COLORADO
WATER SUPPLY CONDITIONS UPDATE

FROM THE OFFICE OF THE STATE ENGINEER: COLORADO DIVISION OF WATER RESOURCES
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May 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 snowpack, reservoir storage, and precipitation for the winter period of November through April (December 1 through May 1). During the winter period, snowpack 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 April (May 1) range from a high value of +0.3 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, Colorado and San Juan/Dolores) experienced a loss from the previous month's value, and one basin (Yampa/White) experienced no change from the previous month's value. Mild weather has contributed to more rapid snowmelt this spring, leading to average or above-average streamflows for the majority of the state. Low snowpack statewide will result in a heavier reliance on well pumping and reservoir storage as the water year progresses.

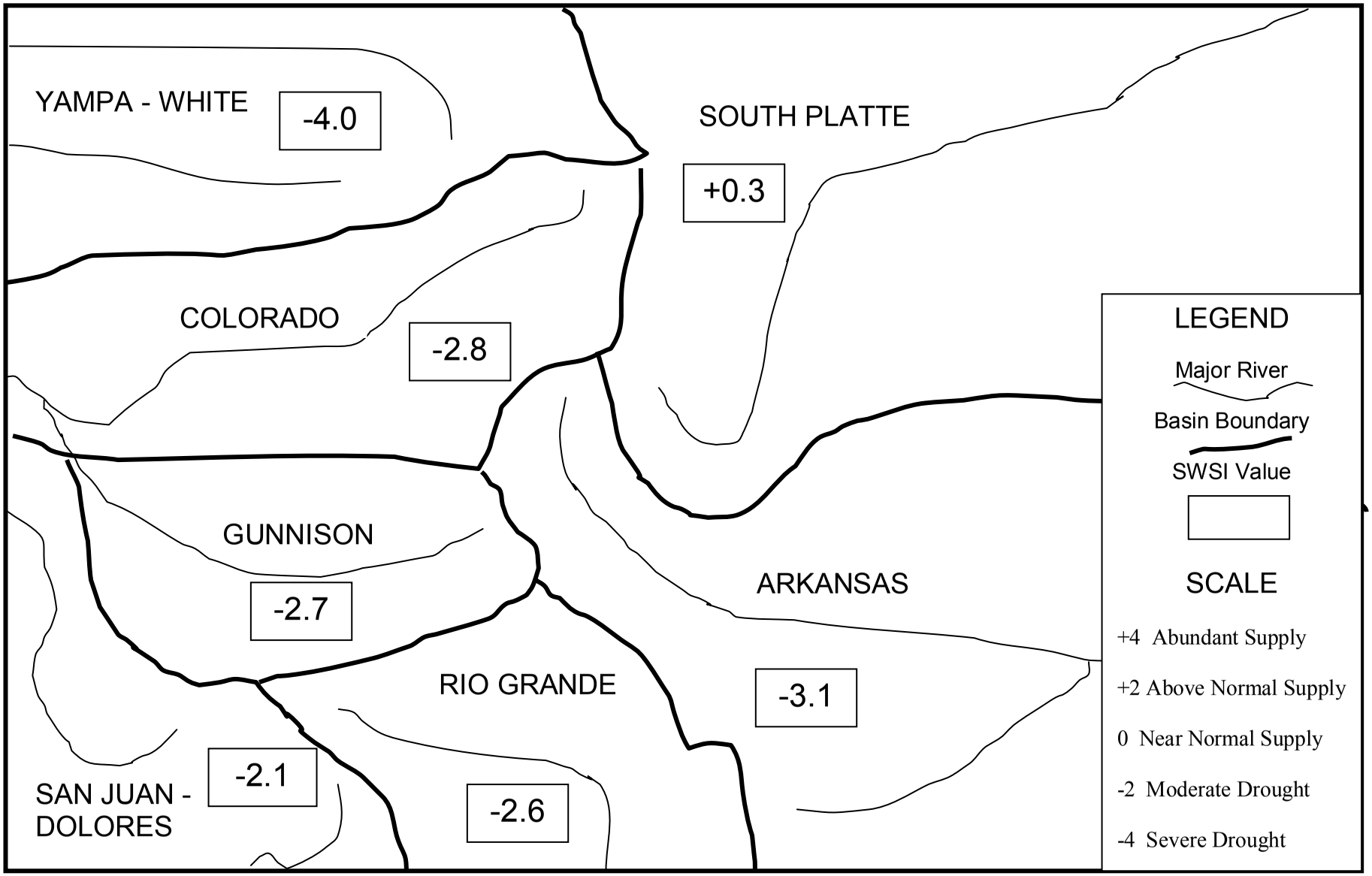
The following SWSI values were computed for each of the seven major basins for May 1, 2012, and reflect the conditions during the month of April.

Basin	May 1, 2012 SWSI Value	Change From Previous Month	Change From Previous Year
South Platte	+0.3	- 0.4	- 2.7
Arkansas	- 3.1	- 0.1	- 4.8
Rio Grande	- 2.6	- 0.9	- 3.4
Gunnison	- 2.7	- 0.5	- 6.2
Colorado	- 2.8	- 0.2	- 6.8
Yampa/White	- 4.0	0.0	- 8.1
San Juan/Dolores	- 2.1	- 0.3	- 2.6

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



May 1, 2012

Basinwide Conditions Assessment

The SWSI value for the month was +0.3. The Natural Resources Conservation Service reports that May 1 snowpack is 30% of normal. Cumulative storage for the six reservoirs graphed on this page was 111% of normal as of the end of April. Cumulative storage in the major plains reservoirs (Julesberg, North Sterling, and Prewitt) is at 96% 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 294 cfs, as compared to the long-term average of 855 cfs. Flow at the Colorado/Nebraska state line was 146 cfs, as compared to the long-term average of 524 cfs.

