COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
ROOM 818, 1313 SHERMAN ST., DENVER, CO 80203
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November 2010

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 October (November 1) range from a high value of +2.8 in the South Platte Basin to a low value of -1.8 in the Gunnison Basin. Six of the basins (South Platte, Arkansas, Gunnison, Colorado, Yampa/White and San Juan/Dolores) experienced a gain from the previous month's value, while one of the basins (Rio Grande) experienced a loss from the previous month's value.

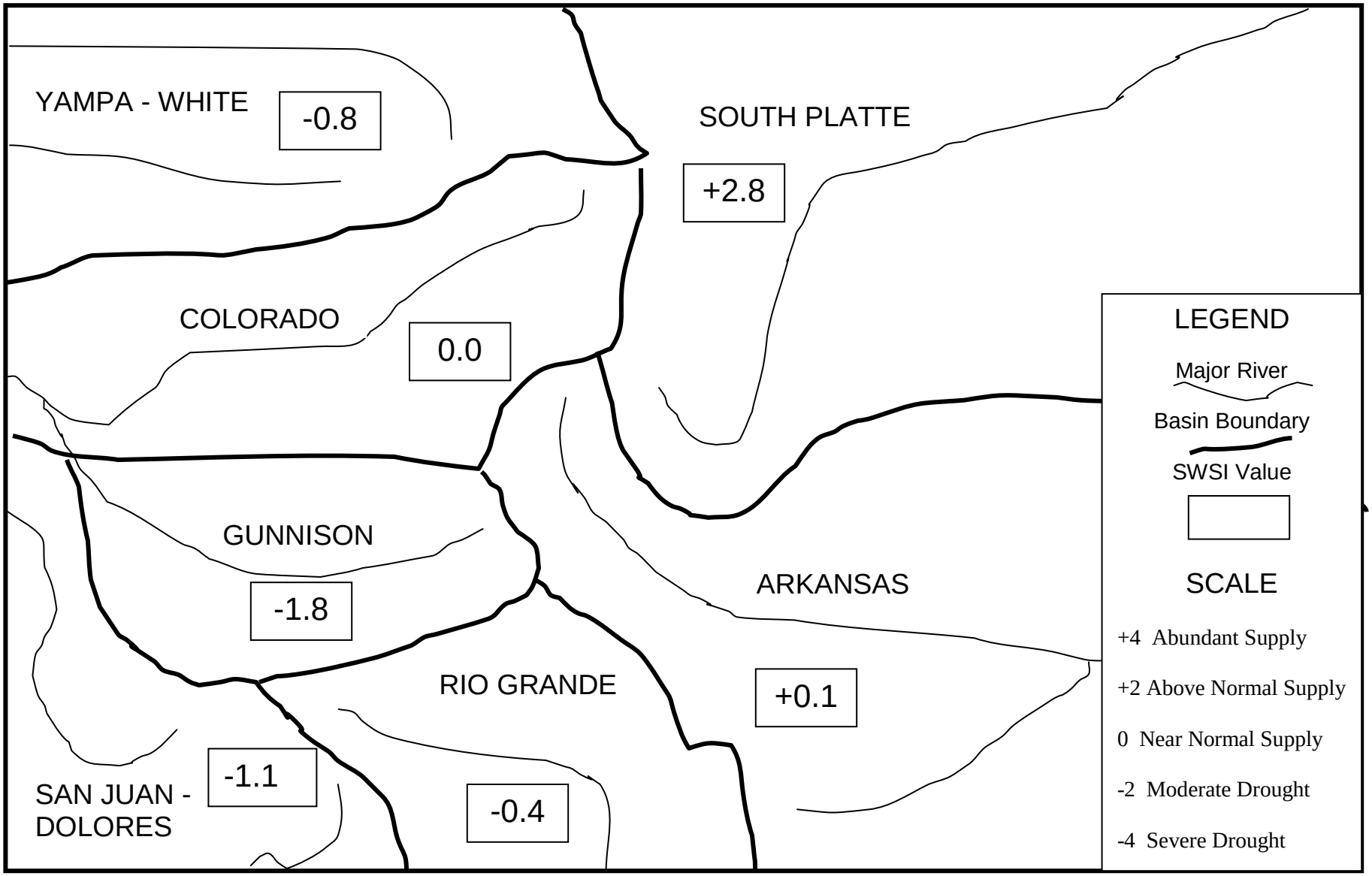
The following SWSI values were computed for each of the seven major basins for November 1, 2010, and reflect the conditions during the month of October.

Basin	November 1, 2010 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+2.8	+0.5	- 0.4
Arkansas	+0.1	+1.4	- 0.5
Rio Grande	- 0.4	- 0.9	+0.2
Gunnison	- 1.8	+0.5	- 0.5
Colorado	0.0	+0.2	- 1.4
Yampa/White	- 0.8	+0.9	- 1.1
San Juan/Dolores	- 1.1	+0.2	+1.4

