COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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June 2012

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 May (June 1) range from a high value of +1.5 in the South Platte Basin to a low value of -4.0 in the Yampa/White Basin. Six of the basins (South Platte, Arkansas, Rio Grande, Gunnison, Colorado and San Juan/Dolores) experienced a gain from the previous month's value, and one basin (Yampa/White) experienced no change from the previous month's value. SWSI values generally show a gain in the June 1 report due to the switch from winter components to summer components. Additionally, most basins are starting out the summer with above- or near-average storage for those reservoirs used in SWSI calculations. As the summer progresses, substantial declines in the SWSI values are anticipated as stream flows decrease due to a combination of the weak snowpack and early runoff and reservoirs are drawn down to meet water demand. On a positive note, a comparison with the SWSI values from June 1, 2002 shows that the majority of the basins are entering the 2012 summer season with significantly better conditions than they entered the summer of 2002, with the exception of the Yampa/White Basin which has the same SWSI value.

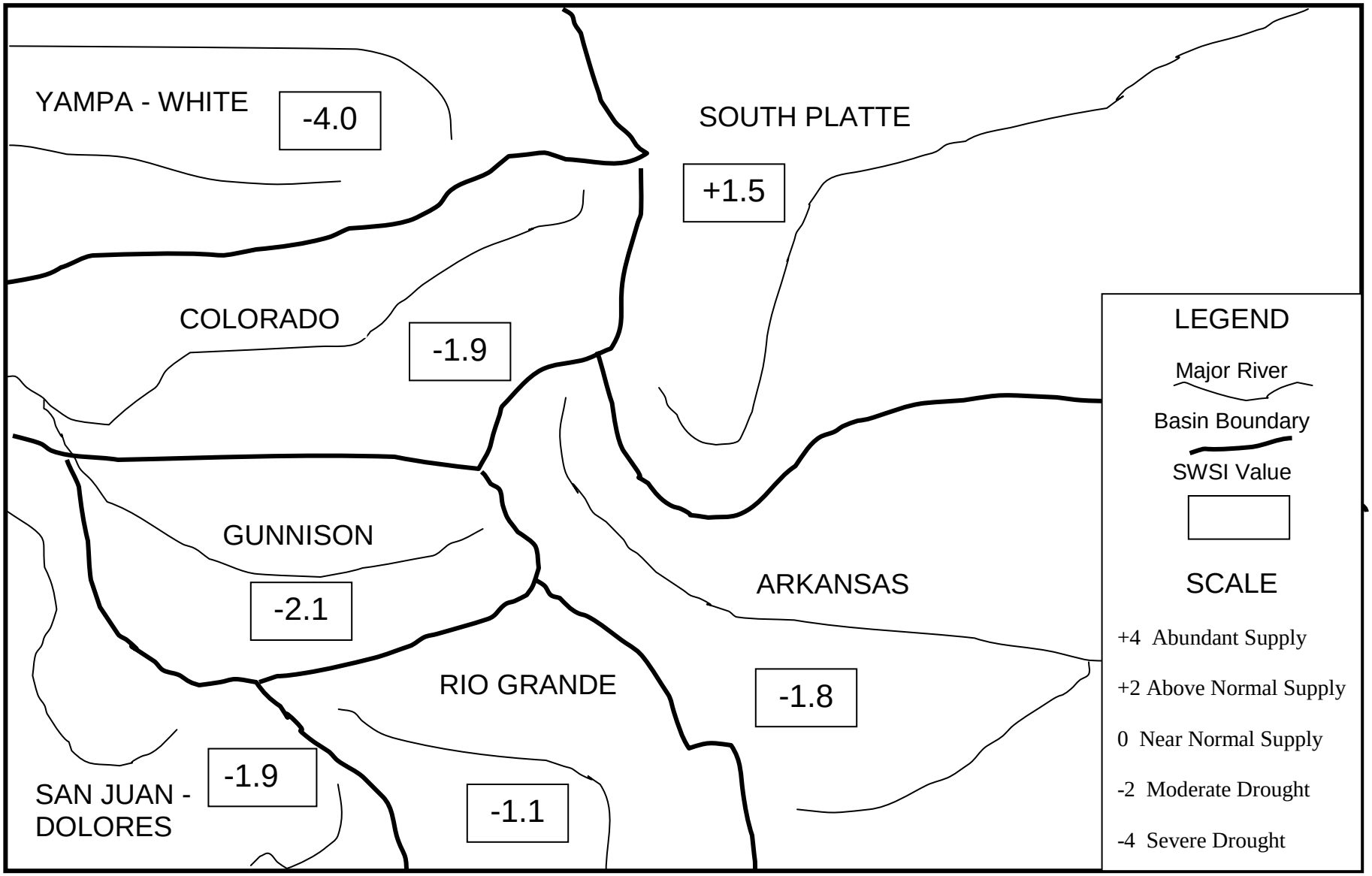
The following SWSI values were computed for each of the seven major basins for June 1, 2012, and reflect the conditions during the month of May.

Basin	June 1, 2012 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+1.5	+1.2	- 0.5
Arkansas	- 1.8	+1.3	- 0.4
Rio Grande	- 1.1	+1.5	+1.9
Gunnison	- 2.1	+0.6	- 3.5
Colorado	- 1.9	+0.9	- 3.4
Yampa/White	- 4.0	0.0	- 4.5
San Juan/Dolores	- 1.9	+0.2	- 0.2

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



June 1, 2012

Basinwide Conditions Assessment

The SWSI value for the month was +1.5. Reservoir storage in Dillon, Horsetooth, Eleven Mile, Cheesman, Jackson, and Barr Lake, the major component in this basin in computing the SWSI value, was 107% of normal as of the end of May. Cumulative storage in the major plains reservoirs (Julesburg, North Sterling, and Prewitt) is at 86% of capacity. Cumulative storage in the major upper-basin reservoirs (Cheesman, Eleven Mile, Spinney, and Antero) is at 94% of capacity. Flow at the gaging station South Platte River near Kersey was 264 cfs, as compared to the long-term average of 1753 cfs. Flow at the Colorado/Nebraska state line was 109 cfs, as compared to the long-term average of 1011 cfs.