Outlook

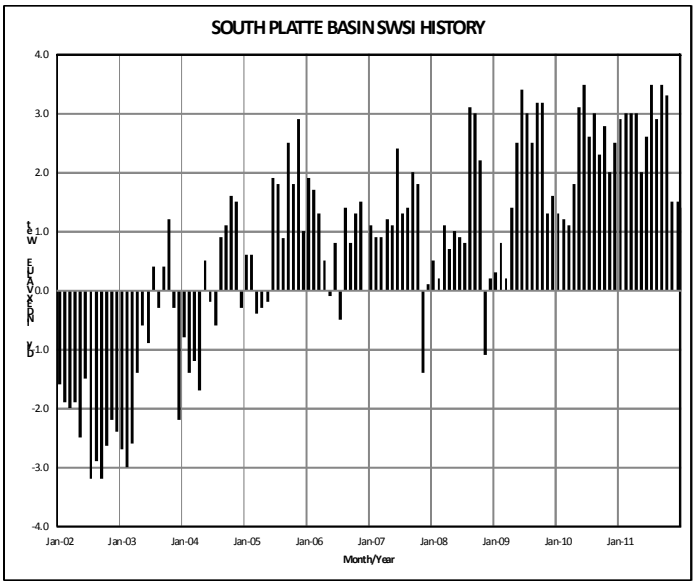
There were no major perturbations in the water supply conditions on the South Platte in April. No major reservoirs were drained and there were no significant stream gage malfunctions during the month. In fact, the current stream gage improvement efforts were continued such that four gages/measurement points are now equipped with Campbell Scientific radar instruments. The four sites are the stream gages at or near Balzac, Julesburg, and Weldona as well as the Stateline Augmentation Ditch Return to the South Platte.

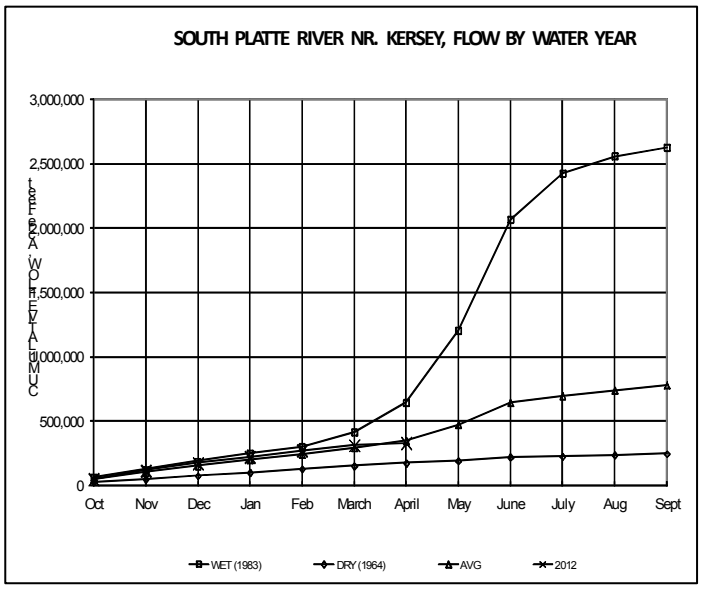
April was not as dry as March in the South Platte basin, but it definitely was not a good month. SNOWTEL data confirmed that the peak snowpack was reached on March 4, the earliest in the 30+ years of SNOWTEL site operations. The snowpack had fallen to 30% of average by May 1, essentially equal to the 2002 May 1 reading.

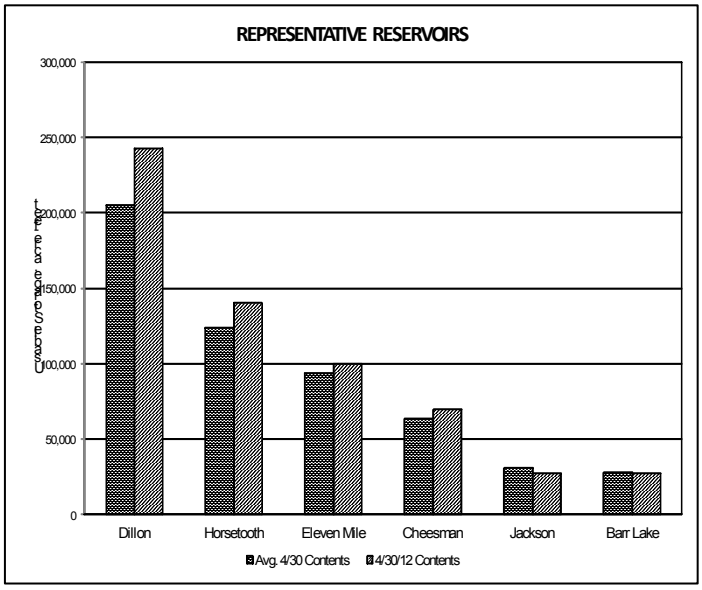
Stream flows at the Kersey and Julesburg index gages did not show any improvement in April, in fact they mirrored the overall poor conditions. The monthly mean stream flow at the Kersey gage actually declined in April from 675 cfs (98% of the March historic mean) to 294 cfs (35% of the 846 cfs April historic mean). The Julesburg gage reflected a similar trend – the April mean flow was 146 cfs (28% of the 523 cfs April historic mean), a decline from the 422 cfs March mean flow (81% of March historic mean).

Though it is not unusual to get calls on the South Platte mainstem in April as irrigation gets going before the snowmelt runoff really starts, the seniority of the calls this year looked much more like July than April. A similar pattern happened on the major tributaries.

There were two rays of hope in this otherwise bleak picture: reservoir storage remained good at 102% of the end of April average and the May – July National Weather Service outlook for the South Platte basin moved to equal chances of below or above average precipitation (up from below average precipitation prediction for April – June).







Basinwide Conditions Assessment

The SWSI value for the month was -3.1. The Natural Resources Conservation Service reports that May 1 snowpack is 24% of normal. Flow at the gaging station Arkansas River near Portland was 254 cfs, as compared to the long-term average of 432 cfs. Storage in Turquoise, Twin Lakes, Pueblo, and John Martin reservoirs totaled 96% of normal as of the end of April.