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



November 1, 2010

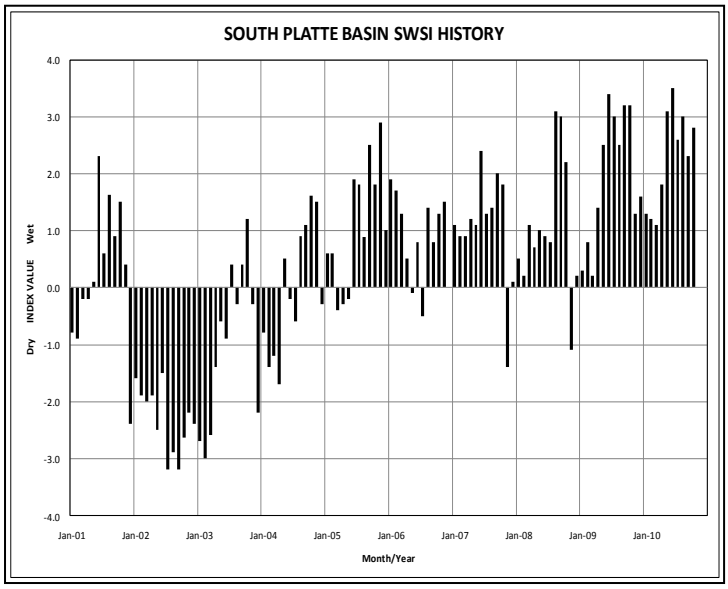
Basinwide Conditions Assessment

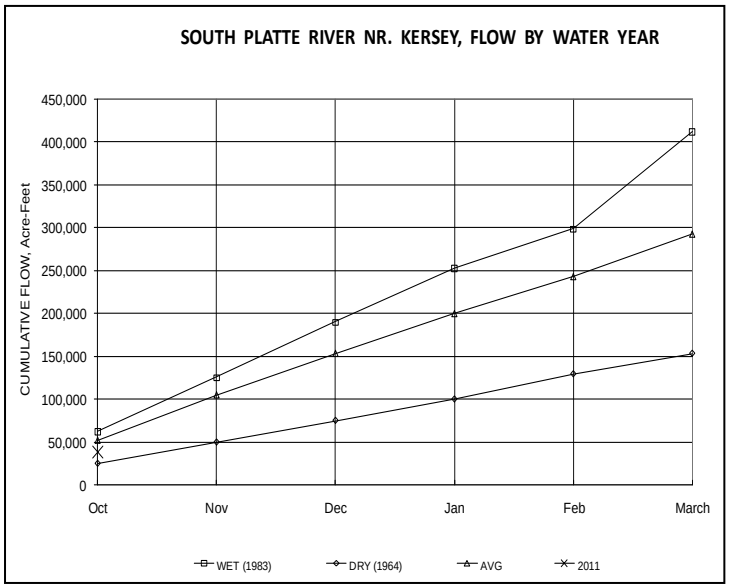
The SWSI value for the month was +2.8. Reservoir storage in Dillon, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin in computing the SWSI value, was 105% of normal as of the end of October. Cumulative storage in the major plains reservoirs (Julesburg, North Sterling, and Prewitt) is at 43% of capacity. Cumulative storage in the major upper-basin reservoirs (Cheesman, Eleven Mile, Spinney, and Antero) is at 96% of capacity. Flow at the gaging station South Platte River near Kersey was 615 cfs, as compared to the long-term average of 668 cfs. Flow at the Colorado/Nebraska state line averaged 135 cfs.

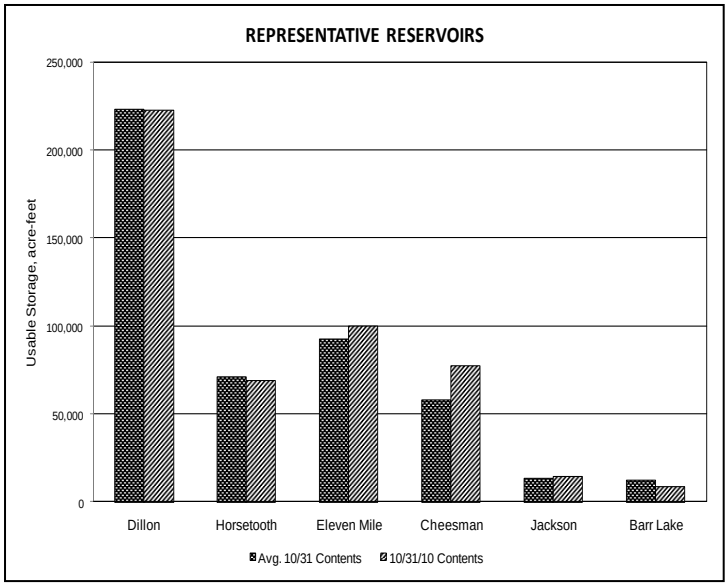
Outlook

October saw the extremely hot and dry conditions of late August and September moderate somewhat. Temperatures continued above average (the first freeze was about 2 ½ weeks later than normal along most of the front rage and eastern plains) and precipitation continued to be well below normal. Stream flow at the key index gage near Kersey continued to be below normal until late in the month when it finally shifted to somewhat above normal. On the bright side, October did reverse the trend of declining reservoir storage that had been seen through the end of September - though the end of October readings were not as good as last year.

The outlook for November is for above average temperatures and near average precipitation. This should result in near normal to above normal flow at the Kersey gage as much of the flow during this period is the result of delayed irrigation return flows and, more recently, intentional groundwater recharge by well augmentation plans. Given the expected near normal stream flows, most reservoirs should be able to fill to their winter storage levels near their historic time frame of late November to mid December.







Basinwide Conditions Assessment

The SWSI value for the month was 0.1. Flow at the gaging station Arkansas River near Portland was 355 cfs, as compared to the long-term average of 409 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 112% of normal as of the end of October.