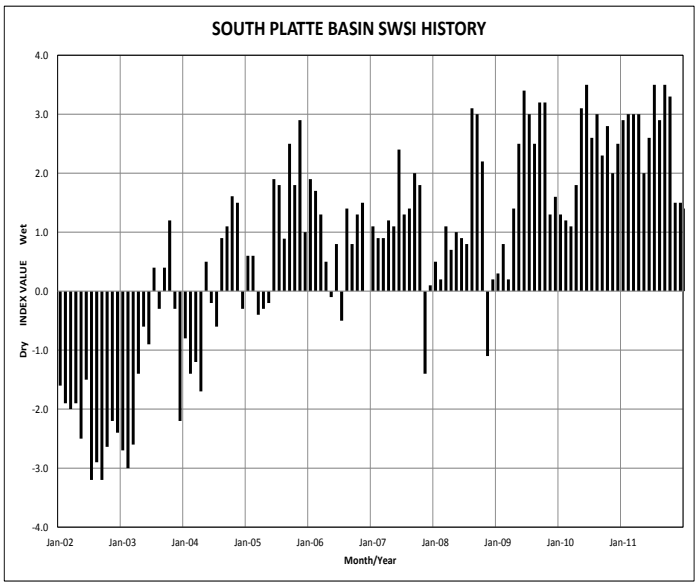
Outlook

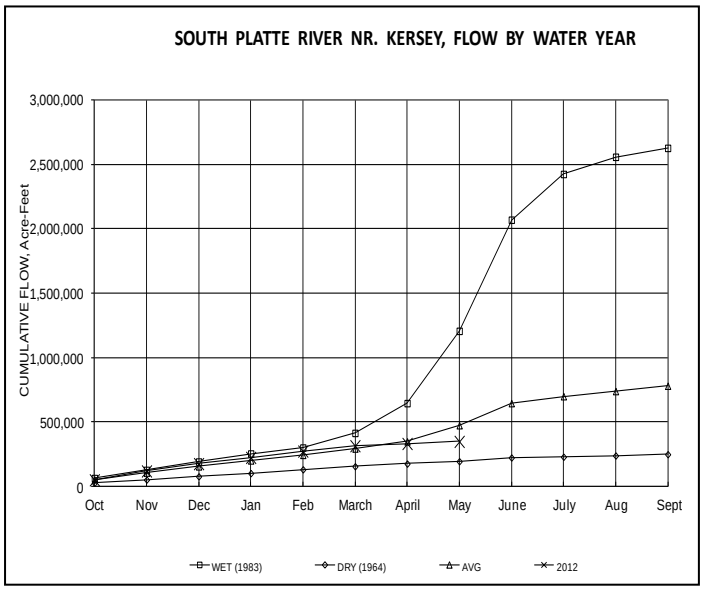
May continued the dry trend in the South Platte basin with further comparisons to the very dry year of 2002. Precipitation over most of the basin was below average for the month and, though some hope remained for a last push of very high snowmelt, the runoff was essentially over by the end of the month with snowpack at only 3% of average by June 1.

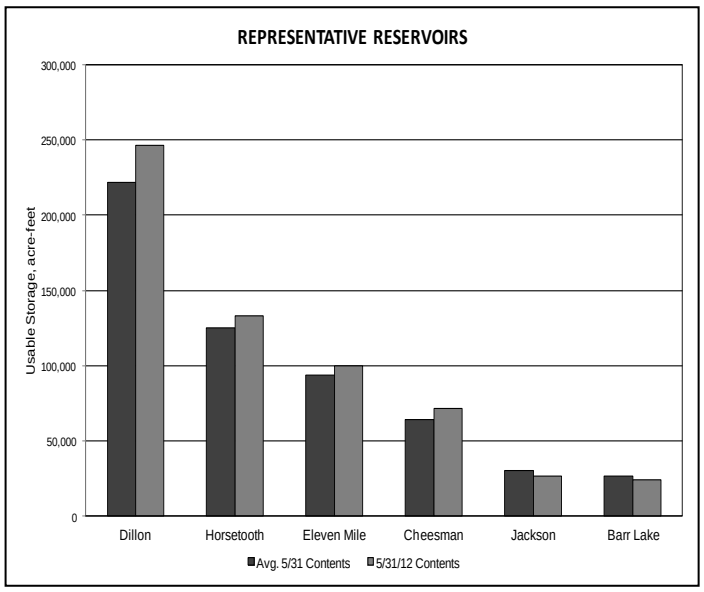
Stream flows at the Kersey and Julesburg index gages continued to move opposite the historic trends by declining instead of increasing in May. The monthly mean stream flow at the Kersey gage declined in May from 294 cfs (35% of the April historic mean of 846 cfs) to 264 cfs (15% of the 1,746 cfs May historic mean). The Julesburg gage reflected a similar trend – the May mean flow was 109 cfs (11% of the 1,003 cfs May historic mean), a decline from the 146 cfs April mean flow (28% of the April historic mean of 523 cfs).

The river call pattern on the mainstem and tributaries reflected the abysmal flow conditions as there was no moving toward more junior calls or free river. The call pattern stayed much more senior than is normal for May. This senior call pattern is also reflected in the decline in reservoir storage from 102% of the end of April average to 95% of the end of May average. The only sort of good news is that this is better than the end of May 2002 when storage was at only 72% of average.

The July – September National Weather Service outlook for the South Platte basin is for equal chances of below or above average precipitation but with a virtual certainty of above average temperatures.