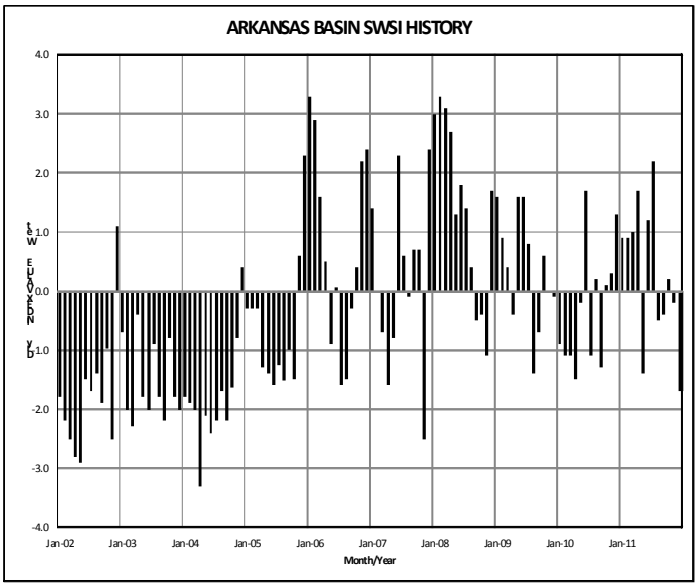
Outlook

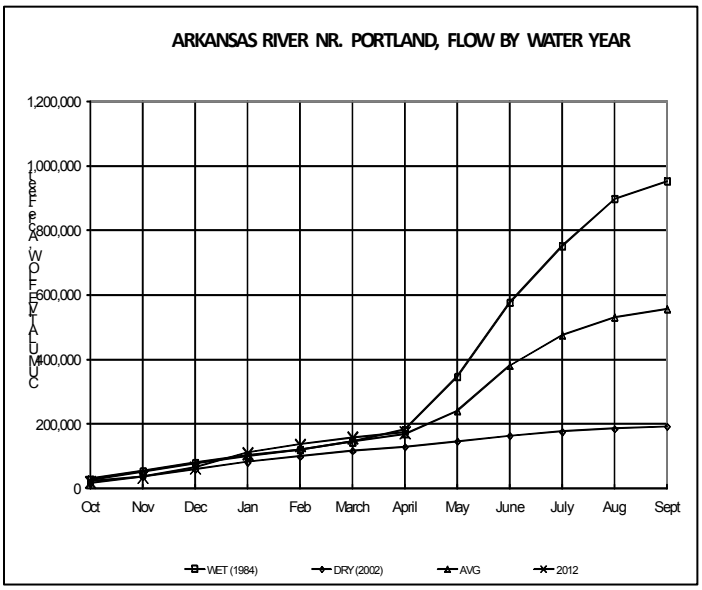
Water District 67 ditches below John Martin Reservoir called for water on April 2, 2012; consequently the distribution of conservation storage into accounts per the 1980 Operating Agreement for John Martin Reservoir began on April 2, 2012 concurrent with the initial release. Total storage from November 1, 2011 through April 30, 2012 distributed into accounts in John Martin Reservoir was approximately a net of 23,265 acre-feet. The 2011-12 storage was very close to the 2010-11 storage in John Martin Reservoir.

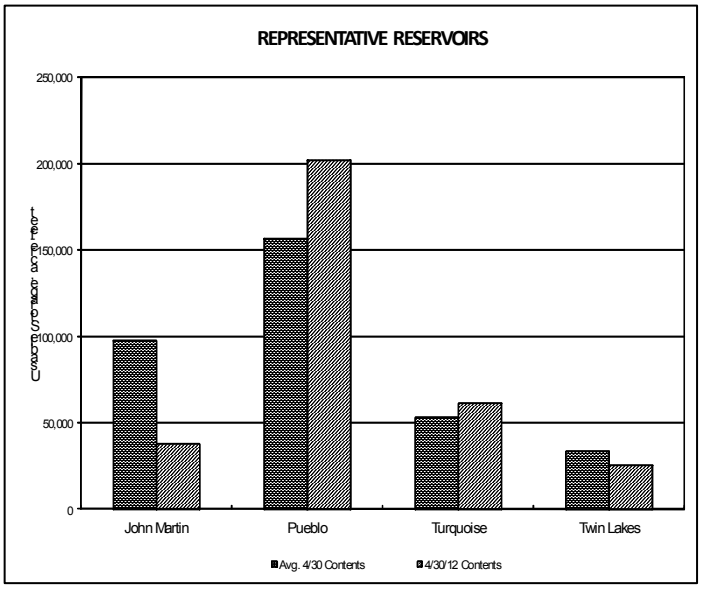
Supplies remained very low with only a small initial runoff event building towards the end of April that softened the river call slightly.

Administrative/Management Concerns

Poor snowpack conditions have caused great concern for both Arkansas Basin runoff and for transmountain imports. High well pumping occurred in March and it is presumed that high well pumping also took place in April to help meet the surface water shortage. There were a number of the well replacement plans approved temporarily until June 1st that will have to provide updated projections on pumping, depletions and replacements for final approval of those plans after June 1st.