Outlook

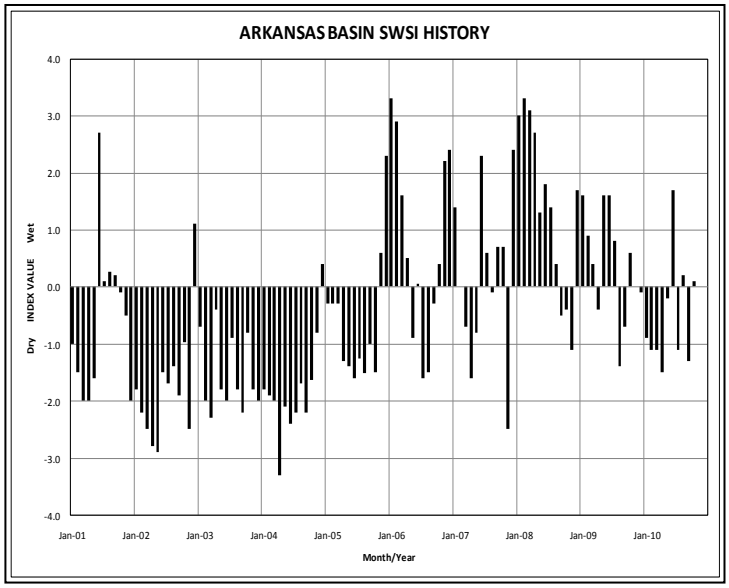
The river call for October began at the Catlin Canal call of 12/3/1884 and ended with an Amity Canal #1 2/21/1887 call. There was very little precipitation in October and the river conditions did not change significantly through most of the month.

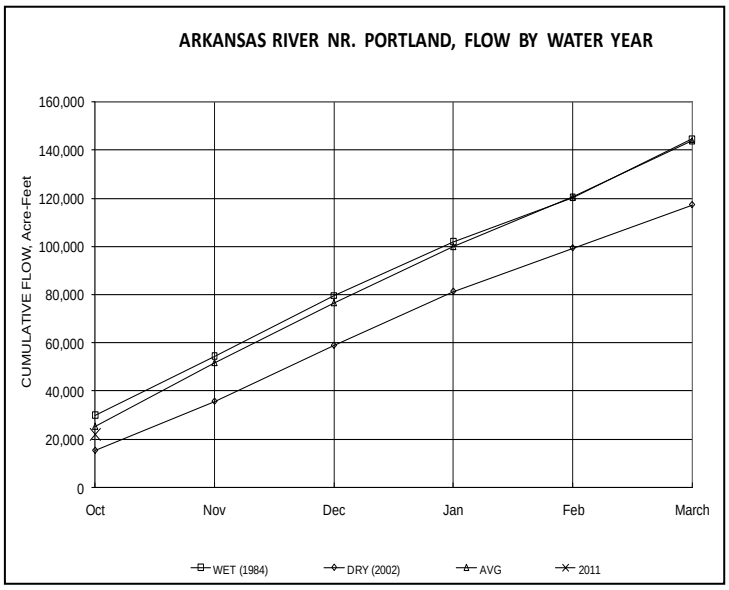
A meeting of the Winter Water Board of Directors was held on October 15, 2010. Planning for the upcoming storage season which runs from November 15, 2010 through March 14, 2011 was the topic at this meeting.

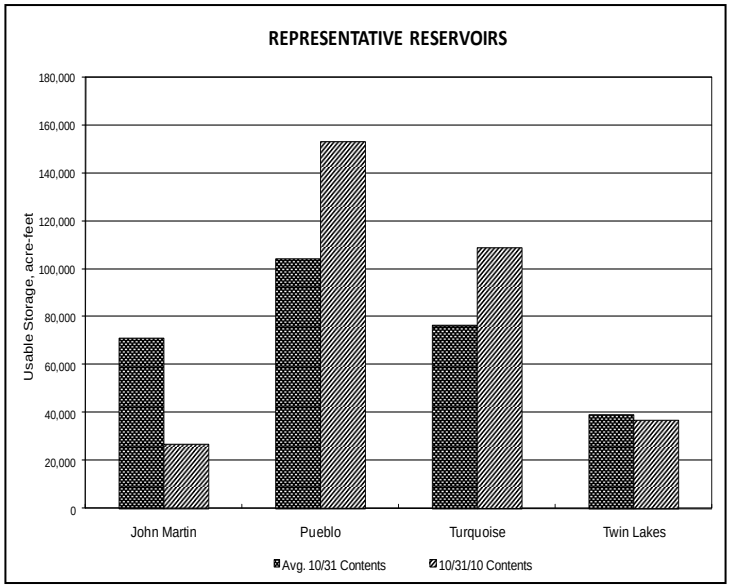
Winter Compact storage in John Martin Reservoir began at midnight on October 31, 2010. Storage in Trinidad Reservoir began on October 16, 2010.

Administrative/Management Concerns

The "COMPACT RULES GOVERNING IMPROVEMENTS TO SURFACE WATER IRRIGATION SYSTEMS IN THE ARKANSAS RIVER BASIN IN COLORADO" were approved by the Division 2 Water Court Judge on October 25, 2010 and will become effective on January 1, 2011. These rules ensure that improvements such as sprinkler systems do not decrease the amount of historic return flows downstream of a ditch system.



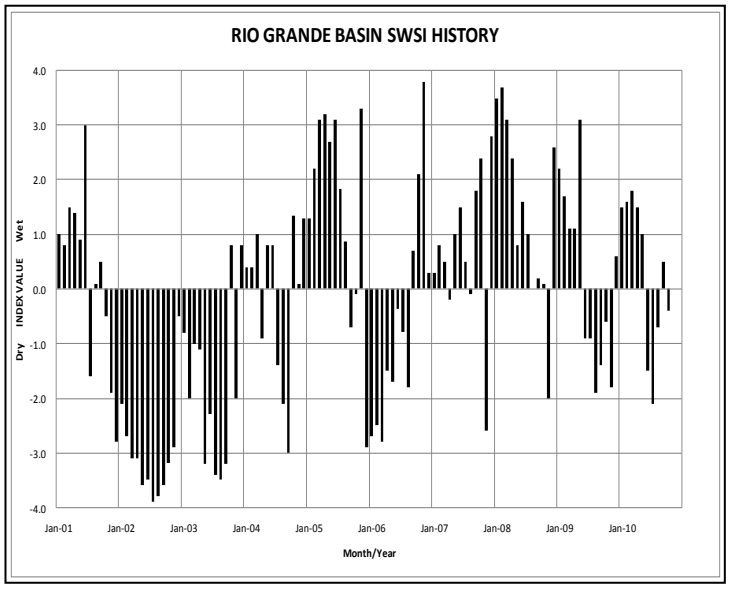




Basinwide Conditions Assessment

The SWSI value for the month was -0.4. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 96% of normal as of the end of October.