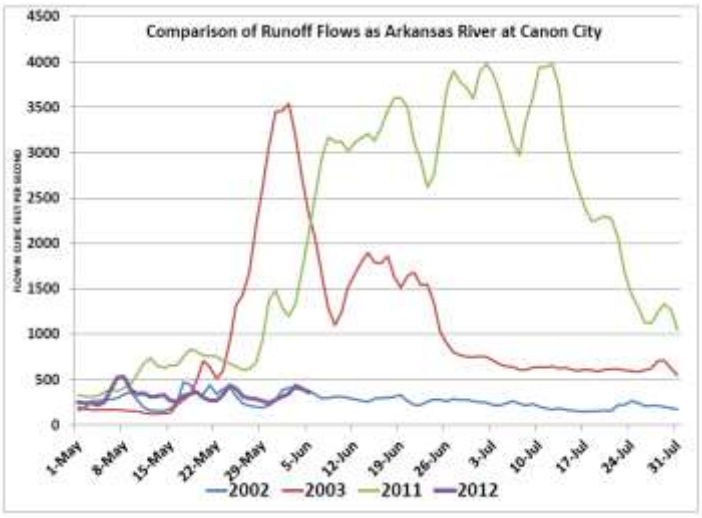


Basinwide Conditions Assessment

The SWSI value for the month was -1.8. Flow at the gaging station Arkansas River near Portland was 341 cfs, as compared to the long-term average of 1165 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 93% of normal as of the end of May.

Outlook

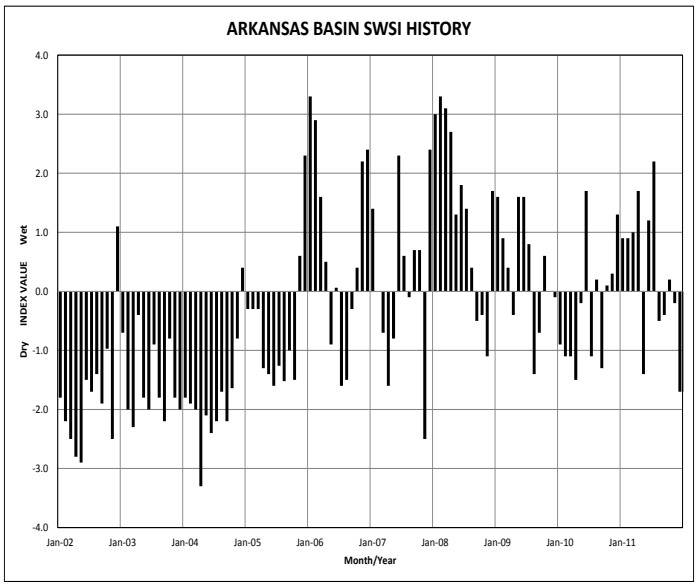
Run-off flows through the Arkansas River at Canon City have been uncomfortably similar to flows during 2002, as shown below. No notable peak run-off occurred.

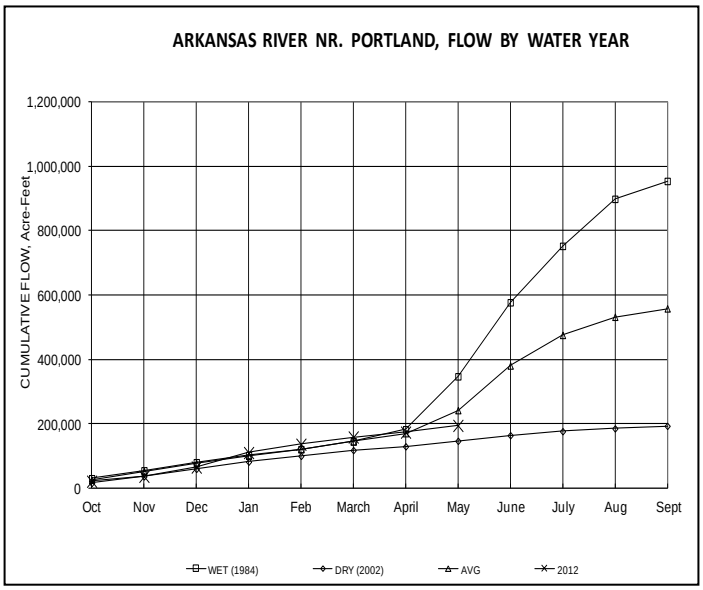


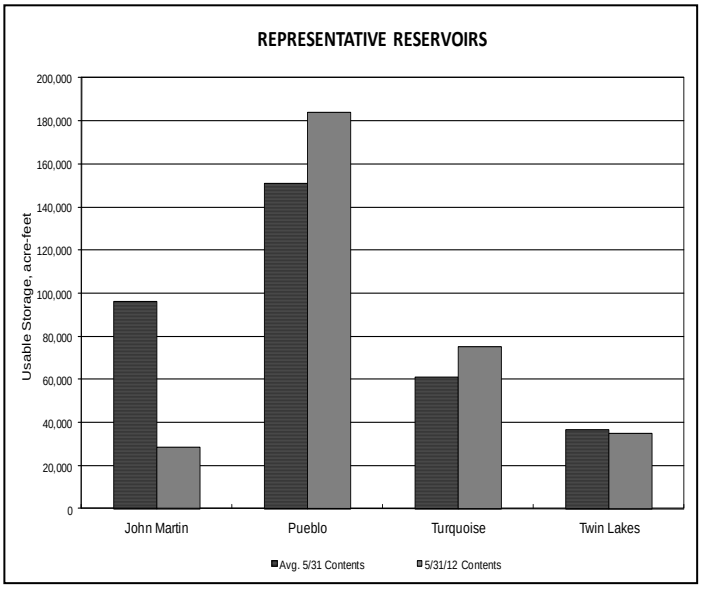
The river call at the beginning and end of the month was Catlin Canal/Las Animas Consolidated (12/3/1884).

Administrative/Management Concerns

Reservoir stored water in John Martin Reservoir for irrigation use has been largely exhausted except for a few ditches. Kansas has not yet called for the release of approximately 10,700 acre-feet of supply they hold in John Martin Reservoir for irrigation and have not called for release of the well augmentation water held in the Offset Account in John Martin Reservoir (approximately 3,600 acre-feet). Release of this pool of over 14,000 acre-feet will significantly shrink the John Martin Reservoir pool which contained nearly 28,300 acre-feet at the end of May. The permanent fisheries pool contains approximately 7,400 acre-feet that will remain in the reservoir.







