year 1998. Annual inflow to Lake Powell between 2005 and 2011 has averaged 11.15 maf, which remains below the official average of 12.04 maf per year. This period (2005-2011) has also exhibited significant year to year variability, with a water year 2006 inflow of 8.4 maf (half of water year 2011).

Public Use Impacts

No significant public use impacts to report.



Basinwide Conditions Assessment

The SWSI value for the month was +3.0. Flow at the gaging station Yampa River at Steamboat was 190 cfs, as compared to the long-term average of 119 cfs.

September precipitation was slightly below average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at the SNOTEL sites operated by NRCS, was reported at 98% of average for the Yampa, White, and North Platte River basins. Total precipitation for the water year as a percent of average to date in the combined basins at the end of September was 133%.

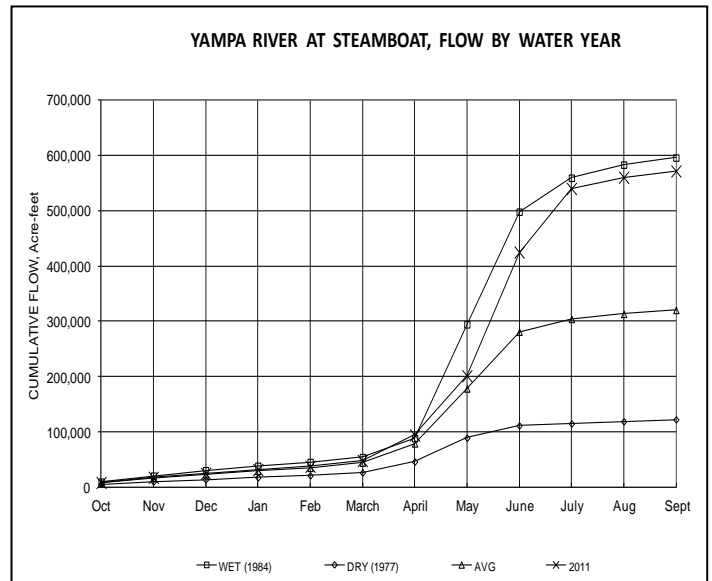
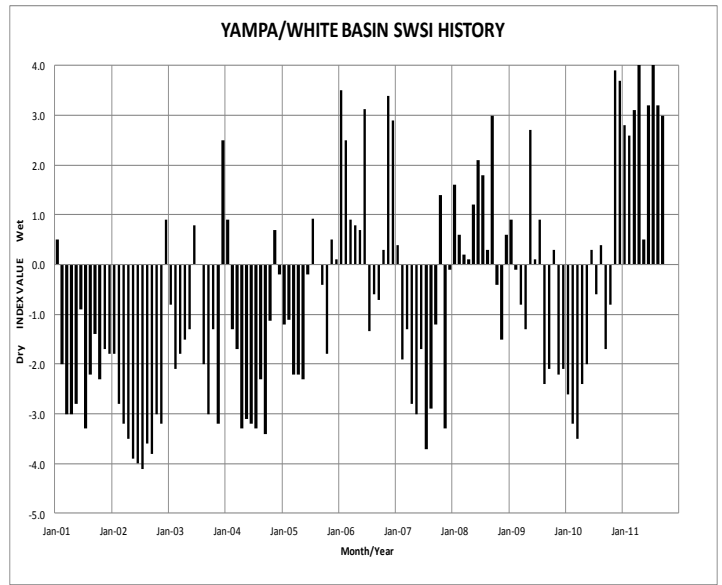
September streamflows in Division 6 continued to be above average following runoff season for most streams and rivers with gaging stations.

Outlook

As of September 30th Fish Creek Reservoir was storing 3,062 AF, which is equal to 73.5% of capacity. Fish Creek Reservoir is used primarily for municipal purposes. Yamcolo Reservoir was storing 8,761 AF at the end of September 2011. Yamcolo Reservoir water is used for irrigation. On September 30th Elkhead Creek Reservoir was storing 22,665 AF, 91% of capacity. On September 30th, 2011, Stagecoach Reservoir was storing 31,500 AF and at 94.6% of capacity.

Public Use Impacts

The Marina Boat Ramp at Stagecoach Reservoir will remain open through October 31st. Fishing has picked up for trout and pike. There is a high concentration of algae on the lake and so fishing deeper waters may be better. Fishing at Steamboat Lake has been slower but steady lately. The swim beach at Steamboat Lake has closed for the season.



Basinwide Conditions Assessment

The SWSI value for the month was -1.3. Flow at the Animas River at Durango averaged 265 cfs (58% of average). The flow at the Dolores River at Dolores averaged 165 cfs (92% of average). The La Plata River at Hesperus averaged 7.0 cfs (35% of average).

Precipitation in Durango was 2.47 inches for the month, 106% of the 30-year average of 2.32 inches. Precipitation to date in Durango, for the water year, is 17.65 inches, 90% of the 30-year average of 19.79 inches. The average high and low temperatures for the month of September in Durango were 76° and 47°. In comparison, the 30-year average high and low for the month is 76° and 44°.