Flow at the gaging station Rio Grande near Del Norte averaged 394 cfs (81% of normal). The Conejos River near Mogote had a mean flow of 71 cfs (61% of normal). Precipitation in Alamosa was a near-normal 0.69 inches. Continuing a trend that has lasted for nearly a year, the average temperature in Alamosa was again above normal.



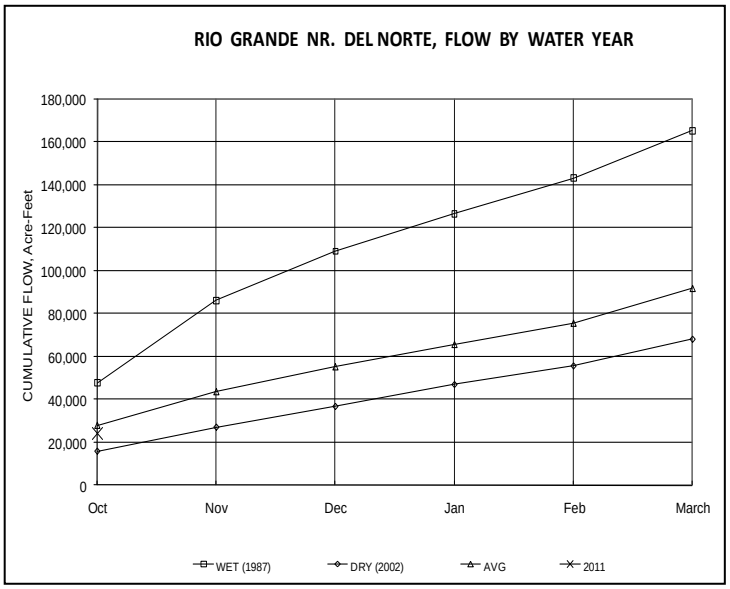
Outlook

Below normal precipitation in the basin since May, 2010 has greatly affected the soil moisture and stream flow conditions, which can now be considered poor to fair. Snowfall in the higher elevations was minimal. Current NWS long-range forecasts predict a warm and dry winter for the San Luis Valley.

Administrative/Management Concerns

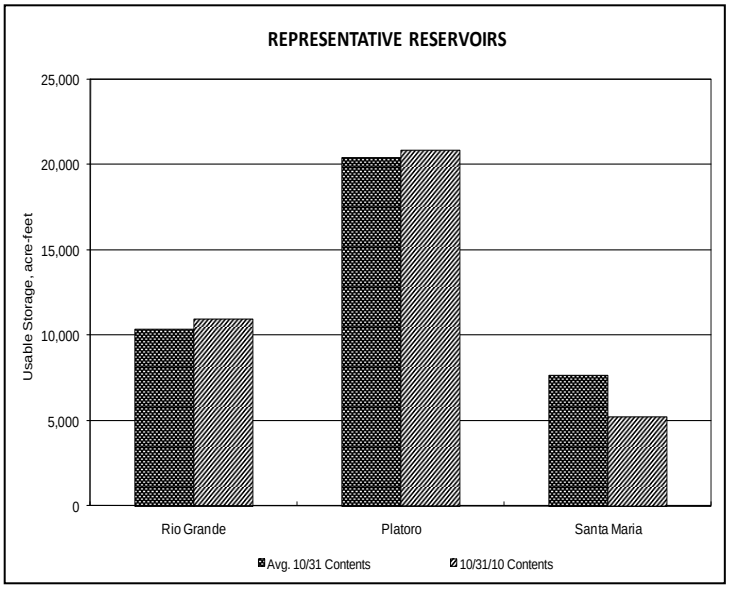
The Irrigation Season Policy went into effect this year in Water Division No. 3. The presumptive season of April 1 through November 1 can be adjusted by the Division Engineer based on climatic conditions, input from water user groups, and Rio Grande Compact delivery requirements. The irrigation season applies to ditches and wells decreed for irrigation use. Diversions from the Rio Grande and its tributaries were shut off November 1st. All other drainages were permitted diversion for irrigation use further into November. As the month drew to a close, many wells were still in use for irrigation needs. Administration of the shut-off of irrigation wells went smoothly with only a few users requiring additional notice of the new policy.

Most reservoirs in the basin reduced outflows and began storing inflow at the end of the month. The heavy demand for irrigation water this summer left most of the upper Rio Grande basin reservoirs with very low carryover storage.