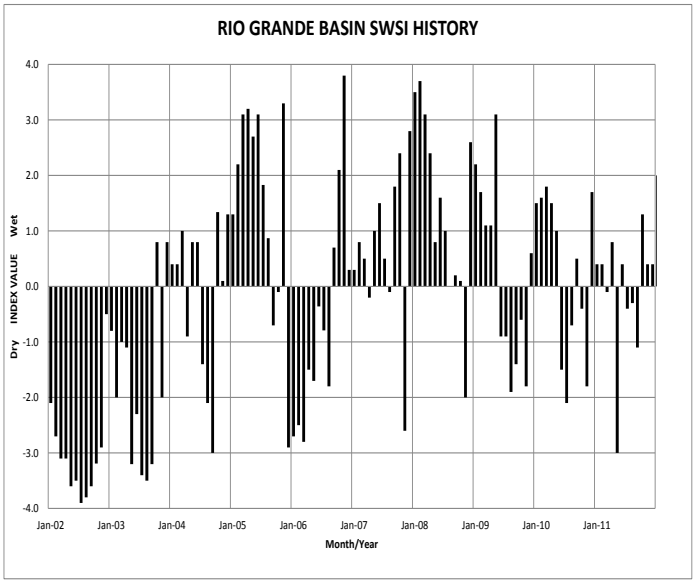
Basinwide Conditions Assessment

The SWSI value for the month was -1.1. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 70% of normal as of the end of May.

Flow at the gaging station Rio Grande near Del Norte averaged 2284 cfs (91% of normal). The Conejos River near Mogote had a mean flow of 695 cfs (63% of normal). For some of the drainages in the upper Rio Grande basin, stream flow in the basin was much closer to average than expected given the poor snowpack this spring. However, what is now apparent is that the mountains gave up all they had for snowmelt during April and May. All streams in the division have already experienced peak runoff and are on a drastic decline toward extremely low levels.

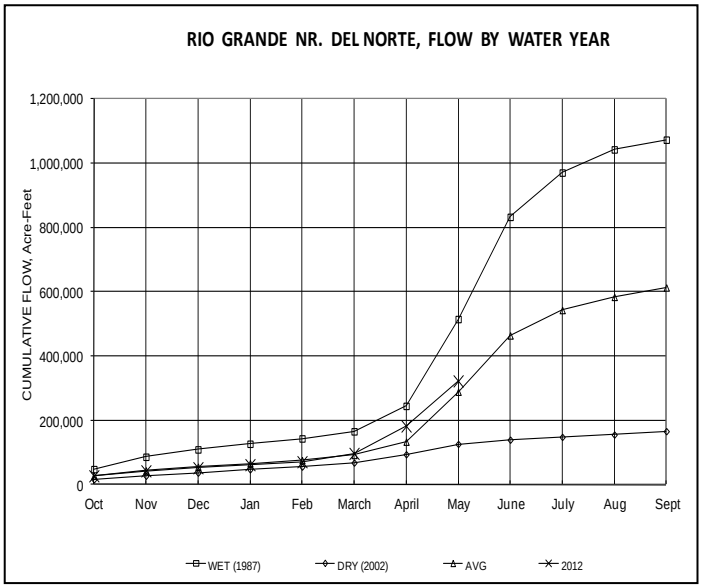
With the exception of cold night-time temperatures during late May, this year has been very warm and mild with average temperatures almost four degrees above normal.

Precipitation in Alamosa was 0.88 inches during the month, 0.30 inches above normal and mostly due to one final snowstorm on May 7th. But the year-to-date total is still below normal.



Outlook

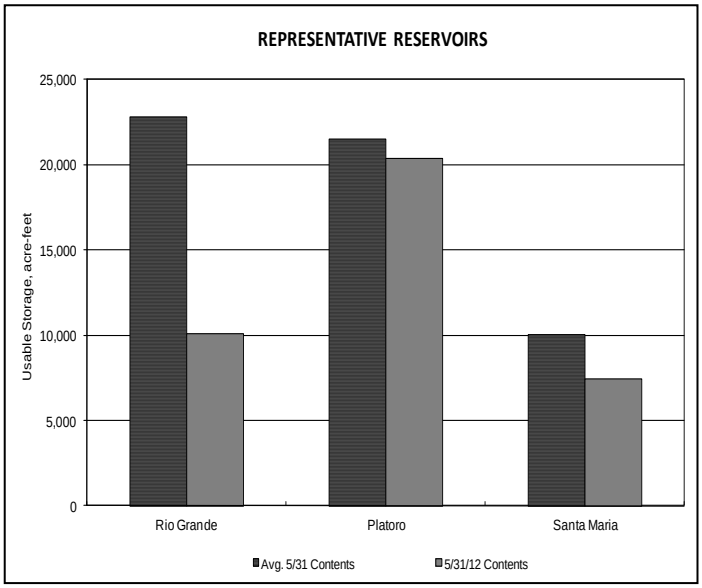
NRCS stream flow forecasts are predicting somewhere between 12 and 41% of average runoff for the remainder of the summer for all streams in the upper Rio Grande basin. Flows in some areas of the San Luis Valley are already reminiscent of 2002. Streams hardest hit by the lack of snowpack and early melt out include the Rio San Antonio (already dry at the gaging station), La Jara Creek, La Garita Creek, Kerber Creek, and Sangre de Cristo Creek.



Administrative/Management Concerns

As June reached into its second week, a glance around the San Luis Valley reveals all the characteristics of serious drought: little or no snow on the peaks, parched rangeland, a trickle of flow in creeks and rivers, low reservoir levels, and persistent warm weather. This water year will likely rival 2002 for harsh conditions as the summer progresses.

The aquifers of the Valley are strained to the limit as irrigation and domestic needs increase.