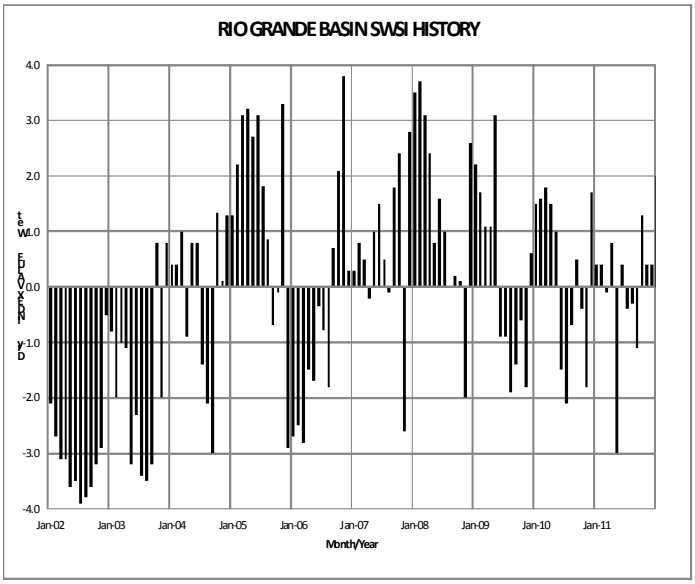
Basinwide Conditions Assessment

The SWSI value for the month was -2.6. The Natural Resources Conservation Service reports that May 1 snowpack is 20% of normal. Storage in Platoro, Rio Grande, and Santa Maria reservoirs totaled 89% of normal as of the end of April.

Flow at the gaging station Rio Grande near Del Norte averaged 1433 cfs (217% of normal). The Conejos River near Mogote had a mean flow of 519 cfs (161% of normal). Flow to the state line was only 53% of normal as upstream diversions for irrigation needs continued.

Warm temperatures forced early melt throughout the upper Rio Grande basin. In some drainages, such as the Conejos River, the Rio de los Pinos, Goose Creek, the Alamosa River, and the mainstem Rio Grande, the early runoff has produced volumes well above the normal April runoff. In fact, the April runoff for the Rio Grande was higher than any of the previous 40 years. A major concern in this basin is that April will be the peak runoff month during 2012. The water has run out at a time when the crop needs were minimal.

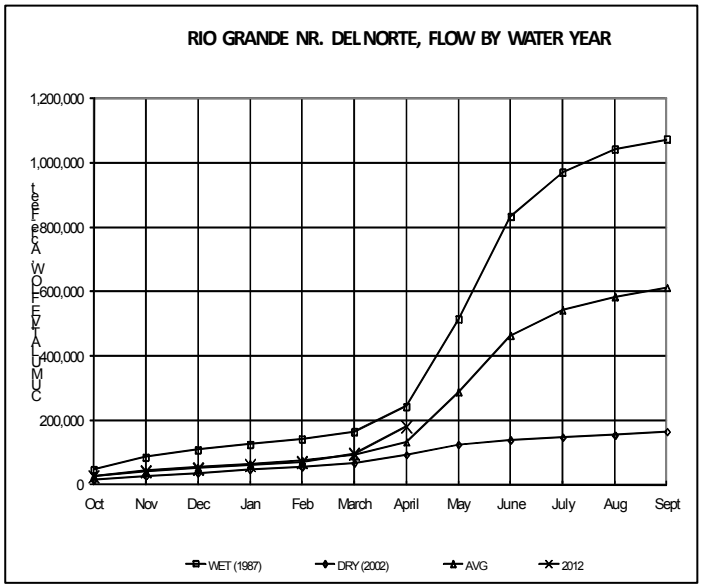
Alamosa received precipitation totaling 0.20 inches during April, 0.39 inches below normal. Temperatures in the San Luis Valley were above normal for the fourth month in a row.



Outlook

NRCS forecasts are now predicting April through September runoff to be only 55% of average on the Rio Grande near Del Norte and the Conejos near Mogote. Other drainages of particular concern are the Alamosa River (51%), Saguache Creek (48%), and the eastern side of the basin where runoff from Sangre de Cristo Range Creeks will be extremely poor at less than 50% of normal.

Based on these forecasts, water users in the basin who are reliant on stream flow for irrigation and stock watering needs should expect extremely limited availability.

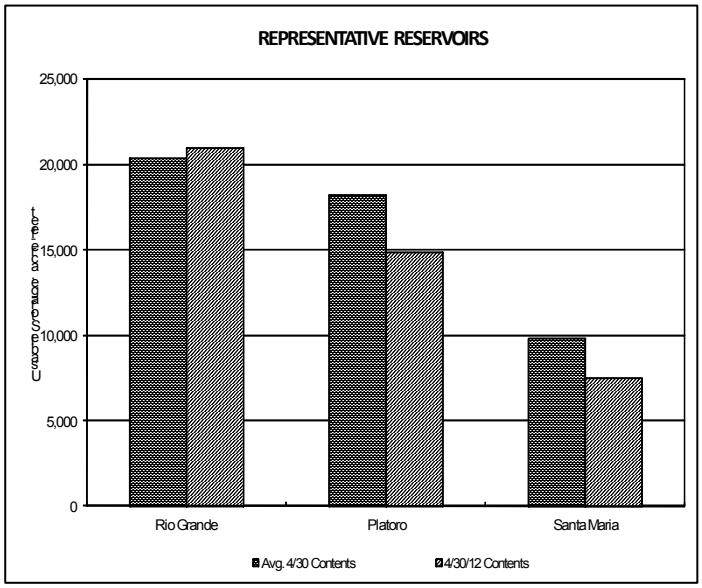


Administrative/Management Concerns

Water rights were curtailed slightly during April on the Rio Grande and the Conejos. It appears that little or no curtailment will be necessary on these drainages to make water available for Rio Grande Compact deliveries in 2012.

With only the most senior water rights able to divert throughout the summer, massive pumping from the valley's aquifers will be necessary to meet irrigated crop demand.

On May 1, 2012, the State Engineer approved the initial Annual Replacement Plan (ARP) of the Rio Grande Water Conservation District's Special Improvement Subdistrict No. 1. Replacement of injurious pumping depletions from irrigation well use in that subdistrict commenced on that day. This is the first of several proposed subdistricts aimed at assuring compliance with the expected State Engineer's Rules for Groundwater use in Water Division No. 3. More information on this process can be obtained through the DWR website at www.water.state.co.us.