Public Use Impacts

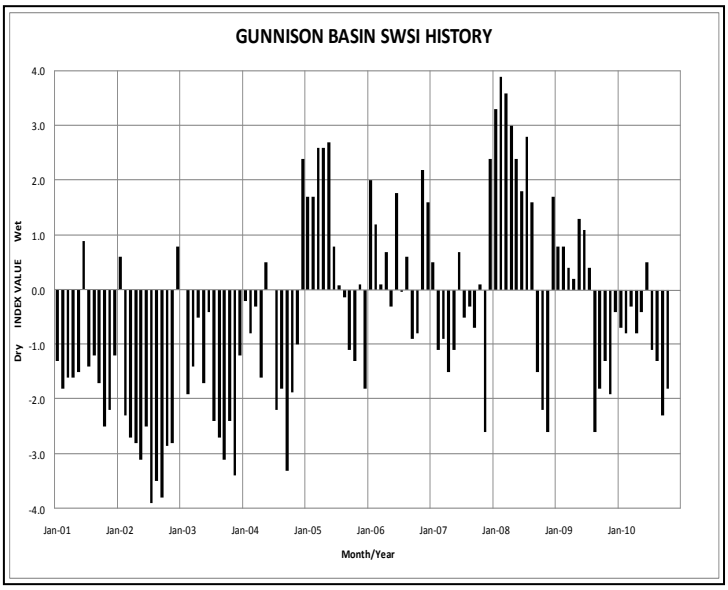
The weather was sufficiently mild to allow those ditches in priority to continue diversion for irrigation throughout the month. Lack of water for livestock continues to be a problem for many ranchers. However, a couple of reports were received that artesian flow from confined aquifer wells returned recently. Enough snow fell in the mountains that Wolf Creek ski area opened for business.

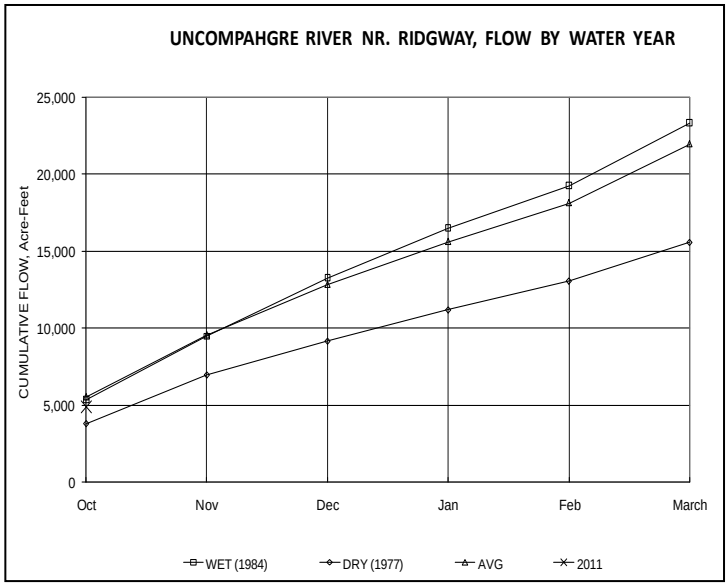


Basinwide Conditions Assessment

The SWSI value for the month was -1.8. Flow at the gaging station Uncompahgre River near Ridgway was 79.2 cfs, as compared to the long-term average of 90.1 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 105% of normal as of the end of October.

The Gunnison and San Miguel basins begin the 2011 water year with above average precipitation in October. In fact, precipitation in most of the basin (as reported by the Colorado Basin River Forecast Center) was between 110 and 129% of average with upper areas of the Tomichi and Taylor Rivers above 130% of average. Many irrigators discontinued diverting water during the third week of October because of a storm event. The Uncompahgre Valley Water Users Association had shut off most of its ditches by November 1st. Streamflows reflected the reduced water use and increase in precipitation as most streams in the basin were at or above their median values on October 31st. Although snowpack conditions at the end of October are rarely a good predictor of seasonal snowpack it appears that even though precipitation was above average, snowpack, especially in the southern portions of the basins are well below average. This could be partly due to the generally above average temperatures experienced in October and specifically due to a very warm fourth week of October that melted upper basin snow accumulated during previous weeks.



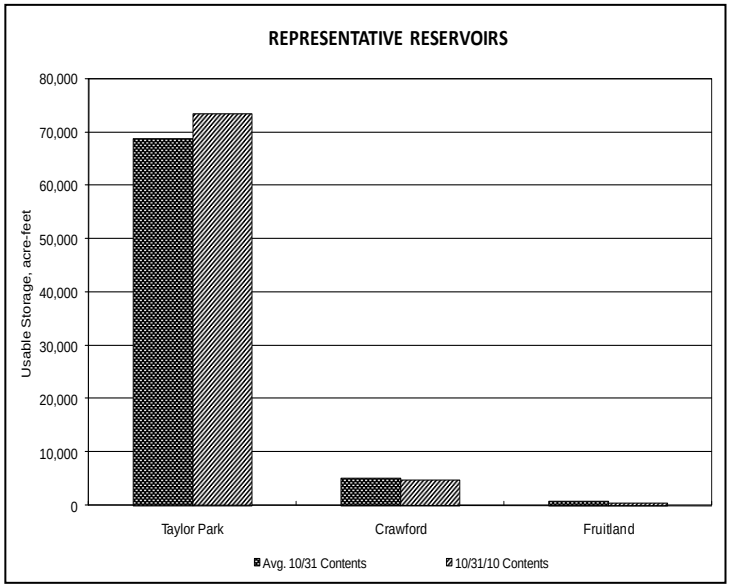


Outlook

The National Weather Service climate forecasts are slightly more positive for the Gunnison and San Miguel basins than last month. While they continue to predict good chances of above average temperatures, the precipitation outlook has improved from below average to equal chances of below or above average precipitation during the 30 and 90 day outlook periods. Soil moisture increases due to the above average October precipitation should reduce the amount of snowmelt that infiltrates into the soil during the spring, thus increasing snowmelt runoff from what would have occurred with below average October precipitation.

Administrative/Management Concerns

Most reservoirs remain at near average storage levels for this time of year. Consequently, barring a below average snowpack, most areas in the basins should have adequate storage in 2011. Coinciding with the end to the irrigation season, the call has been lifted in most upper basin streams as streamflows have returned to near average.