Public Use Impacts

The extremely dry weather conditions have affected the agricultural, ranching and tourism operations in the San Luis Valley to a great degree this year.

Basinwide Conditions Assessment

The SWSI value for the month was -2.1. Flow at the gaging station Uncompahgre River near Ridgeway was 263 cfs, as compared to the long-term average of 344 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 99% of normal as of the end of May.

Extremely below average (30 percent of normal) May precipitation in the Gunnison basin continued to drive down the snowpack to 7 percent of average by June 1st. Melt out occurred in a pattern eerily similar to 2002 with no snow at most Snotel sites before mid-May. Temperatures 3-5 degrees above average in May accelerated melt of the meager snow left in the basin and increased evapotranspiration rates, further reducing streamflows.

Outlook

Average April to July streamflow forecasts for Gunnison streams were reduced further to 30 percent of the 30 year average on June 1st. Forecasts for monsoon precipitation are unclear as the NWS predicts equal chances of greater or less than average precipitation. Areas in the southern part of the basin, such as the Uncompahgre and Lake Fork of the Gunnison Rivers, will have higher runoff than in 2002 while areas in the north, such as the Slate, Ohio, and Tomichi drainages, will contain less than 2002 runoff volumes.

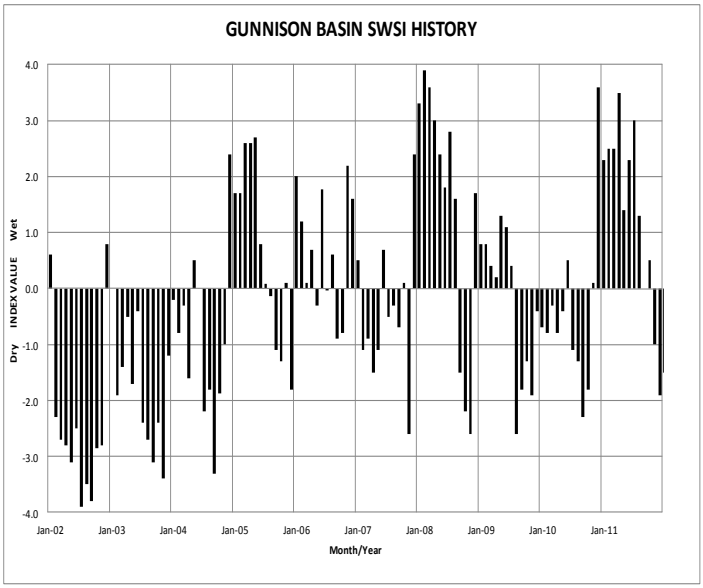
Administrative/Management Concerns

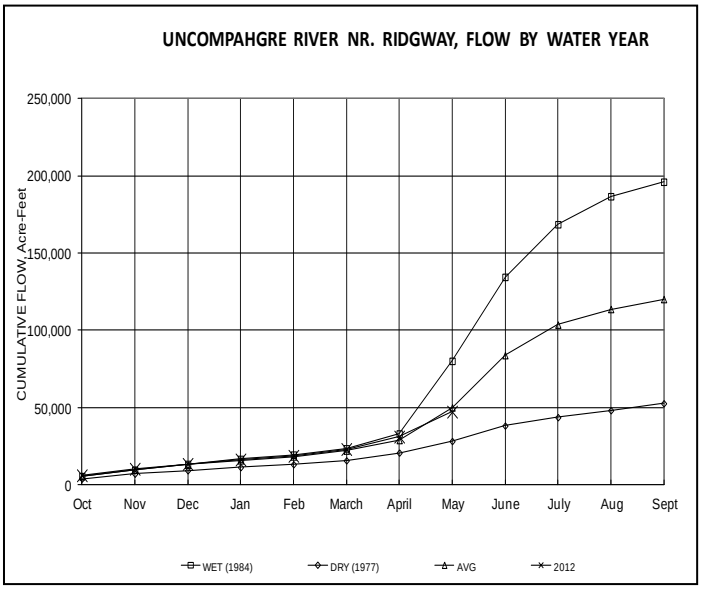
We continue to see earlier and deeper calls in the Gunnison in May and early June than typically experienced in August. The Uncompahgre Valley Water Users call on the Uncompahgre River (1883 priority date) was relaxed to a more junior level in mid-May as stream flows increased, but will quickly return to the original date in later June. As of June 15th calls have been made on many other streams including Ohio Creek (1876), Tomichi Creek (1880), the North Fork of the Gunnison (1889), Powderhorn Creek (1885), and many of their tributaries. This will prevent many irrigators on these drainages from producing more than 25 percent of their normal hay crop.

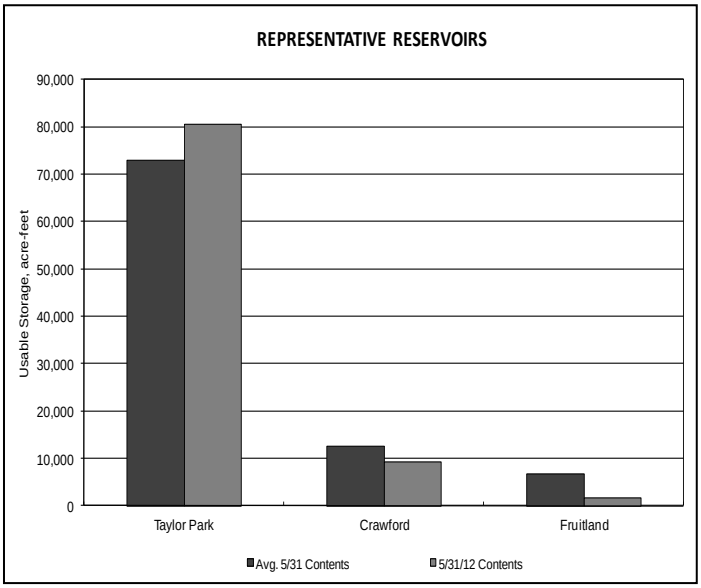
Many users above Blue Mesa Reservoir are concerned about the effects of a Gunnison Tunnel call on their rights; however, it appears that use of Taylor Park storage could prevent that call from occurring until later July. In addition, streamflows are so low, and calls senior to the Tunnel have already been placed on many upper basin tributaries. Consequently, a call may not be very effective at producing much wet water in the stream anyway.