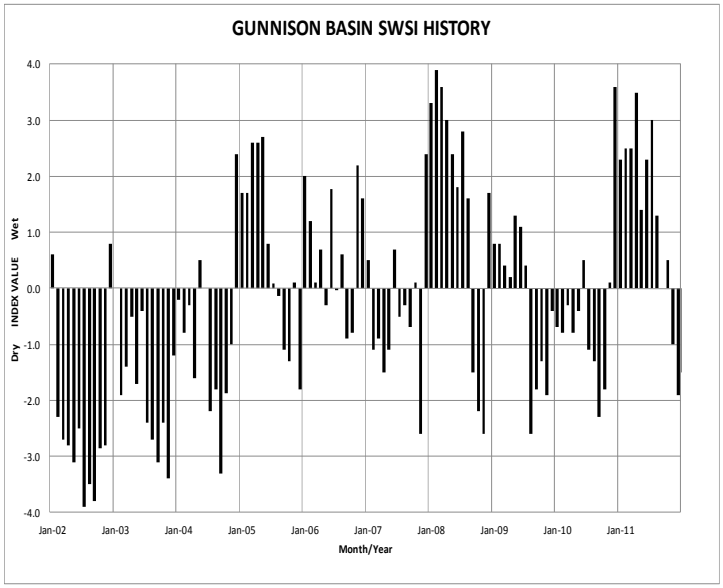


Public Use Impacts

Reservoir storage is already very low in this basin and will be depleted even further. The expected poor stream flow will adversely affect the farming, ranching, and recreational industries in the basin.

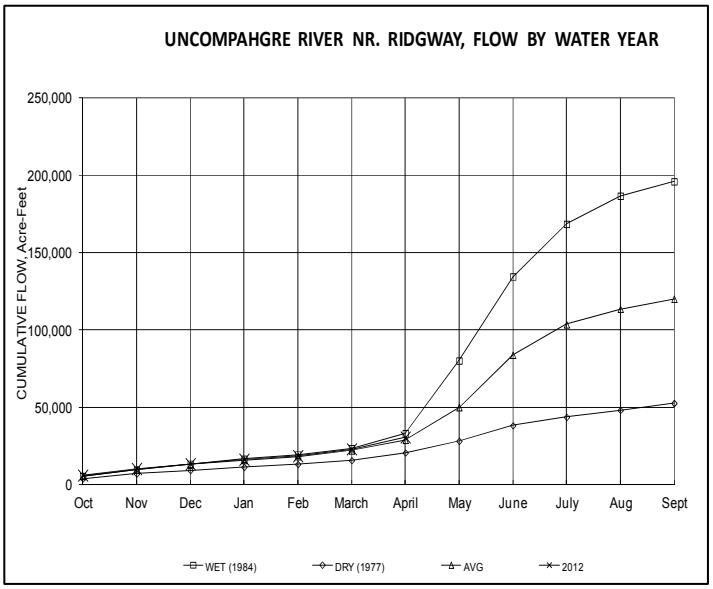
Basinwide Conditions Assessment

The SWSI value for the month was -2.7. The Natural Resources Conservation Service reports that May 1 snowpack is 24% of normal. Flow at the gaging station Uncompahgre River near Ridgeway was 129 cfs, as compared to the long-term average of 115 cfs. Storage in Taylor Park, Crawford, and Fruitland reservoirs totaled 117% of normal as of the end of April. April was another unusually warm and dry month with only 30 to 65 percent of average precipitation in the Gunnison basin. Basin snowpack is easily the worst since 2002 with only 28 percent of average on May 1st. We did reach a peak snow water equivalent (SWE) slightly better than 2002 at 72 percent of normal. This happened mostly because areas in the southern part of the basin fared better than in 2002 while areas in the north, such as Crested Butte, fared worse.



Outlook

Average April to July streamflow forecasts for Gunnison streams are grim at 35 percent of the 30 year average volume. Only two watersheds, the Lake Fork and the Uncompahgre above Ridgway are forecast to have better than 50 percent of average runoff in 2012 (53 and 51 percent respectively). In fact, some Gunnison tributaries are forecast at their second lowest on record. For instance, Tomichi Creek streamflows are forecast at only 14 percent of the 30 year average in 2012. National Weather Service (NWS) climate forecasts predict above average temperatures and equal chances of above or below average precipitation in the next 90-days.

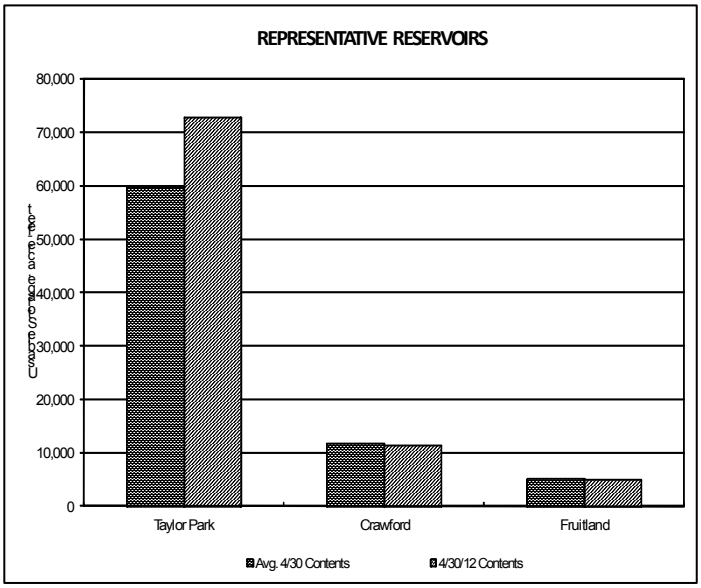


Administrative/Management Concerns

Many senior rights have already placed calls in the Gunnison basin, some of which don't call during an average year. In fact, on May 2nd the Uncompahgre Valley Water Users placed a call on the Uncompahgre River from the Montrose and Delta (M & D) Canal. The call was originally placed with a priority date of 1883. This required curtailing many users in Ouray County and prompted the City of Ouray to submit an emergency substitute water supply plan (SWSP) as all of their rights for municipal uses and use at the hot springs pool are junior to the M & D call. This call also will prevent Ridgway Reservoir from filling as the storage right for Ridgway Reservoir is junior to the call as well.