Public Use Impacts

October is the busiest month for hunting in the Gunnison River Basin, which provides a boost to the local economy. During October the weather was generally warmer than average, but included a couple of storms in the high country that seemed to move game down and improve success rates. Much of the snow from those October storms had melted off by the middle of November due to unseasonably warm weather, which allowed game to move back up to higher terrain.

Basinwide Conditions Assessment

The SWSI value for the month was 0.0. Flow at the gaging station Colorado River near Dotsero was 1322 cfs, as compared to the long-term average of 1310 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 95% of normal as of the end of October.

Outlook

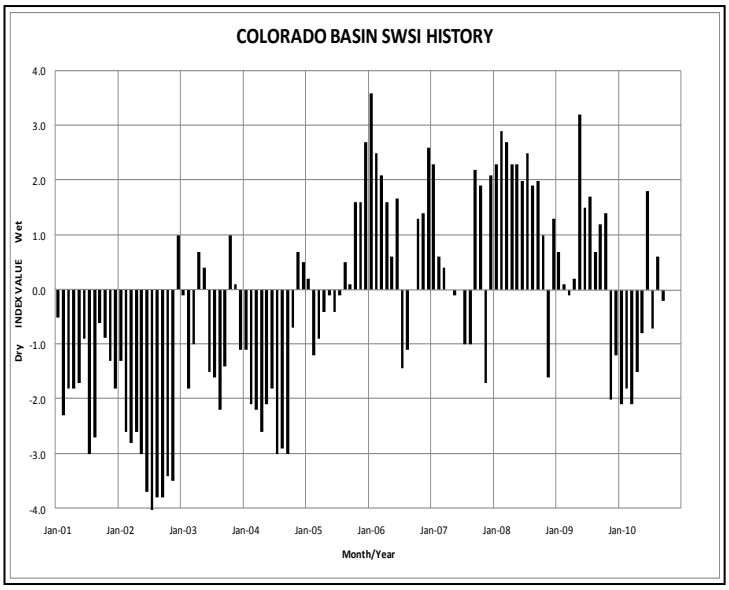
Colorado River flows should remain below average through most of November, as a result of significantly below average Roaring Fork River flows. Ruedi Reservoir releases will remain below average with their significant decrease in early October. Blue River flows should remain near average.

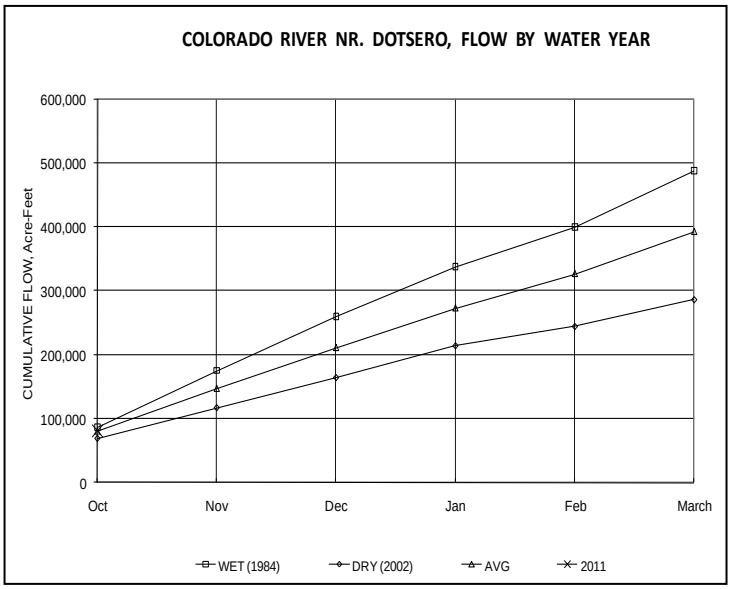
Administrative/Management Concerns

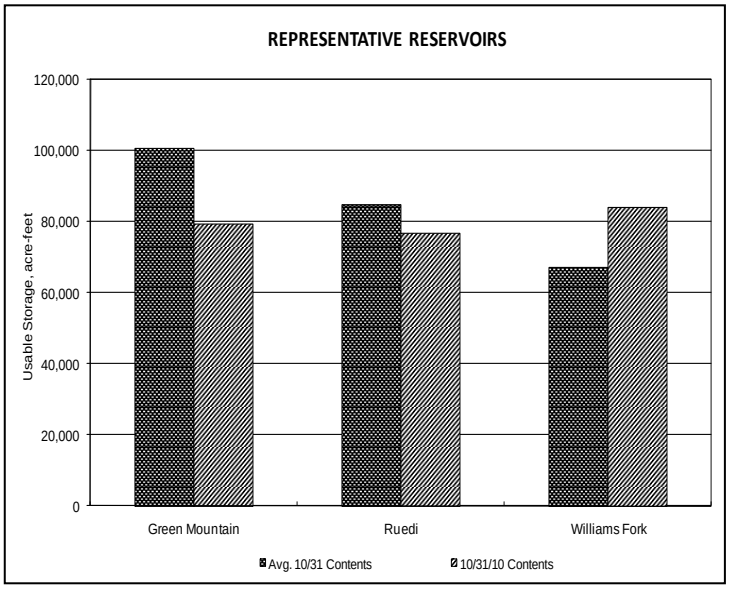
The Historic Users Pool (HUP) surplus release from Green Mountain Reservoir was reduced significantly in late October due to increased West Slope precipitation. Releases have been further reduced to 150 cfs nearly half the average for this time. It is interesting to note that the Green Mountain Reservoir power call remained off through the summer and fall this year, which is not typical. The irrigation season has officially ended with Orchard Mesa Irrigation District turning off November 5th and the Grand Valley Water Users Association turning off October 31st. Shoshone Power Plant remains off line through mid-December for spillway work and maintenance.