Although reservoir storage in the basin began the season above average, concern is building for 2013 as Crawford, Blue Mesa, Taylor Park and Ridgway Reservoir's will not fill due to low runoff this season and will be at significantly reduced levels at the end of 2012. Blue Mesa inflow volume is now forecast at only 196,000 acre-feet (29 percent of average). End of October reservoir elevations for Taylor Park and Blue Mesa are projected to be 40 and 71 feet below full (40% and 34% full) respectively.

Weekly coordination conference calls between the USBR, the Redlands Power Canal, the Division of Water Resources and the National Weather Service regarding flows prescribed at the Gunnison River Whitewater Gage (above Redlands Power Canal) began the first week of June. These calls are intended to help the USBR in setting releases from Crystal dam to meet the 900 cfs flow target specified in the Aspinall Unit Operations Record of Decision at this gage. This is important as it relates to a potential Redlands Power Canal call, which can call out rights in the entire Gunnison River Basin since it diverts only three miles from the confluence with the Colorado.







Basinwide Conditions Assessment

The SWSI value for the month was -1.9. Flow at the gaging station Colorado River near Dotsero was 1545 cfs, as compared to the long-term average of 4508 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 131% of normal as of the end of May.

Outlook

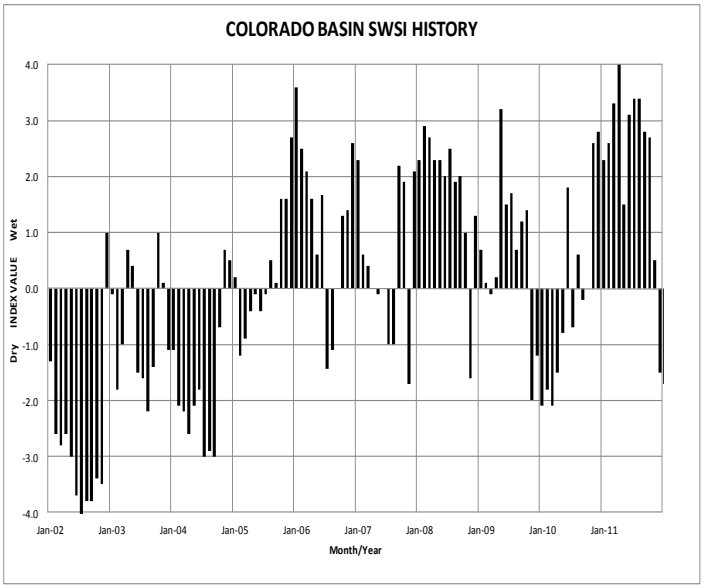
Upper Colorado River Basin snowmelt is nearly complete with Upper Colorado Headwaters and Roaring Fork River Basin snow water percentages below 2 percent of average as of June 1st. Colorado and Roaring Fork River flows have fallen to less than 25 percent of average as of mid-June. The Shoshone Outage Protocol and a Grand Valley Irrigator's call as measured at the Cameo gage will drive upper Colorado River flows from here forward.

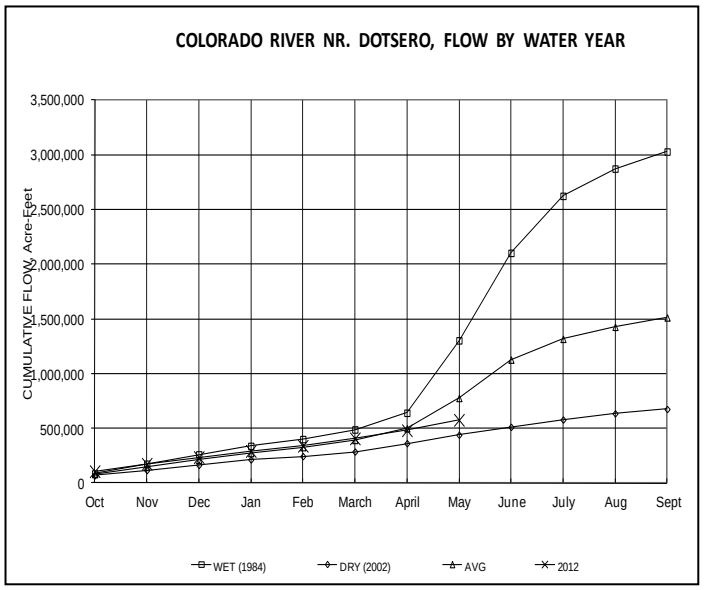
Administrative/Management Concerns

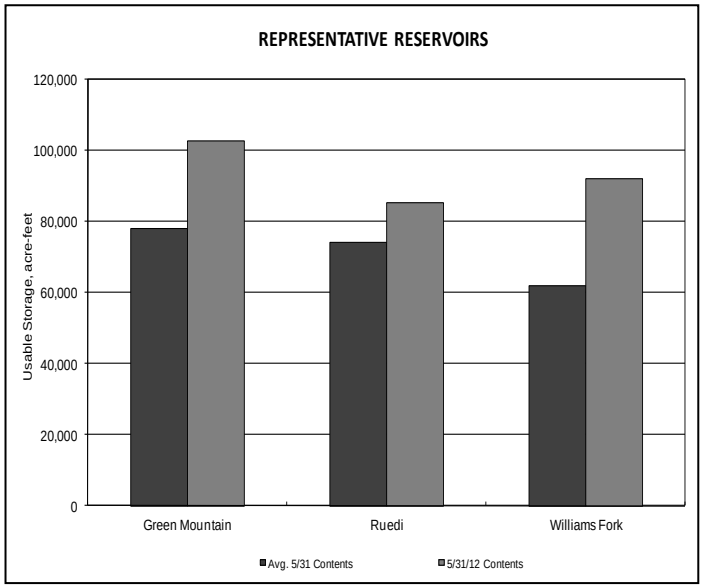
With the Shoshone Power Plant running at half capacity, the Shoshone Outage Protocol went into effect on June 13th. Combined additional releases totaling 450 cfs were made from Wolford Mountain, Williams Fork, and Green Mountain Reservoirs to maintain a flow of 1250 cfs through Glenwood Canyon. Fryingpan-Arkansas Project diversions ended June 10th, as upper Fryingpan River flows reached the minimum index and could no longer support project diversions. Continued decreasing Upper Fryingpan flow will prevent a complete fill of Ruedi Reservoir which will reach approximately 90 percent of capacity. Ruedi Reservoir releases with continue at the 110 cfs minimum level, until out of priority under an eminent Grand Valley Irrigation call; at which point releases will increase to bypass inflows plus contract releases. Green Mountain reservoir releases were increases by 75 cfs to support the Shoshone Outage Protocol. Reservoir releases for endangered fish in the 15-mile reach will boost Colorado River flows slightly.