Although reservoir storage in the basin began the season at or above average, dry conditions and early irrigation due to the warm temperatures have reduced those levels to 70 percent of average in the Gunnison basin. In addition, it appears that some reservoirs that were predicted to fill just a month ago, like Ridgway Reservoir, will not fill this season. Blue Mesa inflow volume is now forecast at only 230,000 acre-feet and consequently, peak reservoir elevation is projected to be 32 feet below fill this year.

On May 8th the USBR announced that the Record of Decision (ROD) for the Aspinall Unit Operations EIS was signed, which prescribes flow targets at the Gunnison River Whitewater gage to protect four upper Colorado endangered fish species. This is important to the Gunnison basin as the EIS operations include using storage in the Aspinall Unit to reach those targets.



Public Use Impacts

Streamfow volume forecasts for many streams in the basin are lower than the minimum recorded in the past 30 years. As such, streamflows for public uses such as rafting will be much below average this season.

Basinwide Conditions Assessment

The SWSI value for the month was -2.8. The Natural Resources Conservation Service reports that May 1 snowpack is 22% of normal. Flow at the gaging station Colorado River near Dotsero was 1327 cfs, as compared to the long-term average of 1790 cfs. Storage in Green Mountain, Ruedi, and Williams Fork reservoirs totaled 152% of normal as of the end of April.

Outlook

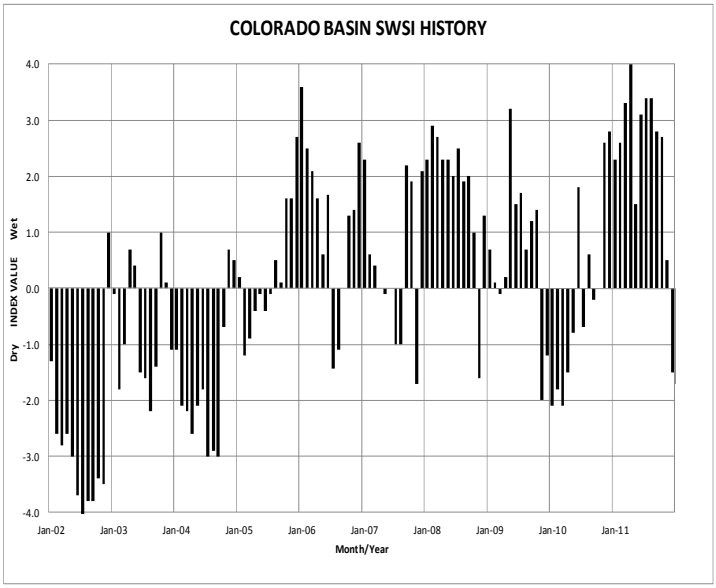
Upper Colorado River Basin Snow Water Equivalent continues to fall with current Upper Colorado Headwaters and Roaring Fork River Basin percentages at just 24 and 16 percent of average respectively as of May 1st. Accordingly, Colorado and Roaring Fork River flows will manage less than 50 percent of average flows during the second half of May. Most side tributaries to the Roaring Fork and Colorado main stems reached their peak flow on April 27th. It is unlikely that the Roaring Fork or Colorado River peak flows will exceed the flows reached in late April by more than 5 percent. Continued forecast below average late spring precipitation will continue to drive snowpack percentages significantly lower throughout May, with runoff nearly complete by May 31st. Eagle and Blue River flows will run considerably below average.