Public Use Impacts

Recreational interests on the Colorado River were aided this fall by HUP surplus releases intended to maintain target flows in the 15-Mile Reach for endangered fish.







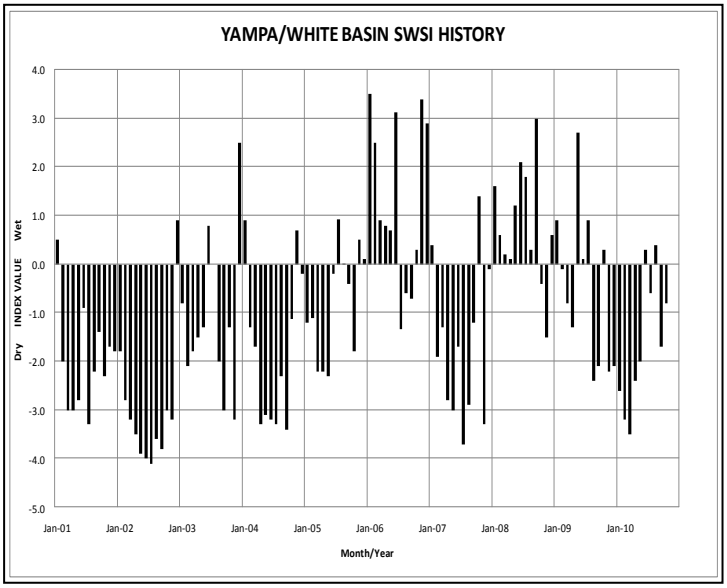
Basinwide Conditions Assessment

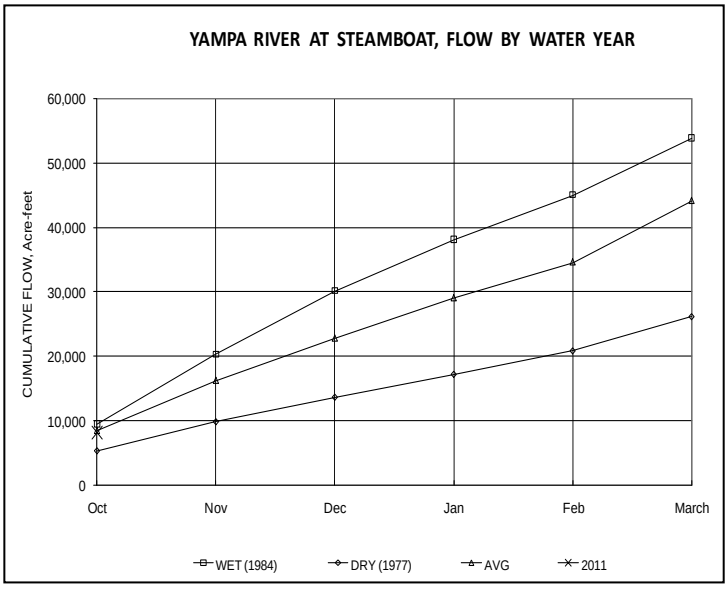
The SWSI value for the month was -0.8. Flow at the gaging station Yampa River at Steamboat was 132 cfs, as compared to the long-term average of 138 cfs.

October precipitation was well above 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 approximately 179% of average for the Yampa/White River basin and 214% of average for the North Platte River basin. Precipitation for the combined Yampa, White, and North Platte River basins was 188% of average for the water year to-date.

The snow water equivalent (SWE) as of October 31, 2010 was 213% of average for the North Platte River basin and 159% of average for the Yampa and White River basins combined.

Much like September, the streamflows started out below average for the month of October. By late October however the flows were well above average. The average daily streamflow for the month of October on the Elk River near Milner was 125 cfs while the historic daily average was 148 cfs; the average daily streamflow for the Yampa River at Maybell was 294 cfs while the historic daily average was 352 cfs; the daily average streamflow for the White River below Boise Creek was 397 cfs while the historic daily average was 509 cfs; and the daily average streamflow for the North Platte near Northgate was 147 cfs while the historic daily average was 158 cfs. This year's daily averages were below the historic averages due to the fact that the flows were well below average during the first two-thirds of the month.





Outlook

At the end of September, Fish Creek Reservoir was storing 2,846 AF. The capacity of Fish Creek Reservoir is 4,167 AF. At the end of October, Yamcolo Reservoir was storing 5,484 AF. The capacity of Yamcolo Reservoir is 9,580 AF. At the end of October, Elkhead Creek Reservoir was storing 19,206 AF. The capacity of Elkhead Creek Reservoir is 24,778 AF. Construction of the four foot raise of the spillway at Stagecoach Reservoir was nearly complete by the end of October. The capacity of Stagecoach Reservoir is 33,275 AF. Once enlarged the capacity will be approximately 36,460 AF. Water stored in Fish Creek Reservoir is used primarily for municipal purposes, Yamcolo Reservoir for irrigation purposes, Elkhead Creek Reservoir for municipal, industrial, recreational and fish recovery purposes and Stagecoach Reservoir is primarily used for recreation though a significant amount of water stored is allocated for municipal, industrial, irrigation and augmentation uses. Water however is rarely released for these purposes.