Public Use Impacts

The Shoshone Outage Protocol will maintain flows beneficial for rafting through Glenwood Canyon and fish habitat. The forecast inflow to Lake Powell for the period from April through July has been downgraded to 2.00 maf – 28 percent of average – with June and July inflow volumes of 13 and 9 percent of average respectively.



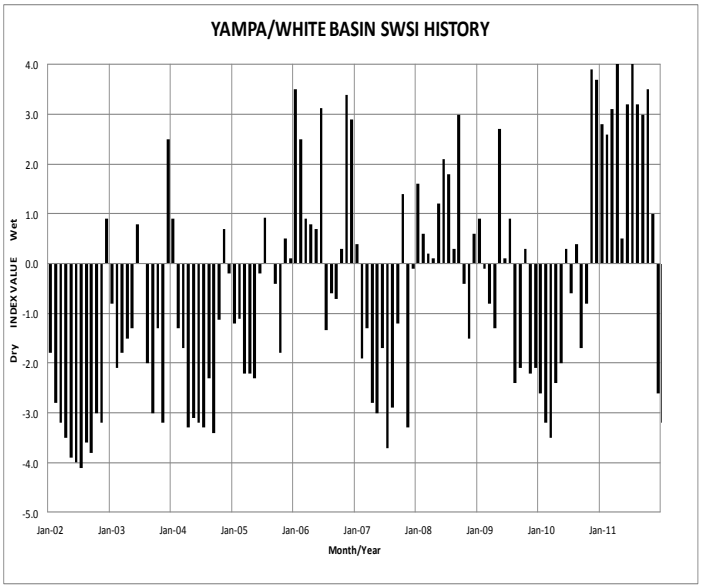


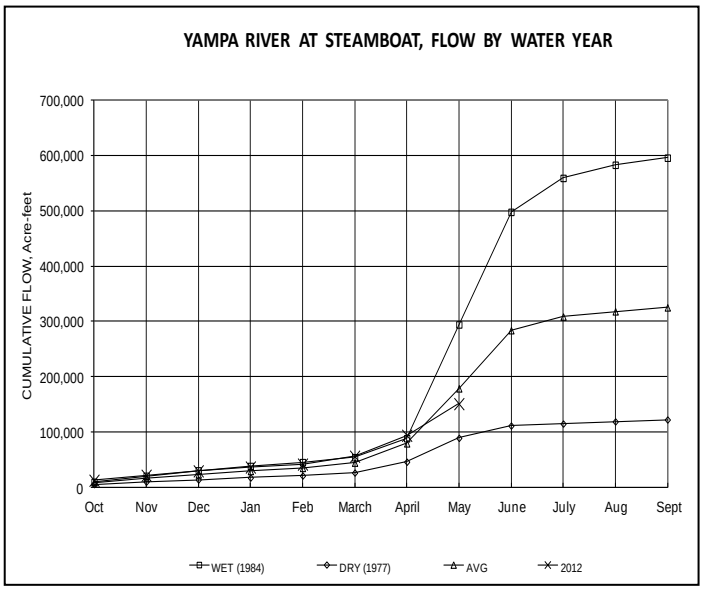


Basinwide Conditions Assessment

The SWSI value for the month was -4.0. Flow at the gaging station Yampa River at Steamboat was 930 cfs, as compared to the long-term average of 1618 cfs. May precipitation was again well below the monthly average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at SNOTEL sites operated by NRCS, was reported at 39% of average for the Yampa, White, and North Platte River basins. Total precipitation for the water year to date in the combined basins stands at 67% of average. Snowpack in the Yampa and Whiter River basins at the end of May was at 6% of average. Snowpack in the North Platte registered at 8% of average through May 31st. Continued dry weather in early June has melted nearly all of the meager remaining snowpack.

As of June 1, 2012, NRCS predicts well below average summer streamflows in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the June through July period are 22% of average for the North Platte River near Northgate, 17% of average for the Yampa River near Maybell, 10% of average for the Little Snake River near Lily, and 20% of average for the White River near Meeker.





Outlook

As of May 31st Fish Creek Reservoir was storing 4,164 AF which is 100% of capacity and spilling 20 cfs. The sight tube at Yamcolo Reservoir was reading 45 ft and 111/8 inches on June 13th which equates to 4,594 AF. Daily data is currently unavailable at Yamcolo Reservoir due to a broken pressure transducer at the gaging station. As of May 31st, Elkhead Creek Reservoir was storing 24,778 AF and was at 100% of capacity. At the end of May, Stagecoach Reservoir was storing approximately 34,000 AF. The enlarged capacity of Stagecoach Reservoir is 36,460 AF.