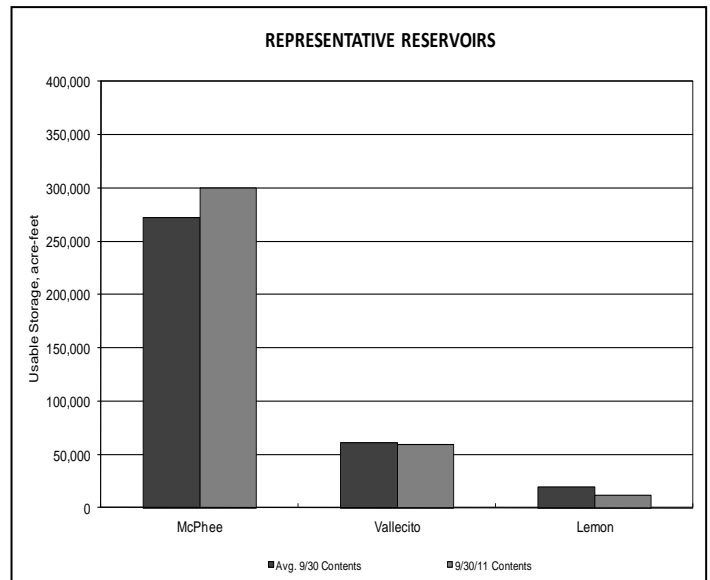
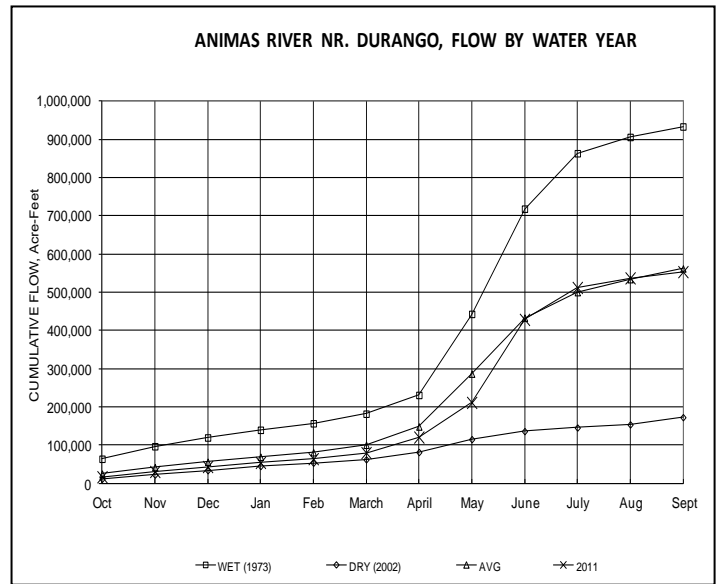
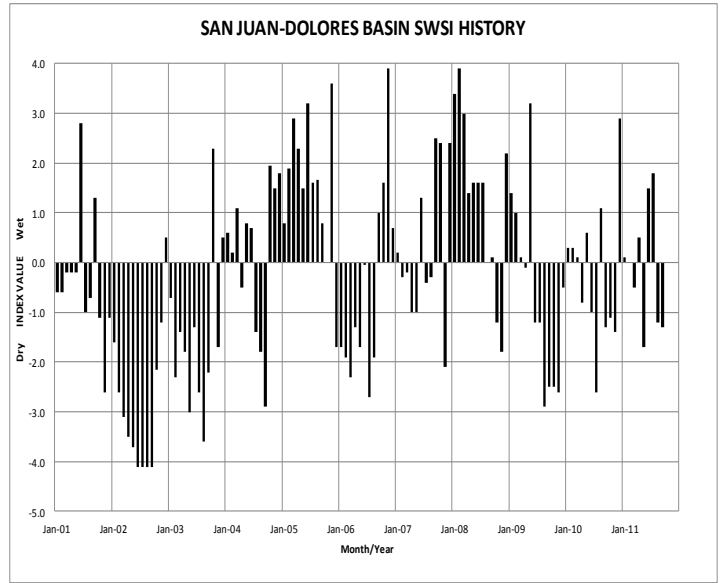
Storage in McPhee, Vallecito, and Lemon reservoirs totaled 105% of normal as of the end of September. At the end of the month Vallecito Reservoir contained 59,450 acre-feet compared to its average content of 57,457 acre-feet (103% of average). McPhee Reservoir was up to 300,063 acre-feet compared to its average content of 263,604 (114% of average), while Lemon Reservoir was up to 11,460 acre-feet as compared to its average content of 19,288 acre-feet (59% of average).

Outlook

Precipitation (2.47-inches) was near average for the month of September in Durango. There are 35 years out of 117 years of record where there was more precipitation than this year. The monsoon rains were below average this year. We hope we will have an above average snowpack season to replace the water that was used in the reservoirs. The flow on the Dolores River at Dolores was near its average for this time of year but only because releases from Groundhog Reservoir kept the flows higher. The flows at the La Plata River at Hesperus remained low for the month. There are 81 years out of 95 years of record where there was more at Hesperus than this year.

Administrative/Management Concerns

The LaPlata River compact call started on April 7, 2011 and will remain on call for the rest of the season.



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