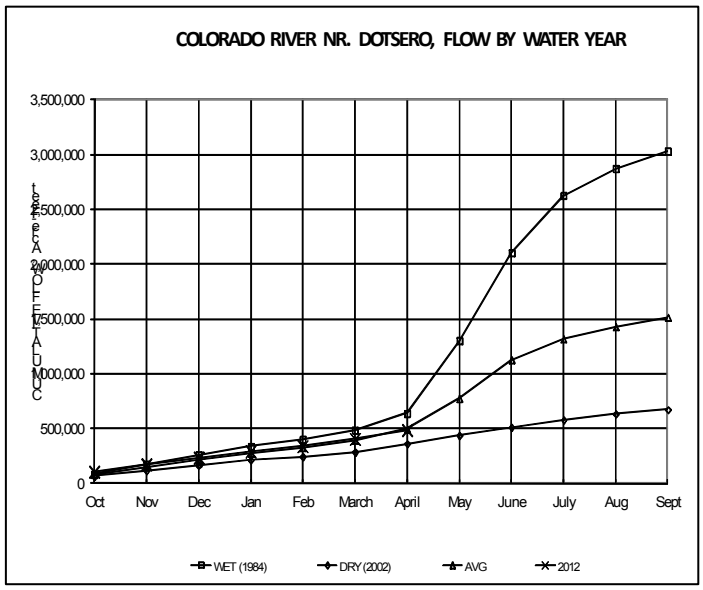
Administrative/Management Concerns

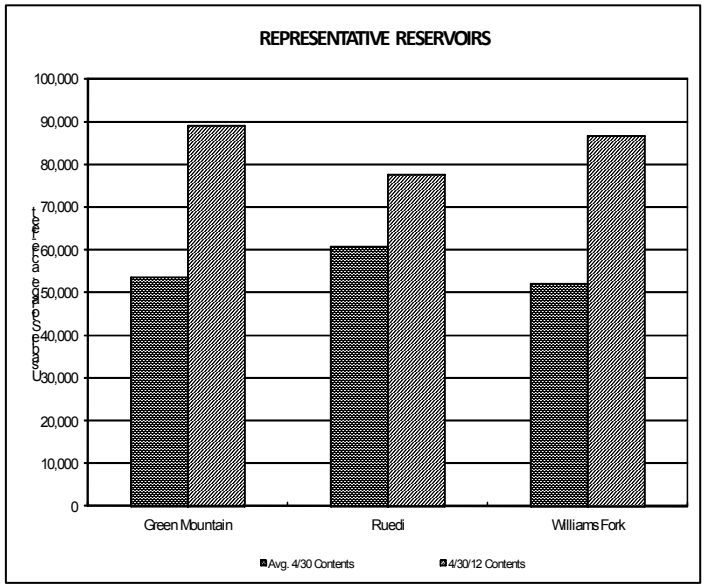
Fryingpan-Arkansas Project diversions began April 24th. Anticipated diversions are expected to be less than 15 percent of WY2011 diversions. Ruedi Reservoir releases will be reduced to the minimum flow requirement of 110 cfs by mid-May. Green Mountain reservoir releases will be maintained at 75 cfs - the minimum required to meet downstream senior water rights and contract demand. With the exception of Wolford Mountain and Vega Reservoirs, none of the reservoirs including Ruedi and Green Mountain are anticipated to fill.

Public Use Impacts

The forecast inflow to Lake Powell for the period from April through July is 2.36 maf – just 33 percent of average. This represents the third driest forecast on record with 1977 and 2002 being lower. The Northern Water Board has approved a 100 percent quota for the Colorado-Big Thompson Project despite a near record dry year. The decision was based on C-BT reservoir storage from recent above-average water years and the agricultural community's need for additional water.







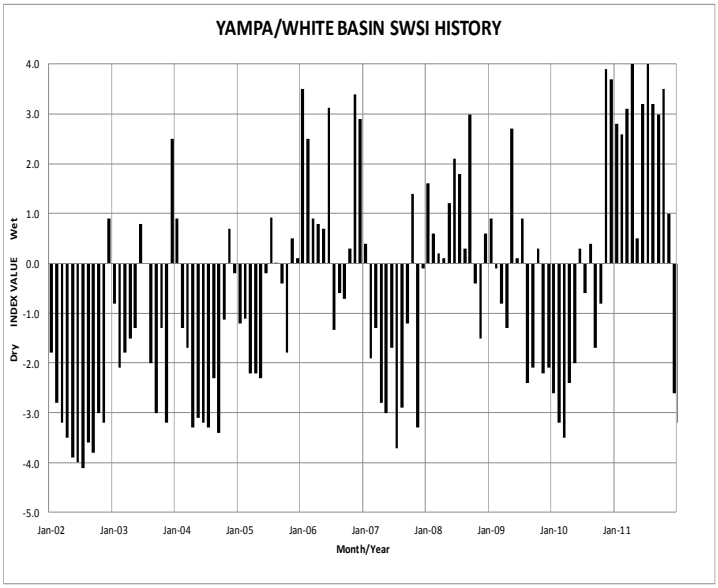
Basinwide Conditions Assessment

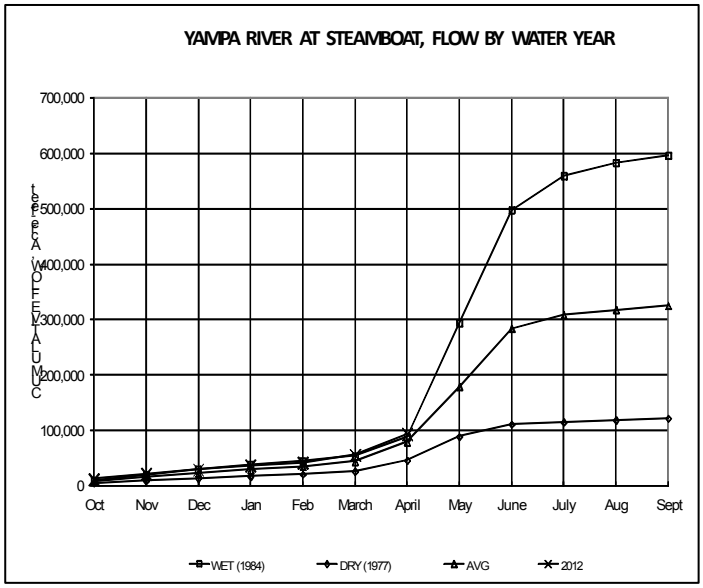
The SWSI value for the month was -4.0. Flow at the gaging station Yampa River at Steamboat was 637 cfs, as compared to the long-term average of 587 cfs. April precipitation was well below the monthly average in the Yampa, White, and North Platte River basins. Precipitation for the month, as measured at SNOTEL sites operated by NRCS, was reported at 60% 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 71% of average. Snowpack in the Yampa and White River basins at the end of April was at 17% of average, the lowest on record. Snowpack in the North Platte registered at 27% of average and the Little Snake basin is at 29% of average through April 30th.

The snow water equivalent (SWE) for water year 2012 dropped significantly during April 2012. At the end of the month, SWE was 36% of average for the North Platte River basin and 32% of average for the Yampa and White River basins.

As of May 1, 2012, NRCS predicts well below average late spring and summer streamflows in the Yampa, White, and North Platte River basins. The latest runoff forecasts from the NRCS for the May through July period are 15% of average for the North Platte River near Northgate, 30% of average for the Yampa River near Maybell, 29% of average for the Little Snake River near Lily, and 37% of average for the White River near Meeker.

All seasonal gaging stations operated by the Division of Water Resources in Division 6 are open. Barring any above average precipitation event(s) or a sustained wet period of weather, peak flows for the runoff season have already occurred at Division 6 stations.





Outlook

As of April 30th Fish Creek Reservoir was storing 3,752 AF which is 90.1% of capacity. Yamcolo Reservoir is 100% full (8,700 AF) and spilling. Daily data is currently unavailable at Yamcolo Reservoir due to an equipment malfunction at the gaging station. As of April 30th, Elkhead Creek Reservoir was storing 24,778 AF and was at 100% of capacity. At the end of April, Stagecoach Reservoir was storing approximately 34,300 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 with reservoir levels near full. All roads and trails are open at both parks. Mountain Bike trails at Steamboat Ski Resort will open June 15th with the gondola servicing the upper terrain.