Public Use Impacts

Due to dry and critical fuel conditions below 9,000 ft, Routt County currently has fire restrictions in place. Both Stagecoach and Steamboat Lake State Parks are open to boating. Fishing at Stagecoach Reservoir is reported as excellent from both shore and boat. Fishing is also reportedly quite good at Steamboat Lake. The swim beach at Steamboat Lake is not yet open. Mountain Bike trails at Steamboat Ski Resort are open with the gondola servicing the upper terrain.

Basinwide Conditions Assessment

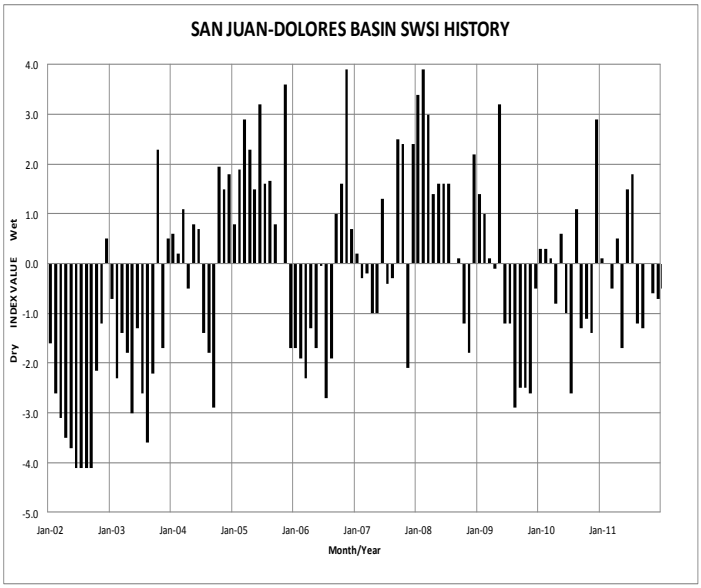
The SWSI value for the month was -1.9. Flow at the Animas River at Durango averaged 1,606 cfs (70% of average). The flow at the Dolores River at Dolores averaged 768 cfs (44% of average). The La Plata River at Hesperus averaged 66 cfs (39% of average).

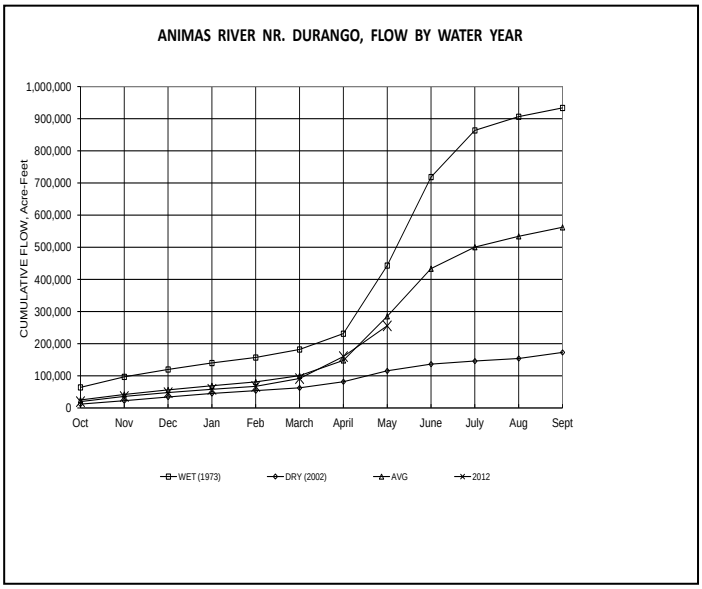
Storage in McPhee, Vallecito, and Lemon reservoirs totaled 107% of normal as of the end of May. At the end of the month Vallecito Reservoir contained 123,930 acre-feet compared to its average content of 89,640 acre-feet (132% of average). McPhee Reservoir was up to 339,115 acre-feet compared to its average content of 344,794 (98% of average), while Lemon Reservoir was up to 31,950 acre-feet as compared to its average content of 30,561 acre-feet (105% of average).

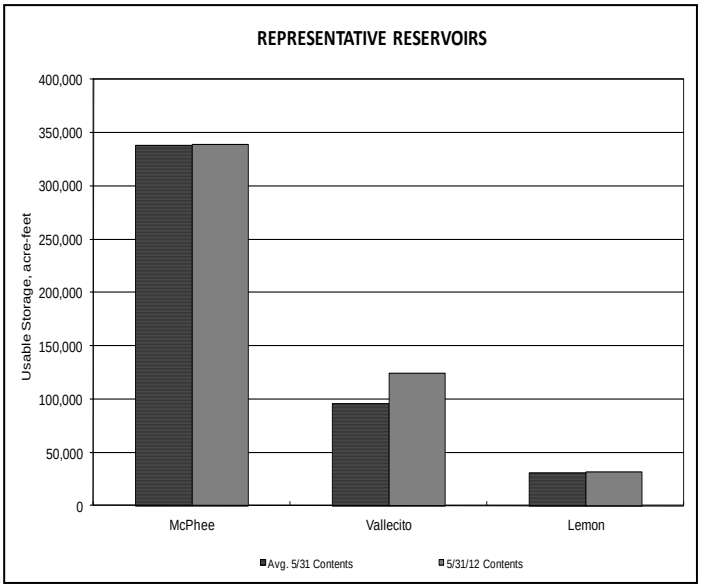
Precipitation in Durango was 0.09 inches for the month, 8% of the 30-year average of 1.10 inches. Precipitation to date in Durango, for the water year, is 10.43 inches, 83% of the 30-year average of 12.51 inches. The average high and low temperatures for the month of May in Durango were 75° and 36°. In comparison, the 30-year average high and low for the month is 72° and 39°.

Outlook

Precipitation (0.09 inches) was well below average for the month of May in Durango. There are 106 years out of 118 years of record where there was more precipitation than this year. On May 31 the NRCS SNOTEL sites reported an average snow-water equivalent within the basin at 0%. Last month the snow-water-equivalent was 26%. Reservoir storage increased this month but it is going to be short lived as runoff began early this year with most of the rivers' peak runoff from snowmelt occurring at the end of April/beginning of May.







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