Administrative/Management Concerns

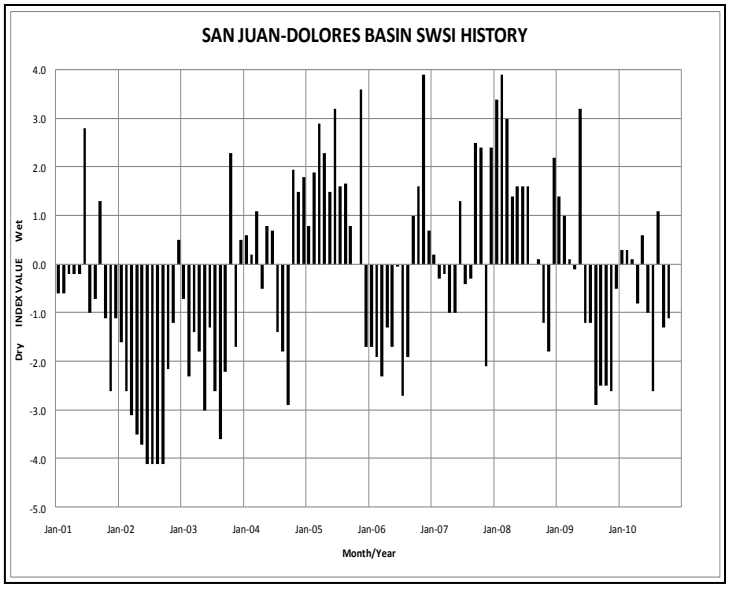
At the end of October there were no stream systems on call within all of Division 6.

Public Use Impacts

As mentioned above, Stagecoach Reservoir was under construction through the months of September and October. Construction is expected to be completed by the end of November.

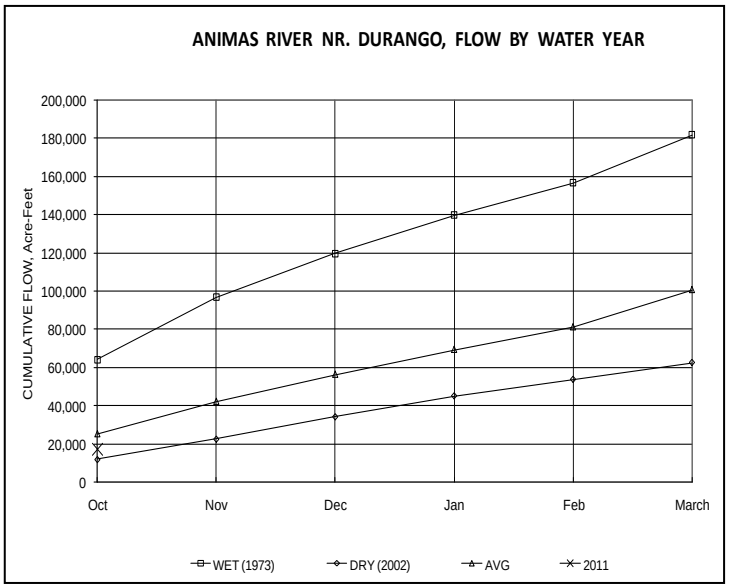
Basinwide Conditions Assessment

The SWSI value for the month was -1.1. Flows at the Animas River at Durango averaged 276 cfs (66% of average). The flow at the Dolores River at Dolores averaged 97 cfs (71% of average). The La Plata River at Hesperus averaged 10 cfs (62% of average). Precipitation in Durango was 2.08 inches for the month, 107% of the 30-year average of 1.94 inches. Precipitation to date in Durango, for the water year, is 2.08 inches, 107% of the 30-year average of 1.94 inches. The average high and low temperatures for the month of October in Durango were 67° and 37°. In comparison, the 30-year average high and low for the month is 65° and 34°. At the end of the month Vallecito Reservoir contained 58,100 acre-feet compared to its average content of 51,608 acre-feet (113% of average). McPhee Reservoir was up to 277,319 acre-feet compared to its average content of 259,798 (107% of average), while Lemon Reservoir was up to 14,180 acre-feet as compared to its average content of 19,447 acre-feet (73% of average).



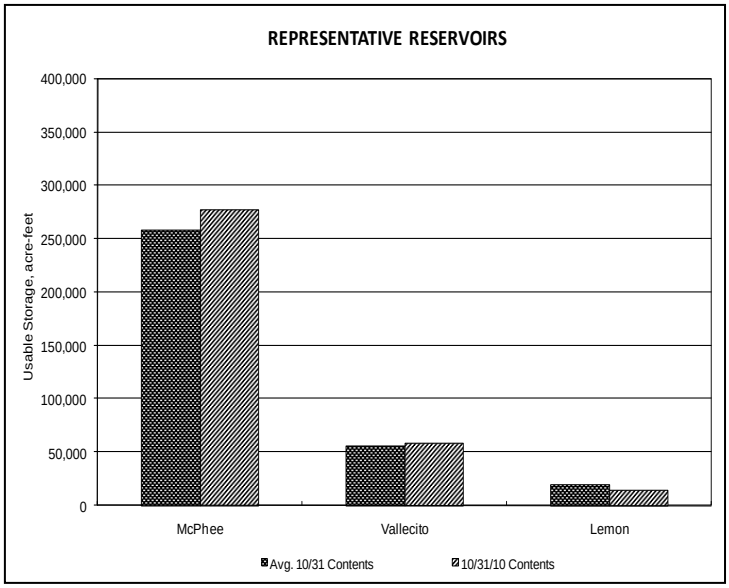
Outlook

October was near average. Reservoirs have been heavily relied upon for irrigation supplies all summer long this year. We hope we will have an above average snowpack season to replace the water that was used in the reservoirs this summer. On October 31st the NRCS SNOTEL sites estimated 49% snow-water equivalent within the basin.



Administrative/Management Concerns

The La Plata River compact between Colorado and New Mexico remained on call for the entire month. The compact requires that half the flow at the upper index gages (Hesperus and above) must be delivered across the Stateline the following day.



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