Basinwide Conditions Assessment

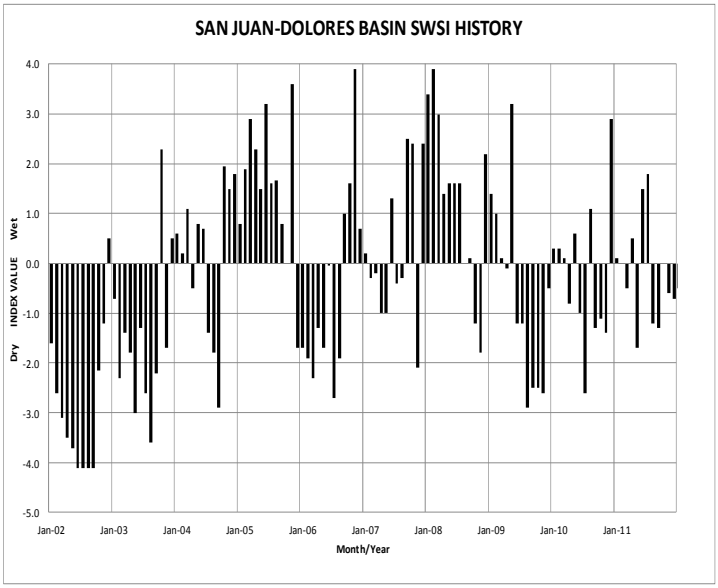
The SWSI value for the month was -2.1. The Natural Resources Conservation Service reports that May 1 snowpack is 25% of normal. Flow at the Animas River at Durango averaged 1,151 cfs (136% of average). The flow at the Dolores River at Dolores averaged 802 cfs (107% of average). The La Plata River at Hesperus averaged 87 cfs (107% of average).

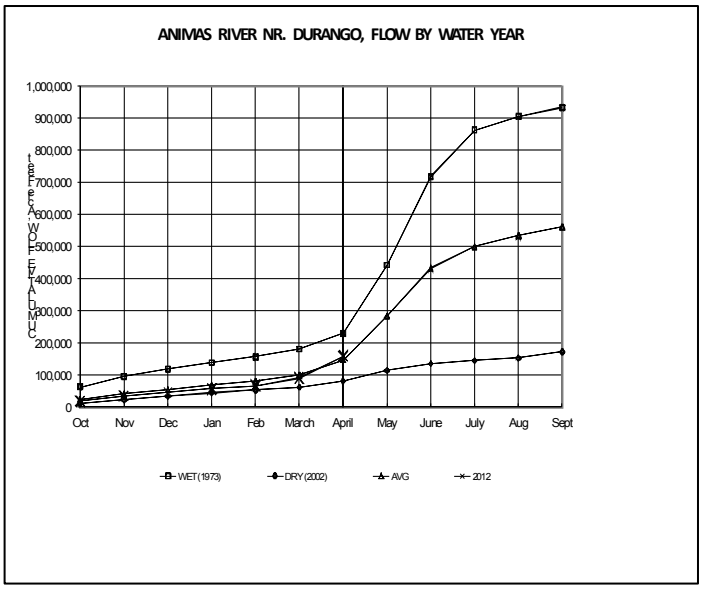
Precipitation in Durango was 0.84 inches for the month, 57% of the 30-year average of 1.47 inches. Precipitation to date in Durango, for the water year, is 10.34 inches, 91% of the 30-year average of 11.37 inches. The average high and low temperatures for the month of April in Durango were 66° and 33°. In comparison, the 30-year average high and low for the month is 63° and 31°.

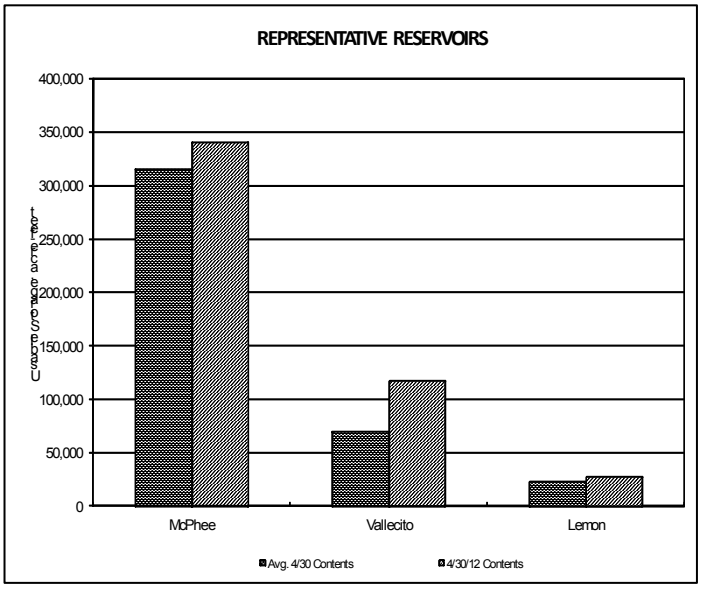
At the end of the month Vallecito Reservoir contained 116,920 acre-feet compared to its average content of 64,148 acre-feet (182% of average). McPhee Reservoir was up to 340,895 acre-feet compared to its average content of 298,802 (114% of average), while Lemon Reservoir was up to 27,460 acre-feet as compared to its average content of 22,377 acre-feet (123% of average).

Outlook

Precipitation (0.84-inches) was below average for the month of April in Durango. There are 77 years out of 118 years of record where there was more precipitation than this year. On April 30 the NRCS SNOTEL sites reported an average snow-water equivalent within the basin at 26%. Last month the snow-water-equivalent was 56%. The warm temperatures at the end of last month continued into April. While reservoir storage at the end of the month was above average, it is expected to be short lived as it appears the peak runoff from snowmelt may have occurred in April this year.







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